Fictions of Interdomain Routing

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Artists: Dennis de Bel / Harwood, Wright, Yokokoji / Tabita Rezaire / Mark Ramos / Electronic Disturbance Theater 2.0/b.a.n.g. lab / Jeroen van Loon / Ziyang Wu

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Curatorial Statement
Text by Iris Long, Ziyang Wu, Michael Connor

What happens when you swipe your phone and check this message? What is evoked when you navigate with a digital map to Long March Space to see this show? With each fleeting moment of our interaction with a phone, laptop, auto-pilot car, smart system, we are entangled in an intricate, immense, and expansive global infrastructural network. Before turning into legible messages, signals are transmitted across the sky and ocean, through undersea cables and "star links," and computed across mountains and seas.

In this exhibition, artists offer poetic and critical interfaces to communications networks and infrastructure both real and imagined. They allow us to explore our entanglement in these technical systems through works that draw on historical research, social practice, hacking, storytelling, videogames, and sculptural uses of technology.

As well as interrogating and problematizing the existing Stack[1], several of the artists consider the potential of alternative networks that challenge the dominant paradigm. These alternative networks offer modes of connection, communication, and solidarity, beyond the hegemonic structures of the Internet and global communication systems.

"They are things and also the relation between things." Brian Larkin's[2] description of the peculiar ontology of infrastructures applies to the infra layer of planetary computation: not only a technical assemblage, but also a contested field of resource excavation, obscure labor, digital colonialism, inseparable power, and struggles. Abstract on a global level, the cases these artists examine concretize at in-between spaces where minerals traverse geographical and geological zones, infrastructural privatization and monopolization interlock, governance takes shape physically and virtually, and territorial negotiations form at those seemingly geographically most remote and sparsely populated sites.

In computer science, "interdomain routing" refers to the protocol in which the routing algorithm works both within and between domains. We propose "interdomain routing" as a method of exploring and inhabiting the stack of infrastructures. We envision a domain not only as an actual and/or virtual counterpart of "territory," but also as a sphere of knowledge and practice. Interdomain routing as an artistic practice involves "routing" not only technological domains but also temporal, ecological, and cultural ones. It can involve traversing multiple scales of force and spacetime configurations, some of them fragmented, some "monumental" (in Ingrid Burrington's words), some tangible, some invisible. Routing can be unexpected, performative, hypercritical; it can even be a means of survival.

Exploring historical, current, or speculative interdomain routing, the artworks are each situated at a different point on the temporal and spatial axes. A desert is a secret transportation network. An ocean can be a conductive interface for communication and memory. Electronic Disturbance Theater 2.0/b.a.n.g. lab's work *Transborder Immigrant Tool* or *TBT* (2007 – ongoing) and Tabita

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[1] The Stack is an interdisciplinary design brief for a new geopolitics that works with and for planetary-scale computation. Bratton, B.H. (2016) *The Stack: On software and Sovereignty*, MIT Press. Available at: https://direct.mit.edu/books/book/3504/The-StackOn-Software-and-Sovereignty (Accessed: April 2, 2023).
[2] Brian Larkin (2013) *The Politics and Poetics of Infrastructure*, *Annual Review of Anthropology*, 42, 327-343, Available at: https://doi.org/10.1146/annurev-anthro-092412-155522.

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Rezaire's *Deep Down Tidal* (2017) create a parallel narrative about how "transnational" bodies are conducted by networks across continents and countries. The works reveal hidden histories through navigation: in *TBT* the locations of water supplies and pathways through the desert form the basis of poems, and in *Deep Down Tidal*, underwater cables are revealed as the modern traces of the routes taken by slave ships. They also both explore technological violence, while offering alternative models. *TBT* is a mobile phone application that is both a life-saving technology and a poetic interface intended to guide individuals who were making their way to the United States through the deserts of the U.S./Mexico borderlands. The work (which theoretically could be expanded to cross all kinds of borders) uses technology to provide practical support and information on behalf of marginalized communities, rather than perpetuating existing systems of inequality. *Deep Down Tidal* proposes the ocean and water itself as a communications network and storage medium through which to understand and contest the legacy of the Transatlantic slave trade and the realities of "electronic colonialism." By connecting us to the rhythms and cycles of the ocean, *Deep Down Tidal* invites us to imagine a future where we are more deeply in tune with the natural world.

Infrastructuring is heavily material, and in the artists' perspectives, subtly memorial. Lisa Parks, Graham Pickren, Tung-hui Hu and many scholars have traced the genealogies of the cloud and how it grew out of older network technologies, politics, industrial models, and other types of precedents: a military bunker, a biscuit factory, or a newspaper printing house. This particular material inheritance also hints at the possibility of routing across time: Harwood, Wright, Yokokoji's work *Tantalum Memorial* (2008) is originally a series of telephony-based memorials to the more than 4 million people who have perished in the complex wars that have gone on in the Congo since 1998 (often referred to as the "Coltan War"). The physical historical telephony switch is resurrected and reactivated to re-enter a customized network attributing to Congolese practice of "Telephone Trottoire." Through a series of works ranging from installations to publications, Harwood, Wright, Yokokoji raises questions about the ethics of our reliance on technology and the impact of its production on communities and the environment. Dennis de Bel's year-long research, *Mountain Stronghold* (2022), meanwhile, forensically maps data centers that re-use existing infrastructures such as cold war bunkers, natural caves, mines and religious structures worldwide. Both works interweave the muted, the ignored and the intentionally neglected by diving into the homogeneous surface of infrastructures and making non-linear connections.

Ziyang Wu's *Pasig River 2030 – 6 Plus* (2022) and Ziyang Wu & Mark Ramos's *Future_Forecast* (2021 – ongoing), meanwhile, specifically investigate the context of "Digital Earth", "One Belt One Road Initiative" and the "Build Build Build Initiative" in the Philippines. These works ask, what will a speculative future ISP and blockchain company do to a river, a local family, and an acre of land? By opening up the collective building option to all audiences, the work invites people to investigate the intricate and hyperlinked relationship among resources, labor, infrastructural construction, technological utilization, regional economy and most importantly, everyday life. The quasi-state of infrastructuring in the speculative, simulated Philippines is a test-field for alternative worlding.

Furthermore, Jeroen van Loon's work *Ephemeral Data*, is a poetic investigation and performative reflection and remapping of the undersea cables that stretch across the ocean floor. In this exhibition, the artist creates a site-specific version of the piece which incorporates geo-data of submarine cables connecting China and South East & South Asia, Africa, Oceania, Europe and North America. Ephemeral sand, also the raw material of fiber optic cables, is transformed into mandala paintings representing our digital infrastructures. The piece also adds a temporal layer to the show: the mandala will be created by performers inch by inch on a daily basis till the closing day, a gradual process visualizing the accumulation and shifts taking place in our digital culture.

The open call section of the exhibition, following this trajectory and reflecting on the geopolitical infrastructural configurations such as the digital belt and road, invites artists, designers, researchers and technologists to submit a one-page proposal via email with ideas about non-existing and to-exist transnational digital networks, illustrate freely how infrastructures can be and what they can do, and reflect on the idea of a virtual and physical transnational route and what it means from a situated perspective. All proposals, ranging from instruction, code, poetry, to photography, video and 3D printing, will be materialized and produced in China.

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Dennis de Bel, born in Netherland, is a hands-on artistic researcher, educator and radio amateur. His practice oscillates between various configurations focusing on collectively exploring hardware, software and various forms of waves. This is actualised through a broad spectrum of exhibitions, talks, workshops, devices, dj sets and other exchanges at, for example, ISEA *International* (*International Symposium on Electronic Art)*, Transmediale Festival, Relearn School and V2_Lab for the Unstable Media, including various educational institutions such as the Design Academy Eindhoven and the Piet Zwart Institute Rotterdam. In 2017 he co-founded "varia", a common space for developing collective approaches towards everyday technology informed by experiments with building physical, digital and social infrastructures of affinity and affect.

From 2004 to 2009, **Graham Harwood**, **Matsuko Yokokoji** and **Richard Wright** collaborated together, initially as the artists collective "Mongrel". They set up projects such as "social telephony" programme, the MediaShed "free-media" space and the "Cross Talk" eco-media project in Southend. In 2008 they produce *Tantalum Memorial* as Harwood, Wright, Yokokoji (2008-2009), winning the Transmediale Berlin 2009 for first prize. *Tantalum Memorial* also featured at Zero1 Biennial U.S., UKS Young Artists' Society Norway, STUK Art Center Belgium, Manifesta7 Italy, Science Museum UK, Ars Electronica Austria, Plug-in Contemporary Art and Culture Switzerland, and LABoral Spain.

Graham Harwood and Matsuko Yokokoji (YoHa English translation "aftermath") have lived and worked together since 1994. Their work involves the use of art as a mode of enquiry into technical objects, most recently within the fields of health, war, oceans and death. YoHa's inquiry is usually populated by an interconnection of technical objects and other kinds of bodies as in a clinic, hospital, battlefield or at sea. The focus of their enquiry is where the flows of power can be reconfigured by the ambiguity of art, not necessarily to make art but to make use of it within a wider enquiry. Their work has been internationally awarded and part of collections at the Centre Pompidou, Paris, Tate Modern, London, Manifesta7, Bolzano, Italy, and ZKM Center for Art and Media, Karlsruhe, Germany, and have been exhibited at the Shanghai Biennale 2016/17. Dr.Graham Harwood is Reader in Media Communications and Cultural Studies, Goldsmiths, University of London, where he teaches MA Digital Media, Data Visualisation.

Richard Wright is a visual artist whose work includes many pioneering digital animations and interactive pieces. He is Lecturer in Animation and VFX at Royal Holloway University of London, holds a PhD in the aesthetics of digital film making and has published nearly forty book chapters, essays and reviews. Key works include the animate! commissioned *Heliocentrum* (1995) – a computer animated film about Louis XIV which was described by writer Hari Kunzru as "…both fun and an amazingly effective way of showing how a sovereign manipulated power". *LMX Spiral* (1998) was a conceptual music video about the 1980s and the live action film *Foreplay* (2004) was described as "a porn film without the sex". In 2001 he completed the online screensaver *The Bank of Time* which was nominated for a BAFTA (The British Academy of Film and Television Arts) award. In 2015 he was artist-in-residence at the British Library, researching cultural data in public institutions and building *The Elastic System*, an interactive portrait of the 19th Century librarian Thomas Watts. He is currently working on *The Posthumous World*, including a scientifically accurate, digital animation that will show how his body will be reabsorbed back into the environment after burial.

Tabita Rezaire is infinity longing to experience itself in human form. Her path as an artist, devotee, yogi, doula, and farmer is all geared towards manifesting the divine in herself and beyond. As an eternal seeker, Tabita's yearning for connection finds expression in her cross-dimensional practices, which envision network sciences - organic, electronic and spiritual - as healing technologies to serve the shift towards heart consciousness.

Embracing digital, corporeal and ancestral memory, she digs into scientific imaginaries and mystical realms to tackle the colonial wounds and energetic imbalances that affect the songs of our body-mind-spirits. Through screen interfaces and healing circles, her offerings aim to nurture our collective growth and expand our capacity for togetherness. Tabita is based near Cayenne in Guyana, French, where she is birthing AMAKABA - her vision for collective healing in the Amazonian forest. Tabita is devoted to becoming a mother to the world.

Her offerings have been shared widely – Centre Pompidou, Paris; Palais de Tokyo, Paris; Museu de arte de São Paulo, São Paulo; Serpentine Galleries, London; Museum of Modern Art, New York; New Museum of Contemporary Art, New York; Gropius Bau, Berlin; Moscow Museum of Modern Art, Moscow; Museum of Contemporary Art, Chicago; Institute of Contemporary Arts, London; Victoria and Albert Museum, London; National Gallery of Denmark; The Broad, Los

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Angeles; Museum of Contemporary African Diasporan Art, New York; Tate Modern, London; Museum of Modern Art, Paris – and presented for international biennales in Shanghai, Guangzhou, Kochi, Athens, Berlin and Sydney.

Mark Ramos is a Brooklyn-based new media artist. Mark is deeply committed to the ethos of open source: the free sharing of information and data + creative uses of technology. Mark makes fragile post-colonial technology using web/software programming, physical computing (using computers to sense and react to the physical world), and digital sculpture/fabrication to create interactive work that facilitates encounters with our own uncertain digital futures.
Mark Ramos's work has been exhibited several times in the New York and San Francisco areas, including the Brooklyn Arsenal Gallery's inaugural exhibition and its series as part of the Artist Television Access, as well as international exhibitions throughout Europe and Asia. Mark has exhibited his work and lectured widely both online and AFK, including as part of Rhizome's "First Look: New Art Online" with the New Museum of Contemporary Art in New York, Yerba Buena Center for the Arts in San Francisco, Times Museum in Beijing, Chengdu Biennial, Arebyte Gallery in London, and Peter Weibel Institute for Digital Culture in Vienna. He teaches "Art after the Internet" in the MFA Fine Arts Department at the School of Visual Arts, "Form and Code" at Pratt Institute, as well as "Web Programming and Computer Principles" in the Computer Science Department at NYU. You can also find him playing drums for various bands in Brooklyn.

Electronic Disturbance Theater (EDT) 2.0/b.a.n.g. lab is a collective of activists, performance artists, critical theorists, poets, and coders who engage in disturbances between digital and non-digital spaces. EDT 1.0, whose members included Ricardo Dominguez, Carmin Karasic, Brett Stalbaum, and Stefan Wray, developed the first virtual-sit-in technology in 1998 in solidarity with the Zapatista communities in Chiapas, Mexico. EDT 2.0, whose members include Micha Cárdenas, Amy Sara Carroll, Ricardo Dominguez, Elle Mehrmand, and Brett Stalbaum, was re/established in 2007. EDT 2.0 created the *Transborder Immigrant Tool* (*TBT*, 2007-ongoing), a GPS (Geo-Poetic System) cellphone safety net for wanderers on the Mexico–U.S. border .
Transborder Immigrant Tool has been presented at a number of U.S. and international venues, including "Global aCtIVISm", ZKM Center for Art and Media, Karlsruhe, Germany (2013); "Room of Controversies", Van Abbemuseum, Eindhoven, Netherlands (2013); Toronto Free Gallery, Canada (2011); California Biennial, Orange County Museum of Art, California, U.S. (2010); "Art in the Age of Anxiety", Sharjah Art Foundation, United Arab Emirates (2020); "La vida nueva", Whitney *Independent Study Program*", New York, U.S. (2020), and "I'll Be Your Mirror: Art and the Digital Screen", The Modern Art Museum of Fort Worth, Texas, U.S.(2023). EDT 2.0 received the Transnational Communities Award (2008), an award funded by Cultural Contact, Endowment for Culture Mexico–U.S.. Additional funding for the project has been provided by CALIT2 (California Information Technology 2) and the Center for the Humanities at the University of California, San Diego. EDT 2.0 was awarded a virtual residence in 2021 by The UCLA Luskin Institute on Inequality and Democracy.

Jeroen van Loon is a Dutch artist researching and visualising current digital culture through the lens of ephemerality and permanence. Van Loon does this through working with different types of data (text, audio, smoke signals or face filters) and re-contextualising those through installation art pieces. E.g. he has printed the entire Gutenberg bible on one single 12km long fibre optic cable (*Permanent Data*, 2020), has sold his complete DNA data profile online (*cellout.me*, 2015- 2016) and has created an ephemeral internet in the shape of a glass tube system filled with binary smoke signals (*An Internet*, 2015).
His work has been exhibited internationally at venues such as Centre Pompidou (Paris & Malaga), Transmediale Festival, IDFA Doclab, Aksioma – Institute for Contemporary Art, Ljubljana, HMKV | Dortmunder U, IMPAKT festival, Verbeke Foundation, SPRING Performing Arts Festival, Biennale Nemo, KIKK Festival and MU Artspace. He received the K.F. Hein Stipendium, was nominated for the New Technological Art Award 2022 and is part of the Brave New World Speaking Agency.

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About the Curators

Michael Connor is Co-Executive Director of Rhizome, where he oversaw the Net Art Anthology initiative, an effort to retell the history of net art through 100 works, presented as online exhibition, gallery exhibition, and book. He is also the curatorial advisor for KADIST, a non-profit contemporary art organization, and Art Blocks, an NFT platform. His first online curatorial project took place in 2003 at FACT (Foundation for Art and Creative Technology), Liverpool, where he organized an edition of the traveling exhibition "Kingdom of Piracy" with Shu Lea Cheang, Yukiko Shikata, and Armin Medosch. Connor is currently editing a book by Gene Youngblood about the work of Kit Galloway & Sherrie Rabinowitz.

Iris Long (irislong.xyz) is a writer, independent curator and a Berggruen Fellow. She is currently studying at the Advanced Practices PhD Program at Goldsmiths, University of London. She has curated numerous exhibitions around art, science and technology, such as "Lying Sophia and Mocking Alexa" (sophialexa.com, Hyundai Blue Prize Recipient), "Blue Cables in Venetian Watercourse" (PSA Emerging Curator's Program), "De Javu" (The 3rd Today Art Museum Future of Today), "Earth Heat Flow: the Visitor Who Returns to Solar Time" (Art & Technology section of the Inaugural Beijing Art Biennial), "Cosmological Elements" (*Chinese National Astronomy*'s first art & science exhibition) and so on. She has also curated solo exhibitions for Liu Xin, Lauren Lee McCarthy, and so on. She was the art jury of ISEA 2019 and SIGGRAPH ASIA 2020/2022. Iris's research has been presented in "Art and Artificial Intelligence" Open Conference (ZKM, German), "Art Machines: International Symposium on Computational Media Art (ISCMA)" (Hong Kong), Digital Research in the Humanities and Arts (London), ISEA (Inter-Society for the Electronic Arts, Netherlands) and so on. She has also worked with tech companies such as Microsoft, SenseTime and LandSpace. In 2021, she initialized "Port: Under the Cloud", a long-term research and curatorial project on the infrastructures of science and technology in China. More info: irislong.xyz.

Ziyang Wu is an artist based in New York and Hangzhou, currently teaching at the School of Design and Innovation at the China Academy of Art, and is a former member of NEW INC at the New Museum. With a MFA from the Rhode Island School of Design, and a BFA from the Florence Academy of Fine Arts, his video, AR, AI simulation and interactive video installation have exhibited internationally, including Institute of Contemporary Art (ICA) in Philadelphia, Rhizome and the New Museum in New York, Walker Art Center, Rochester Art Center, SXSW(South by Southwest) in Texas, Art Dubai, Annka Kultys Gallery in London, Eigenheim Gallery in Berlin, Medici Palace in Florence, Milan Design Week, Today Art Museum, UCCA Center for Contemporary Art, Chengdu Biennale, Song Art Museum and Ming Contemporary Art Museum. His recent fellowships and residencies include "The Randall Chair" award at Alfred University; "Kai Wu" Interdisciplinary Studio Residency, Media Art Lab, Times Museum, Guangdong; AACYF Top 30 under 30; Residency Unlimited, New York; MacDowell Fellowship; Artist-in-residence at Institute for Electronic Arts (IEA); The ROCI Road to Peace by Robert Rauschenberg Art Foundation.

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