

Design in Times of Crisis: OnÃria

Pedro Oliveira and Luiza Prado, PhD candidates in Design Research, University of the Arts Berlin

Collaborating under the nom de plume A Parede, Luiza Prado and Pedro Oliveira create projects in the series *Design in Times of Crisis* to imagine future dystopias that are remarkably similar to the current realities of many living in Brazil since the 2014 election. In their words: “What would be the social and political tensions Brazil would face twenty-something years from now, should a highly conservative and neoliberal coalition rule the country?”¹

The project *OnÃria* examines how a few extremely conservative, anti-birth control bills that have gained traction in the Brazilian House of Representatives could affect what kinds of contraceptive technologies are accessible to Brazilian citizen, and the project considers the impacts that these bills may generate. With the initial premise that if the laws were passed by government, other kinds of contraceptives that comply with these laws would be developed and released, they question what kinds of contraceptive strategies will be implemented in such a strict and conservative scenario, and how will people respond to this. A written narrative describing the scenario of anti-birth control bills, and the promotion of a product, *OnÃria*, was developed. This product was accompanied by a marketing strategy that encouraged make-up trends as marks of gender and sexual identities. Participants were invited to upload selfies of how they interpreted *OnÃria* birth control via make-up. Gallery visitors to ‘Climactic: Post Normal Design’ are invited to respond to the product *OnÃria* by posting a selfie on Instagram that represents their interpretation of the narrative with make-up (lipsticks, pencils, etc) tagged #Oniriaclimactic.

1. Luiza Prado & Pedro Oliveira, *Design in Times of Crisis* (2014-2016). Available at <http://a-pare.de/2014/brasil-july-2038>

Design in Times of Crisis: Algerinha Vive

Pedro Oliveira and Luiza Prado, PhD candidates in Design Research, University of the Arts Berlin
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Algerinha Vive is the story of a Brazilian slum whose population faces various forms of violence. The story is expressed through a variety of outlets, including a children's game which retells the history of the settlement and a .gif that lays out its schematics, an audio tape containing a collection of soundscapes created by an artist from the place, and a timeline of the history of the Algerinha occupation. This design fiction, partly based on fact drawing inspiration from interviews of people and news reports in Brazil, explores the imaginaries of people that exist on the fringes of the modern world-system, disenfranchised populations, who while often the subject of dystopian futural fictions, have their experiences and views rarely represented in those fictions. Thus, *Algerinha Vive* attempts to recreate, both visually and aurally, the experiences of the dispossessed. In particular, the work demonstrates how the emphasis on the oral and aural plays an important role in creating these fictions as present and immediate, as opposed to so much of design which is based on the visual and verbal.

Prado and Oliveira have collaboratively published several critiques of speculative critical design, and introduced issues of race and class to the debate. They contend that SCD is dominated by the concerns of the 'Northern-European and/or US-American intellectual middle classes,' and has failed to address the political ambitions with which it initiated debate.¹ With the objective to transform SCD 'into a strong political agent', via a program that challenges the premises of SCD so they can be 'tested, spread out, modified, re-appropriated, bastardized' their projects focus on the realities of poverty, colonialism and sexism to 'question the hierarchies of privilege', of which this project is an example.²

1. Luiza Prado & Pedro Oliveira, 2015, 'Futuristic Gizmos, Conservative Ideals: On (Speculative) Anachronistic Design', *Modes of Criticism*, No.1, np. Available at <http://modesofcriticism.org/futuristic-gizmos-conservative-ideals/>
2. Luiza Prado & Pedro Oliveira, 2015, 'Futuristic Gizmos, Conservative Ideals: On (Speculative) Anachronistic Design', *Modes of Criticism*, No.1, np. Available at <http://modesofcriticism.org/futuristic-gizmos-conservative-ideals/>

The Possibility of Islands: A scenario for post-tsunami Tokyo (2013)

Manar Moursi, Studio Meem

First published in Tokyo Totem in 2015. Render assistance by Rowan Kandil.

Surrounded by the ocean, Japan as an island, has always honored the blessing of the sea. The ocean is the bearer of bounties, but the sea is also the generator of catastrophes. In recent years, with rising sea levels, the ocean has betrayed the Japanese with tsunamis that have swallowed entire towns. Although the ocean has often played a catastrophic role, looking back, one finds an almost continuous thread of artificial island projects. From Edo times to today, each tells a different story of the city's relationship with the sea.¹

The Possibility of Islands: A scenario for post-tsunami Tokyo visualizes archipelagos of plastic-crate islands in the flooded post-Tsunami city of Tokyo. The proposed islands are projected to be nomadic, mobile and responsive and are the result of imagining a competitive system of flexible DIY networks of mini-islands structured and governed according to agreements among their inhabitants as proposed by the Seasteading Institute. The proposal examines the ubiquitous plastic crate in particular as a readily available material that can be configured to create inexpensive floating modular habitats and reefs. Here, Tokyo is imagined to extend into the water and the water to enter into the city. Instead of proposing a solution to *'build faster and harder to keep the water out'*, this design proposition seeks to merge Tokyo with the water, transforming the hard boundary into a continuum. The new floating neighborhoods accommodate housing and reef. The proposed archipelagos of artificial islands could reduce the impact of storm-induced wave energy therefore improving the ecology of estuarine environments.²

1. Manar Moursi (2015), *The Sea We Would Like to See*, in *Tokyo Totem*, Edwin Gardner and Christiaan Fruneaux (ed.s), Flick Studio, Japan. Available at <http://www.studiomeem.me/index.php/the-sea-we-would-like-to-see>
2. <http://www.studiomeem.me/index.php/architecture/the-possibility-of-islands>

Drawing Together Indigenous Futures (2015) Tristan Schultz, Queensland College of Art, Griffith University, Brisbane

Drawing Together Indigenous Futures maps out knowledge patterns emerging from yarning sessions with a group of Australia's leading Aboriginal & Torres Strait Islander academics, held at GNIBI (College of Indigenous Australian Peoples), Southern Cross University, Lismore, in 2013. Participants discussed what cultural competency looks like from Indigenous perspectives, and how it might be activated as an event in process across a university. The cognitive map overlays commonalities-in-difference between a Canadian First Peoples knowledge, Australian Indigenous Knowledge, and a Western conception of transformative knowledge. In this, the map becomes a mediating object for future intercultural conversations. Four kinds of drawing together are shown: drawing together with the hand; drawing together assemblages; drawing together mess; and performing drawing 'together'. The culturally sensitive parts of the information mapped have been concealed for public exhibition. This concealment is itself a commentary on which actors and networks are deliberately left out of maps, whose history is entangled with colonial histories and agendas. This project corrects the selective cartography of colonialism and revives what was destroyed in that process, re-inscribing what has been omitted and excluded, and critiquing assumptions about the neutrality of information design.

Myths of the Near Future: CCTV (2010-2016)

Katherine Moline, Faculty of Art & Design, University of New South Wales

Myths of the Near Future: CCTV tests co-design methodologies for exploring the social imaginary of technologies such as CCTV surveillance, and the role that digital recording devices play in reframing the city as a public space where diverse communities are both monitored and connected. Theories of the social imaginary proposed by philosopher Cornelius Castoriadis, anthropologist Arjun Appadurai, art historian Helmut Draxler, and cultural theorist Nikos Papastergiadis provide a number of competing definitions. For Castoriadis, it is the 'social imaginary' (communicated in images, practices and institutions) rather than ideology or technology that makes up a society. In his words, 'Each society is a construction, a constitution, a creation of a world, of its own world'.¹ The social imaginary is defined by Appadurai as key to human agency in globalisation where the imagination is understood as a 'social practice' that is 'no longer mere fantasy', but in fact 'a form of work', that arbitrates individual agency and the possibilities defined by the global context.² Appadurai thus extends Castoriadis's proposal that the social imaginary establishes institutions that provide meaning to human experience, and surmises that the social imaginary, where imagination is seen as the cultural practice that shapes communities, is fundamental to understanding everyday experiences. Draxler concurs with these analyses, and proposes that exploring the norms and conventions of practices, such as art and design, reveal the interrelationship of public and private, and, in his words, the 'participation of the public in the institution'.³ Cultural theorist Papastergiadis attends to how institutional restrictions circumscribe autonomy as well as create opportunities to 'engage with strangers', and develop connections between cultures.⁴ Based on the theoretical framework of the social imaginary, the themes that are explored in *Myths of the Near Future: CCTV* include surveillance and safety, anonymity and publicity, closed-circuit television as a creative medium, and the social imaginary of CCTV in urban locations and ecotones that are characterised by diverse communities.

1. Cornelius Castoriadis, 1984/1997, *World in Fragments. Writings on Politics, Society, Psychoanalysis and the Imagination*, Stanford University Press, p.9.
2. Arjun Appadurai, 1996, *Modernity at Large: Cultural Dimensions of Globalization*, University of Minnesota Press p.31
3. Helmut Draxler, 2006, 'Letting Loos(e): Institutional Critique and Design', *Art after Conceptual Art*, eds. Alberto Alberro & Sabeth Buchman, MIT Press, p.151
4. Nikos Papastergiadis, 2012, *Cosmopolitanism and Culture*, Polity Press, p.103

The Free Universal Construction Kit (2012)

Golan Levin, Shawn Sims, Carnegie Mellon University

The Free Universal Construction Kit is a set of two-way adapters for complete interoperability between 10 popular construction toys (Lego, Duplo, Fischertechnik, Gears! Gears! Gears!, K'Nex, Krinkles (Bristle Blocks), Lincoln Logs, Tinkertoys, Zome, and Zoob), conceived and developed by the F.A.T. (Free Art and Technology) Lab in collaboration with Sy-Lab. By allowing different toy systems to work together, the *Free Universal Construction Kit* extends the value of these systems across the life of a child. Thus, with the Kit's adapters, playsets like Krinkles (often enjoyed by toddlers) can still retain their use-value for older children using Lego, and for even older tweens using Zome. By allowing any piece to join to any other, the Kit encourages totally new connections between otherwise closed systems—enabling radically hybrid constructive play, the creation of previously impossible designs, and ultimately, *more creative opportunities for kids*. As with other grassroots interoperability remedies, the *Free Universal Construction Kit* implements proprietary protocols in order to provide a public service unmet—or unmeetable—by corporate interests, and the 3D models are freely available to download online.¹

1. <http://fffff.at/free-universal-construction-kit>

Night School on Anarres – Imaginings of an anarchist Utopia (2016)

Onkar Kular and Noam Toran with Nestor Pestana

Night school on Anarres is an educational experiment examining the Utopian proposals of twentieth-century anarchism. Drawing from Ursula K Le Guin's seminal sci-fi novel *The Dispossessed*, and focusing on her construction of the fictional anarchist planet Anarres and its language Pravic, children and members of the public were transported to an alien school to participate in language and social studies classes. Part sci-fi set, part classroom, part roundhouse theatre, the *Night School on Anarres* installation is a site where utopic ambitions can be collectively imagined, performed and discussed. Through novel pedagogic approaches, the installation invites travellers young and old to wander around the space and attend classes to learn about the planet's language, customs and behaviors. In so doing, the project encourages visitors to reflect upon current socio-political models with the hope of collectively imagining alternatives.¹

1. <http://www.onkarkular.com/index.php?/night-school-on-anarres/night-school-on-anarress>

Credits

Night School on Anarres was commissioned by Kings College London as part of Utopia 2016, a year-long program celebrating the 500th anniversary of the publication of Thomas More's Utopia. It ran from 1st July to 14th August 2016 at Inigo Rooms, Somerset House, East Wing Strand, London, and was developed in collaboration with Dr. Simon Coffey and Dr. Martin Edwardes from the Linguistics Department of King's College London.

Horizon, Open fires (2015)

Liliana Ovalle / Colectivo 1050º

Open Fires features the latest explorations by Liliana Ovalle and Colectivo 1050º around the firing process used in vernacular ceramics in Oaxaca, Mexico. The project comprises a variety of exercises where clay pieces are fired in particular geometric setups created with sand, dung and agave leaves. Each composition acquires black traces of smoke and coal, a permanent imprint of the fire they were exposed to. The clay pieces were formed by the artisans Mujeres del Barro Rojo, a family of female ceramist in Tlapazola who inherited ancestral local techniques for utilitarian red clay pottery, a craft that is nowadays struggling to endure. All the ceramics are shaped by hand using a combined technique of coils that are stretched into shape with a corncob. The pieces subsequently go through two different firing processes. An initial open fire, traditionally used in the region, hardens the pieces and makes them stable. In the second stage Ovalle worked closely with the artisans creating different setups for individual contained fires to imprint a black smoked finishing. All the materials used in the clay and the firing process are sourced locally by the artisans.

There were three sets of artifacts created over the course of the exercises. The vases were designed with flat extensions that are used to place dung and other combustible materials to create a small contained fire. The imprinted black traces remain as an indication of the intensity and direction of the flames. The plates, based on the traditional cooking plate *comal*, were partially masked with sand. The remaining area was covered with dung and agave leaves that combusted into an open fire. The resulting pieces display a contrast between intense black smoked tones and bare red clay. In a similar process to the plates, the cylinders were partially dug into a pile of sand in vertical and horizontal position. The final pieces were then marked with a defined line along the interior and exterior of the shapes, depending on the position they were set up for the fire.

Mujeres del Barro Rojo is formed by Angelina Mateo, Amalia Cruz, Alberta Mateo, Dorotea Mateo, Elia Mateo, Macrina Mateo and María Gutiérrez.

Mangala For All (2015)

Superflux, Anab Jain, University of Applied Arts Vienna, and Jon Ardern, London.

Mangala for All explores India's space ambitions within the context of global (meta) geopolitics and the commercial space industry. Mangalyaan, or the Mars Orbiter Mission (MOM) is an Indian spacecraft orbiting Mars since 24 September 2014. To coincide with the launch of Mangalyaan, or the Mars Orbiter Mission (MOM), Superflux launched *Mangala For All*, a reflexive ethnographic performance in the streets of Ahmedabad, India, where they offered participants a Mangalyaan Miniature in exchange for insights into what Mangalyaan and the Indian Space Programm means to the people of Ahmedabad. Stories of jugaad, scientific innovation, resourcefulness and creativity in Mangalyaan's success were entangled with assumptions about its impact on people's hopes and aspirations, as well as the subtexts of nationhood, geopolitics and the space race. Superflux asked whether Mangalyaan was an act of nation building, or a symbol of progress and development? Was it the Indian elite's delusional quest for superpower status, as economist-activist Jean Dreze has commented,¹ or a way 'to dislodge the perception of India as a developing nation, by showcasing spectacular technology'?²

Superflux endorses the interpretation of the Mangalyaan mission as India's most audacious and successful example of jugaad so far, as it was completed in 14 months and at low cost (\$75 million), prompting the question whether cost and time saving are the sole characteristics of design in precarity.³ In the context of current debates about the value of speculative design and racism, Superflux's documentation of the reception and commentary following the launch reveal conflicting interpretations of the right to engage on a global social imaginary of space exploration. While The New York Times published a racist cartoon subtitled 'India's Budget Mission to Mars',⁴ the BBC published a widely shared photograph of women scientists celebrating the launch,⁵ offering questions about the right to imagine futures that differ dramatically from the present still dominate and filter design discourse.

1. Jean Dreze, cited in The Logger, Mars Mission: Indian elite's delusional quest for superpower status? <http://indiatoday.intoday.in/story/mars-mission-indian-elites-delusional-quest-for-superpower-status/1/321731.html>

2. Joanna Griffin, Moon Vehicle: Reflections from an Artist-Led Children's Workshop on the Chandrayaan-1 Spacecraft's Mission to the Moon, LEONARDO, Vol. 45, No. 3, pp. 219–224, 2012

3. Anu Anand, Shoestring theory: India's pioneering budget space probe is halfway to Mars, The Guardian, India, 2 May 2014. <https://www.theguardian.com/world/2014/may/02/india-mars-probe-mangalyaan>

4. Heng, 'India's Budget Mission to Mars', *The New York Times*, 28 September 2014. http://www.nytimes.com/2014/09/29/opinion/heng-indias-budget-mission-to-mars.html?_r=0

5. Anon, Indian tweets celebrate as Mars probe Mangalyaan enters orbit, BBC, 24 September 2014. <http://www.bbc.com/news/world-asia-india-29347963>

Auto Raja: A sustainable community driven Rickshaw Service (2013)

Srishti Labs, School of Art, Design and Tech,
Bangalore, India

Indian cities are likely to house almost 40% of the total Indian population by 2030. This will mean almost 590 million people across a large spectrum of socio economics and culture living, and sharing resources together.¹ Auto rickshaws are a part of the Intermediate Public Transport system that tries to bridge the gap between the public transport systems and the privately owned vehicles. Efficient mass transport, as much as it offers numerous advantages does not address the unique demands that Indian cities pose. A key issue of most Indian cities is narrow impregnable roads which pose a huge accessibility challenge for public vehicles. The Indian Auto Rickshaw has been able to meet the needs of the Indian commuter which are unique due to infrastructure challenges, affordability, and absence of adequate special needs vehicles. However, the socio-economic sustainability of the auto rickshaws is threatened because of numerous problems that the drivers face. Limited access to knowledge and holistic solutions for solving the existing problems have increased the dependency of Auto Rickshaw drivers for socio-economic stability. Srishti Labs is working with the auto driver community, NGOs and technology partners on a community driven solution that will operate in a community driven business model that aims to empower the auto drivers socioeconomically in a self-regulating system. This will in turn make this much needed mode of transport viable, secure and sustainable.

The *AutoRaja* envisions a strengthened autonomy and entrepreneurial independence for the service provider, the auto driver. Shristi Labs believe that this is key to creating a safe, viable and sustainable mode of transport in urban communities. The service concept is based on the Srishti Labs framework for Smart Communities, that embraces new means of working and living by adopting innovative and, sustainable ways of communication, knowledge access sharing, and technology adoption. Inspired by permaculture principles it has three pillars of ethics: care for the people, care for the local context, and fair share. The design is based on community participation, people-to-people communication, access to local and community knowledge, shared resources, and self-regulation.

1. McKinsey Global Institute, 2010.

Wishing, New Channel Design and Social Innovation Project (2011)

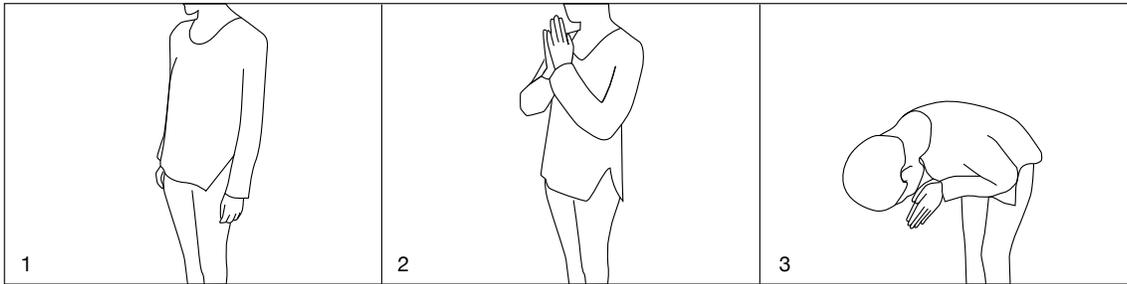
Tie Ji, Hunan University, Changsha, China

The emergence of Yang Drama can be traced back to the Nuo Drama which appeared in Shang Dynasty or even earlier. In rural areas of Youyang County, by playing Yang Drama, village residents make a wish for the things that they cannot achieve in real life temporarily. They believe that Guan Yu will help them beyond the physical world. Yang Drama is not only one of the few public entertainment, but also a kind of spiritual sustenance for them. Actors wear different masks to represent different roles, such as red mask, black mask, cow mask and horse mask. The biggest challenge for Yang Drama is the shortage of actors. The old masters are passing away, while the young people are migrating to big cities for their livelihood. The actors of a troupe can only be together in the New Year to put on a complete play.

Binding local material and cultural resources, the designers cooperated with residents and co-designed the art works. In order to enhance the interaction between people and Yang Drama, *WISHING*, an interactive video game was designed for people to participate in. When people approach the screen and make a wish by folding hands and bowing, local residents wearing casual clothes in the video begin performing in costumes. An interactive medium was adopted to reflect the cultural essence of traditional opera, enhance the cultural experience, and facilitate audiences to experience local culture in Youyang County. In 2016 more than ten thousand people around the world have participated in the game, and have attracted the attention of the national government to give support to Youyang culture.

Credits

Wishing, New Channel Design and Social Innovation Project has been awarded: 2011 China's top ten enterprise-led projects for public good, awarded by Global Charity at the China Soong Ching Ling Foundation; 2012 Good Design Award (G-MARK) for community development and planning, the first domestic honor in this category; the first prize of "China Universities Industrial Design Competition" (CUIDC) by Chinese Ministry of Education; and in 2013, Best Producer Award, awarded by "Yue" Foundation. The project has been exhibited in Milan Design Triennial, Beijing Design Week, Asian Design Week of Green Design, Bi-City Biennale of Urbanism\Architecture (UABB), Business of Design Week (BODW), and French Youth Film Festival.



Instructions:

1. When the screen shows a red bar slide from left to right, that means someone enters the identification area.
2. Then, player need to do worship action like in the picture to trigger four characters to play Yang Opera.

Eyewear (2016)

Cyrus Kabiru, courtesy of Smac Gallery, Capetown

Cyrus Kabiru refashions junk, recycled materials, and other found items from the streets of Nairobi, Kenya, into a variety of wearable forms. The 'C-Stunner' series of eyewear act as a post-colonial critique of development in Kenya. Constructed from mostly found materials, Kabiru's sculptures use and question the local practice of *jua kali*, which is the Swahili term translating into 'under the hot sun', and is used as a general category for products and activities with which vernacular designs are made. That is, a *jua kali* oven or ladles and woks from the *jua kali* shop, or the workshops where the products are made are all referred to as *jua Kali*. This applies to kitchen utensils, chicken feeders, machinery and appliances as well as the actual making of the items themselves, and so *jua kali* refers both to the practice of making such artifacts and the artifacts themselves.

Guftugu (2016)

Ahmed Ansari & Mehwish Zara Zaidi. Ahmed Ansari is a PhD candidate in Design Studies, Carnegie Mellon University, and Mehwish Zara Zaidi is an assistant professor in the School of Media & Communication Studies at SZABIST, Karachi

The word 'guftugu' means 'conversation' or 'dialogue' in Urdu and Hindi, with the connotations of being something casual and engaged, a sit-down between colleagues or friends to discuss common matters of interest over a cup of tea. Guftugu is a project connecting design scholars from the US and Pakistan, colleagues united in overlapping craft and interests over a conversation across space and time through the mediation of an ephemeral artifact, a paper toy often crafted by South Asian children in forms of play. Guftugu explores how older forms of asynchronous communication from childhoods that belonged to a world where Skype and other instantaneous communication platforms have not collapsed and flattened space and time can still act as mnemonic devices. The folded paper toys hold links to audio recordings of conversations about the changing global nature of design practice and education between two design scholars, Dan Lockton (US), and Zohaib Zubay (Pakistan), and the exchanges will run over the course of the exhibition.

Each of these exchanges have been recorded in a specific manner – both scholars initially crafted questions they'd like to ask the other person, and these questions were then sent, and a day taken for each person to listen to the other's question, and craft an answer in response. After listening to each other's responses they then sent another question, and so on. The nature of the conversation slowly unfolding over time, with time to reflect on each answer and craft a reply, melds echoes of the art of letter writing with the immediacy of oral traditions, and invokes a sense of what shape and form writing traditions in Pakistan, belonging to a largely proto-literate culture, with a heavy emphasis on the speakers voice and their tone as a storyteller, are like.

Critical Jugaad (2016)

Deepa Butoliya, PhD candidate in Design Studies,
Carnegie Mellon University

My work is about analyzing and situating jugaad (hindi for “making do with what one has at hand,”) in the framework of post-critical design. The third year of my doctoral research is rooted in the exploration of global post-critical design practice and the various modes of its representation, discourse and practice—in particular, the ways that jugaad-like practices play out at the intersection of the global south and critical design.

In my research, I am asking critically vital questions including: What is the future of critical design practice? How do we move beyond a western logic of criticality in design? And how do we punctuate critical design and change its representation, discourse and practice to take into account non-western and subaltern perspectives? If the post-critical turn in literature and art was meant to expand global perspectives, it did not quite achieve its goals. As Hal Foster succinctly points out, ‘The post-critical condition is supposed to release us from our straitjackets (historical, theoretical, and political), yet, for the most part, it has abetted a relativism that has little to do with pluralism.’ I wish to challenge this condition by resituating critical design through a new post-critical perspective. Post-critical design is not about changing the practice of critical design, but rather about renegotiating values embodied in this practice. We need to change the discourse and make it more effective for the pluriverse we inhabit.

In my thesis research, I explore how people use ingenious making practices like Jugaad as a tool for existence, subversion and criticality against colonial powers of oppression. Jugaad-like practices form cultural binders and empower people to find a collective force to fight oppression while practicing creative self-expression. This practice is a nonviolent critique that provokes and questions the techno-utopian imaginaries in such practices. Criticality is manifested through critique and criticism of the social, cultural, economic and political issues engulfing a state, through ingenious socio-material practices. This research inquiry is about tapping into the potential of such socio-material practices and the epistemology of the critical practices that happen outside the preconceived assumptions of criticality. Being Critical and driving change comes through the placing the power of critique in hands of publics.

Post Critical Design (2016)

Speculative Critical Design class, School of Design,
Carnegie Mellon University: Rachel Chang; Linna
Griffin; Verena Fienjan Vredevelde; Ji Soo Hwang; Justin
Finkenaur; Charles Van De Zande; Kaleb Crawford

Speculative Critical Design (SCD) helps us question the role objects and systems play in everyday life. A contemporary criticism of SCD is that it fails to take into account what everyday life means for people in different cultural and socioeconomic conditions. The objects and systems shown in such speculations are often narrowly defined in their outreach and result in speculations that are overly focused on narratives of a privileged western world. They fail to capture the disparities of the human condition prevalent in large parts of the world. In this regard, SCD limits perception of design by the general public rather than pushing boundaries of the field.

For this class, students were invited to create *Speculative Critical Design* projects that consider the implications of their speculations on everyday life and include those who suffer the consequences of producing SCD artifacts. Students were asked to design artifacts that question white privilege while designing for issues of the everyday when it is modified by climate change. These concepts were developed in the framework of post critical design through which the instructor punctuated critical design practice to remake it as a plural, inclusive, action oriented field of design practice.

These projects were developed over a course of 4 weeks in fall 2016 semester for *Speculative Critical Design* class run by Deepa Butoliya at School of Design, CMU.

Home ReSource

Linna Griffin

Sustainability has always been the keystone of Tesla Motor's mission statement. Recently the company changed its statement to encompass sustainable energy as well as the realm of transportation. This shift has led to the release of new products such as the 'Power Wall' and the new 'Solar Roof'; which signifies a move by Tesla into the market of home goods, with a focus on home owners. However, despite the emphasis that Tesla places on sustainable practices, their cars are not completely sustainable by virtue of the precious metals that are used to create them. The aluminum body of a Tesla vehicle itself generates roughly six times its own weight in red mud, a waste byproduct of aluminum mining.

To expand on sustainable mining practices, Home ReSource is a line of designer home furnishings made from the waste by-products of the aluminum, copper, and lithium. By recycling this waste into a form of consumer goods, Tesla cars would leave less of an ecological footprint and allow the company to further their reach into the home goods market. While the products are fictional, Home ReSource is a speculative future of the company's development through a critical view of 'sustainable' vehicles.

Drone Ice Cream Truck

Rachel Chang

As part of an increasingly militarized police force in civilian communities, drones are becoming a regular presence in America's airspace. Originally an object of invisibility, this design proposes to repurpose drones to double as ice cream trucks, thus making drones into objects of hyper visibility that drop sweet treats and sedate the general public while keeping tabs on our activities.

The Frackalypse

Ji Soo Hwang

The urban population lives in a frackalypse, an apocalypse created by the aftermaths of fracking. On a daily basis, urban residents deal with the environmental hazards of fracking, including: a methane filled atmosphere, contaminated water, absence of sunlight and limited vegetation growth. In order to survive in a frackalyptic climate, every individual needs to carefully plan daily activities to minimize exposure to environmental hazards. Due to extreme weather conditions, the majority of the year is dedicated to preparing for and recovering from extreme seasons. Individuals closely monitor their health via daily measurement of their physical condition. The constant self-monitoring leads to an obsession with planning for survival. At the same time, organized groups continue to fight the fracking industry and address the problem rather than the symptoms. Yet, in general terms the majority of the population have adjusted to the new lifestyle, which revolves around avoiding problems of the frackalyptic environment.

BIZAR catalogue 2050

Verena Fienjan Vredeveld

BIZAR catalogue 2050 releases the newest fashion trends with which to survive a nuclear winter through genetic manipulation of the body and via DIY design trends that reduce human vulnerability. Such future technologies will transform our bodies, and partially eliminate our familiar and trusted organs, in order to survive Earth's changed atmosphere and prepare our bodies for space travel. Recognizing that these options will be accessible only for privileged elites who can afford them, this future scenario responds to the optimistic view regarding genetic modification but questions the ethical implications of reinforcing social divisions through such expensive technologies.

New Cake Flavors

Charles Van De Zande

New Cake Flavors is an advertisement set in the year 2043, not too far away. The earth has warmed quite a bit, and plants from the tropical zone no longer survive naturally. Because of nutrient-rich soil, and incredible bio-diversity, tropical plants have intricate flavor profiles. As the climate changes, many enjoyable experiences will no longer commonly exist, such as tasting tropical fruits. As new experiences become limited, what behaviors and tastes will develop? If new experiences do not come often, will perception of time change? New Cake Flavors asks the audience to bid now for slices of special flavored cake so mundane experiences do not soon become uncommon.

Mining the Digital

Justin Finkenaur

The purpose of this piece is to illustrate the relationship between mining and our digital devices. My hope as the designer is to shed light on the exploitation of people from around the world in the manufacture of smartphones. Viewers of the *Mining the Digital* poster are encouraged to follow the link at the bottom to learn more about how mining is connected to manufacturing smartphone technology.

Pocket Guide to Micro Eco Terrorism

Kaleb Crawford

The *Pocket Guide to Micro Eco Terrorism* is an ode to the eco-punk subculture that never was. Designed to challenge the branding of contemporary environmentalism as a 'green movement' based on the tenets of self-righteousness, unity, and love of the planet, the zine proposes an alternate lens that frames sustainability as a DIY, disruptive, demonstration. Drawing its name in reference to the FBI classification of historically violent eco-activist groups including ELF (Earth Liberation Front) as "Eco-Terrorism", Micro Eco Terrorism proposes feasible everyday interventions that allow an individual to easily weaponize their surroundings, taking ecological protection on the offensive.

Mapping Transition (2016)

Terry Irwin, Laurene Vaughan

Mapping Transition is an initial exploration of how the Transition Design framework developed by Terry Irwin, Gideon Kossoff and Cameron Tonkinwise can provide an architecture for exploring the complexities of forced migration and the social and cultural dimensions of this. In particular, it embraces the temporal nature of displacement and the deep cultural and social aspects of identity and the experience and manifestation of place. Realized in the gallery, *Mapping Transition* is a *live* exploration of theory and design proposition that will seek to envision the temporal nature of forced migration, and how vernacular cultural heritage, practices and traditions from the past (home) can provide a framework for transitioning into unknown lands, comprised of new and unfamiliar ways. This is not a new phenomenon, throughout history millions of people across the globe have been forced to leave home, to seek safety in unfamiliar lands and cultures; and it continues as an outcome of power struggles and climate change.

Gandi Engine Commission (2015) The Tentative Collective

The *Gandi Engine Commission* is an experimental, site-specific workshop that navigates through the Ravi river in Pakistan to explore themes of development, destruction, waste and toxicity. Drawing on the Persian meaning of the word 'ravi' as 'narrator', and taking its name from a decommissioned sewage treatment plant, the project, recreated in the exhibition 'Climactic: Post Normal Design', was designed as a workshop and a walk to reflect on the waste and refuse that the cities produce and dump into the river. The commission was structured around the following issues: colonialism and conquest, pastoralism and productivity, detritus and development, living with discarded things, and a soundwalk. The walk culminated in a site specific video projection in a park near the plant, and brings attention to the local and global circulation of waste in the service of neoliberal capitalism, and its relation to the continued suffering of the people who live on the banks of these flows of refuse. The recreation of the work in this exhibition includes photographs taken from the *Ravi Waste Inventory* and an audio recording of the workshop held in Lahore.

The *Gandi Engine Commission* workshop was recorded for a *A Thousand Channels*, a series of radio episodes that traced the journey of the traveling public programme *Ancestors (South Asia, 2015)*, curated by Natasha Ginwala. These episodes aurally attend to the Indian subcontinent through conversations, oral histories and field recordings, and also incorporate performative work, film excerpts, internet rips and other sonic elements. This site is an evolving archive of a project that tries to chart shared histories and common horizons in the region.

Energy and Co-Designing Communities **(ECDC) (2010-2014)**

Bill Gaver, Mike Michael, Tobie Kerridge, Liliana Ovale,
Matthew Plummer-Fernandez, Alex Wilkie,
Jennifer Gabrys

ECDC is a speculative design project developed as a collaboration between the departments of sociology and design at Goldsmiths, University of London. Funded by the Research Councils UK (RCUK) Energy Program, *ECDC* is one of several projects that explore how the UK can reduce its energy consumption by 80 percent before 2050.¹ *ECDC*'s design process combines a number of methodologies, including fieldtrips, workshops, and the distribution of cultural probe packs in communities such as Whitehill Bordon Eco Town and Low Carbon Living Ladock. The workshops explore questions, such as 'How is people's engagement with technology affected by who they trust?' In 2014, *ECDC* distributed *Energy Babble* devices to thirty homes. The *Energy Babble* is a domestic appliance that broadcasts comments and sounds sent from a network of *Babbles*. The *ECDC* team describes the *Energy Babble* as "familiar, playful, [and] ambiguous" and designed to provoke debate within communities.² With the *Babble* network device, *ECDC* explores the imaginative and emotional dimension of energy usage and what they call the "potential" of people's imaginative application of technologies.³

1. *ECDC*, "Background: Energy and Co-Designing Communities," www.ecdc.ac.uk.

2. *ECDC*, "Process: Energy and C-Designing Communities," www.ecdc.ac.uk/#.

3. *ECDC*, Oxford poster, October 2011, www.ecdc.ac.uk/pdfs/ECDC-oxford-poster.pdf.

Design-Antropologisk Innovations Model / The Design Anthropological Innovation Model (DAIM), (2008-2010)

Joachim Halse, Eva Brandt, Brendon Clark
and Thomas Binder

The Design-Anthropological Innovation Model (DAIM) is a large-scale co-design research project developed in the Scandinavian model of participatory design. It investigated user-driven innovation in waste disposal and recycling services in Herlev, Høje Tåsstrup and Brøndby, three suburbs of Copenhagen. Subtitled “Rehearsing the Future”, *DAIM* was informed by anthropological field studies. These included documenting observations about waste practices by garbage collectors in their daily work and by community residents who use domestic waste management. *DAIM* developed the User-Driven Innovation Box with which Vestforbrænding and other utility companies can reflect on and renew recycling processes and customer communication. *DAIM* was funded by the Danish Government’s program for user-driven innovation and was selected by INDEX AWARD (2009) as an example of Danish design that aims to improve life.¹

1. Index, “Democratic Waste Management,” 26 June 2009, www.designtoimprovelife.dk/democratic-waste-management.

Sensitive Aunt Provotype (2012)

Laurens Boer and Jared Donovan

The Sensitive Aunt Provotype was designed at The Sønderborg Participatory Innovation Research Centre (SPIRE), University of Southern Denmark, as part of *Indoor Climate and Quality of Life*, a three-year research study of participatory design and user-driven innovation resulting from collaboration between two universities and five industry partners.¹ *Indoor Climate* endeavoured to understand inhabitants' experiences of comfort in domestic, business, and institutional environments. It involved a literature review on the meaning of comfort, an ethnographic study of a range of indoor climates and environments, a provotyping process designed to provoke debate and engage participants in discussions about future possibilities, and a final phase on the development of new product opportunities.² Laurens Boer, Jared Donovan, and Jacob Buur describe "provocative prototyping" as that which engages a range of stakeholders and helps participants understand what they call the "tensions at the fuzzy front end of new product development".³ The tensions to which they refer involve the different conceptions of a new product or service from the perspectives of manufacturers and design users. *The Sensitive Aunt* emits coloured light in relation to the temperature and air quality of the environment in which it is placed. In addition, when the buttons on the top of the device are pressed, it displays suggestions for ways to improve the temperature, light intensity, and air quality on an LED screen. The provotype was distributed and tested in a range of contexts by each industry partner involved in the project.

1. The *Indoor Climate and Quality of Life* research project was conducted between 2007 and 2010.

2. Jacob Buur, "Why Listen to Users?" in *Making Indoor Climate: Enabling People's Comfort Practices*, ed. Jacob Buur (Sønderborg: Mads Clausen Institute for Product Innovation, 2012), 3.

3. Laurens Boer, Jared Donovan, and Jacob Buur, "Challenging Industry Conceptions with Prototypes," *CoDesign* 9, no. 2 (2013): 73, 87. The authors note that provotyping is a design approach developed in systems design in the early 1990s.

Shenango Channel (2015)

Create Lab, Carnegie Mellon University

ACCAN (Allegheny County Clean Air Now) reports that the energy company DTE Shenango Coke exceeds permitted emissions limits every 5 of 7 days, based on information it had gathered on health impacts, video and analysis of measured emissions, which were published on the website *Shenango Channel*.¹ As recently as June 11, DTE Shenango lost power again, triggering emergency venting and flaring for 53 minutes. This was despite promises to install power backup equipment. Avalon, Bellevue, the North Side, Lawrenceville, O'Hara and Fox Chapel were downwind and bore the brunt of the toxic and carcinogenic emissions – for example, a resident of Avalon, Leah Andrascik, complained that her two young children 'could smell the noxious odors filling the air' and interpreted them, as have many others in the community, as marking exposure to raw coke oven gas and other unprocessed emissions.

The Shenango Channel has recorded and broadcast video of these multi-colored emissions since January 2015, proof that toxic organics condense into various colors when battery is allowed to vent directly to the air. These heavy organics are carcinogenic at minute levels, and include high levels of PAHs, which recent studies associate with autism. Black smoke can come from burning raw coke oven gas, and other black and grey emissions can be escaping coal or coke. All are toxic when inhaled. *The Shenango Channel* allows residents to compare days each week for air quality on a synchronized calendar that allows viewers to move to specific days of the year.² Speck takes readings every minute and graphs them to allow residents to understand the data the measuring of air quality, while a map shows wind direction and strength to show the neighborhoods affected. The site also has a crowd-sourced citizen science engagement component, allowing visitors to share and discuss information they find on social media.

1. <http://shenangochannel.org>
2. <https://vimeo.com/140196813>

BIOdress: A Body-Worn Environmental Interface **(2014)**

Sara Adhitya, Beck Davis, Zoe Mahony, Raune Frankjaer and Tricia Flanagan

BIOdress allows the natural environment to communicate with humans and provides a precursor of how design might be approached from an environmental perspective. By linking the human wearer of the dress to a selected element of their natural environment, *BIOdress* provides a heightened understanding of the environment's quantitative state. The wearer is linked to a specific plant, which is able to sense the quality of its surrounding environment on subtler levels, such as changes in air quality. This piece is the first representation by this group of a broader exploration of interspecies communication and the development of an approach to sustainable design that moves beyond the Anthropocene. It creates a mode of expression for silent, non-human elements, such as plants, which are often forgotten due to their inability to compete against the human voice.