



Maintainers III

MONDAY

Opening Remarks + Introducing MAMA (Bernardo Robles Hidalgo)

[ADD YOUR NOTES BELOW]

Opening Ceremony: Scores for Maintainers

(Taeyoon Choi, Cori Kresge)

Basic data

- **WHO** were the maintainers/care workers mentioned in the paper/session?

Choi: School for Poetic Computation

Kresge: dancer, interval training

- **WHAT** kinds of work do these people do?

Building Communities, increasing diversity through offering classes for learning to code

- **HOW** do they do it?

Through a commitment to care; skepticism toward military-industrial-complex

Context

- **What elements (time, place, populations, technologies, methodologies) of the paper/session stood out the most?**

Artistic approach: paintings, drawings, community gatherings. Artistic approach, anti-establishment vibe
Supportive exercise with little people, nurturing and introducing them to other little people

2 min Interval training: move in a way that feels good for you

2 min Write/draw continuously, without the pen leaving the page

REPEAT but with the word “care” foregrounded

2 min

2 min

AMPLIFY 2 min

1 min do NOTHING

3 minutes to review: mine your archive



5 minutes: talk in your groups (1-on-1), share what came up

- What recommendations or conclusions did the speaker/s offer?

Love yourself; think about responsibilities as maintainers, and the kinds of trust we can give to the world
Focus on the uncomputable, unknowable, ungovernable

- What significant connections do track chair, audience, and/or speakers make to other presentations at MIII, or to other issues/articles/media outside of MIII?

Code, technologies and bodies

More notes

School for Poetic computation

are we maintaining systems of segregation?

@chrissunkim - project about slowing down, looking back as a way to explore what the future could be
video of her signing

Signing Coders

converting computing concepts to sign language. spatial metaphors; relationship to technology

tech should be a language we can share, which does not discriminate

[stack diagrams! x2]

rocks tricked into changing the state

letter to friends how work at Google or other tech startups

dear friend

ethics. not a straight line

easy to criticize

but so much harder to do good work when balancing on the line

you've said you are discomorted with becoming complicit

'i'd prefer not to' = default mode of neoliberal subject

fight pessimism

don't conflate active contribution with complicity. working for military-industrial complex is active contribution

Nabil Hassein, - quote - computing, climate change and all our relationships

2018 talk - check out

absolution

emancipation



decolonisation
re-indigenisation

distribution not decentralization
care instead of control
info instead of data

dat and secure scuttlebutt

'i want to make my own internet' -> 'everyone follow my rules'

code is important
code of conduct is more important
expectations - standards - aspirations
[cf indy]
CoC as complex as writing code. iterate on it

very few people determine the internet structure today. w3c; big tech cos
more distributed power? care?

shift from creative technology to community technology
[shannon!]

SoPC was initially rich white men. had to change leadership structure, go to places like detroit

distributed web of care

gardening ideas on the internet - the epistemological garden of the internet [quote]

poetry and its resistance to utility, is important

tech not for ICE
tech workers coalition

buy the care not control t shirt <https://taeyoon-workshop.myshopify.com/products/dwc-shirt>

'uncomputable' perf
tiny person on hands exercise

Cory: practices of care, maintaing our body and ourselves

interval training



Ways Forward (Panel)

(Juan Llamas-Rodriguez, Kelly Pendergrast, Alex Reiss Sorokin, Jilly Traganou, Hong-An Wu, Jessica Meyerson (moderator))

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SPEAKER BIOS:

- Juan Llamas-Rodriguez is an Assistant Professor of Transnational Media in the School of Arts, Technology, and Emerging Communication at the University of Texas at Dallas. His areas of specialization include transnational media, border studies, infrastructure studies, and Latin American film and television.
- Kelly Pendergrast is the co-director of ANTISTATIC, a research and communications group that works with technologists and environmentalists. Her current research looks at visual culture, laboring bodies, and the discourses of Silicon Valley. She also curates *Moss Index*, a film series about landscapes and technology.
- Jilly Traganou is Professor of Architecture and Urbanism at Parsons School of Design and editor of the Design and Culture journal together with Barbara Adams and Mahmoud Keshavarz. Her current research is on the role of design, space and visuality in dissent, with a special interest in prefigurative politics.
- Hong-An (Ann) Wu is an interdisciplinary researcher-educator-artist that unpacks and develops critical and playful pedagogical approaches with and through technologies to address social justice. Currently, she is serving as an Assistant Professor in the School of Arts, Technology, and Emerging Communication at the University of Texas at Dallas.

Juan Llamas-Rodriguez

Water and wastewater at the borderlands

Critical Board Game: "Sewer Transnationalists"

players must address flooding and repair pipes.

Role playing: border patrol, water engineer, maintenance, etc.

RE-envisioning the border region, and force a re-articulation of roles and boundaries

sewage maintenance in border region

problems across borderlands

multiple institutions; need for costly repairs

changes to infra - costly

experts have long detailed potential solutions

from reforming roles of eg org which does crisis response not planning; or reinstating funding to n american devt bank

a critical board game! - the sewer transnationalists

play as bureaucrat, maintainer, border control agent, etc

follows Forbidden Island mechanics, only you don't want it to flood



Jilly Traganou

Jilly: Christiania. self-management of a community. Artists, bricoleurs.
est. 1971 in Copenhagen. Residents maintain water, buildings, public (shared) space

Hong-An (Ann) Wu

Ann Wu: Collective Tech Repair: Proposal for Pedagogical Practices

- area of study: tech failures during teaching
- Who is accountable?
- EoC: Puig de la Bellacasa
- How to care; who is responsible?
 - caring about
 - taking care of
 - care-giving
 - care-receiving

Alex-Reiss Sorokin

Innovation in Repair and Maintenance Work

Eastern University: 2 models side-by-side

- Proactive Stewardship: for the ‘cadillacs’ - the new buildings. Joint teams
- R&M: for everything else

reactive vs preventive maintenance (reactive = ‘run it til it breaks’)

2009: Eastern set out to ‘innovate’ - founded the “PS” group

this was a change in approach

A PS group becomes more responsive to user concerns.

2 groups respond differently. PS higher status; R&M is neglected--suggests that they aren’t appreciated

Concl: Maintenance and Innovation are not opposites; maintenance is not uniform or constant

Preventive maintenance is about eliminating repair work.

changes in maintenance org have something to tell us about its social role

Kelly Prendergast:

what does maintenance look like?

representations in cinema

but maintenance doesn’t map to a 3-part structure (Act 1, 2, 3)

Kings of the Road, 1976

Jeanne Dielman... (1976)

Black Girl

maintenance cinema is “the vision of a broken and dead world, strewn with both the dream residues and real junk of the world that was”

micro-genre: scrap and debris (salvage cinema) - post apocalyptic



Labor: Maintainers at Work (Panel)

(Jess Farrell, Stephanie Hoopes, Amanda Jaret, Katie Wells, Andrew Russell (moderator))

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SPEAKER BIOS:

- Amanda Jaret is Assistant General Counsel for the United Food and Commercial Workers International Union. Previously, Jaret worked as an attorney on Chairman Mark Gaston Pearce's staff at the National Labor Relations Board and as a Law Fellow at the AFL-CIO.
- Katie Wells is an Urban Studies Foundation Postdoctoral Research Fellow at Georgetown University's Kalmanovitz Initiative for Labor and the Working Poor. She is a geographer whose work focuses on contingent labor, smart city jazz, and urban infrastructure.
- Stephanie Hoopes is the National Director of United For ALICE, an innovative research center that has developed a series of measures of financial hardship. Prior to joining United Way, she taught at Rutgers and Columbia, and she has a PhD from the London School of Economics.
- Jess Farrell is the Community Facilitator for [Software Preservation Network](#) and the [BitCurator Consortium](#). She has worked as an archivist, project manager, and digitization technician in varying institutional and labor contexts. She advocates the improvement of worker conditions through the Digital Library Federation Labor Working Group and within the Society of American Archivists. She actively organizes with the Democratic Socialists of America and Our Revolution.

Basic data

- WHO were the maintainers/care workers mentioned in the paper/session?
 - Jess:
 - Librarians
 - Archivist
 - Young people - fetization
 - Stephanie
 - ALICE workers
 - BofL - financial hardship that has not been well documented elsewhere
 - Who are ALICE workers - they are Maintainers - they do the jobs that keep our economy running smoothly
 - Amanda Jaret
 - Food and beverage workers
 - Katie Wells
 - Uber workers
- WHAT kinds of work do these people do?
 - Jess:
 - Cultural and information stewardship
 - Stephanie
 - Bank tellers
 - Baristas



- Childcare workers
- People not earning enough to live where a lot of these jobs are
- HOW do they do it?

Context

- What elements (time, place, populations, technologies, methodologies) of the paper/session stood out the most?
 - Jess
 - Contingent work
 - The ability to influence her work
 - Leading salary transparency efforts
 - These are GLAMs workers
 - Given work to do work they are often not supported to do
 - These things are mirrored in higher education more generally
 - TIME IS A COMMON THEME - THE RATIONALIZATION OF TIME
 - Steph
 - Developed a set of measures that take into account actual cost of living in the united states with a family - looking at each county, and measures how many people are below that
 - Household survival budget
 - Sources comes from publicly available data
 - Amanda:
 - Rights -
 - The primary law that protects people is the NLRA (1935) part of FDRs New Deal
 - The law was controversial even at the time
 - Getting the law passed meant that in order to get Southern senators to sign meant that it excluded many categories of workers - agriculture, contractors, etc.
 - NLRA did not cover government workers either - postal service > but after unrest, they were covered,
 - NLRA protects the ability to engage collective bargaining
 - These are collective rights
 - Katie
 - racking the same group of 40 Uber drivers and the same group of policy makers trying to to this
 - When asking Uber drivers about weekly pay - it's hard to talk about because it changes even if you change the rules
 - Luck of the draw
 - People don't know how the algorithms work that impact their compensation
 - Drivers weren't sure if they would make money or not
 - Surveys and interviews
 - Uber workflows - death traps, isolation, - pay to pay the game of work
 - Digital technologies that leave people out
 - Digital capitalism looks like poitelism



- What recommendations or conclusions did the speaker/s offer?
 - Jess
 - Bringing the question of labor into conversations about transcription labor, etc.
 - Mobilizing large groups of workers across institutions
 - Have to create the data and resources
 - seen lack of planning, jumping into “Innovation”. One workplace with zero processing archivists, but a full innovation lab - very little focus on maintenance.
 - Even when you have little power to make change, you can ask the questions and make the questions about labor more visible - more difficult to ignore.
 - Organizers have limited resources, you have to build the tools and collect the data yourself
 - Workers are hired to complete a project with limited to no resources - mentorship, time, tools,
 -
 - Steph
 - ALICE = Asset Limited, Income Constrained, Employed
 - In most places 10-15% are below the poverty level but an additional 20-30% are ALICE
 - The household survival budget is much higher than the federal poverty level - the survival budget is very transparent, the federal poverty calculations are opaque
 - Many ALICE workers are maintainers - these jobs are required to make society run, but they are significantly underpaid
 - Broke down different jobs that are in an economy - inventors, adapters, burturers, infrastructures
 - Very small number of people at the top of the pyramid
 - VERY LARGE number of people that are at the bottom of the pyramid - 57% of the workforce
 - What is the probability that these jobs will be automated - maintenance jobs are most likely to be automated
 - Amanda
 - Maintainers are fairing well under this law
 - States are beginning to push back
 - Collective bargaining - workers were originally given economic protections in exchange to giving employers
 - All workers are vulnerable - judges, etc. that put forward less protective interpretations
 - Katie
 - Gig economy conforms to existing standards
 - There are a lot of new studies
 - The challenges are for policy - the Uber workplace is political not just economic
 - Unwaged work has been the historical norm
 - Uber is a new chapter in an old story - exploitation
 - If we are to imagine a better future - we have to understand the working class



- What happens when Uber comes to town - tracking a group of drivers as they move in and out of gig work
- Pay as an uber driver changes every time they change the rules - even if you do everything right you can make no money, it's the luck of the draw
- Debt trap, slippery wage, worker isolation
- Emerging challenges of rideshare apps are faced by workers and policy makers
- Q&A - Recommended reading -
https://wiki.diglib.org/images/d/d0/DLF_ValuingLabor_ResearchAgenda_2018.pdf
- Non Compete clauses limit the career prospects of many maintainers
- Lack of research is impeding our ability to create policy to support maintainers
- Uber and Lyft have local level lobbyists, local legislators have little to no data - researchers can break down the barriers to information access- legislators want to make decisions about labor practices but they don't have the information required to do so
- What significant connections do track chair, audience, and/or speakers make to other presentations at MIII, or to other issues/articles/media outside of MIII?
- **ANDY QUESTIONS**
 - Interface between research and practice
 - Where can research inform practice and vice versa - connections you want to bring to attention
 - Jess:
 - Labor research agenda by DLF labor group
 - Loving
 - Collective responsibility forum
 - Categories of labor - and how that intersects with class, race and gender
 - Transitional relationships - perceptions of labor - how does that changes as you advance professional
 - How do organizations assess themselves in terms of labor
 - Labor accreditation -
 - Amanda
 - Empirical needs to come to break on policy making outcomes
 - Federal trade commission is asked to throw away non-compete agreements
 - National labor relationship board - should grad students be given protection - is that work and needs to be validated
 - Employee status - and how that has changed
 - CA just signed into law assembly build 5
 - How does the law fall short
 - the surge in labor activism is encouraging
 - 1 who has rights under fed labor law? - excluded agricultural and domestic workers - codified the racial and gender hierarchy - also



- excluded supervisors and independent contractors (this exclusion has since been weaponized)
- 2 what kind of rights are protected? collective bargaining, right to engage in “protected concerted activities” - talking about salary, complaining about work conditions, etc
- 3 how are maintainers faring under our current regime? workers were given rights in exchange for supervisors retain the right to decide what work should happen and how
- Anything to keep these ideas fresh in people’s minds
- Katie
 - In 2017 Uber and Lyft together had more lobbyists than Google and Amazon and not at the federal level but the local level - the extent to which local legislatures HAVE NO DATA
 - Because of the smart cities - they are not allowed to have data
 - What researchers can do is break down barriers to information access
 - When DC gets Uber - the leg wants to make decisions about labor practices - DC counsel - there may be some pick up outside of CA but these are fights to play out at the local level when it comes to data access
 - State preemption - in Texas, they preempted local leg from making decision about labor practices about going to the Leg to say that the data from the apps is off limits
 - Research and practice - people are trying to keep us from knowing
- Stephanie
 - ALICE has highlighted areas for effective policy
 - Automation is coming and technology is in jobs that didn’t have technology
 - Learning curve for ALICE workers -
 - Training - is that on the job or back to school with a career path
 - Some of these policy ideas are for gov, but also for organizations
 - With more and more people working hourly wages - you have periods where you do and don’t make money - can we bring healthcare with you
 - Companies themselves are shifting risk to employees - the ones they contract out to - so there could be a push for how companies take responsibility no matter what the worker official status is

Lunch Keynote: Chuck Marohn

Strong America: A Bottom-up Revolution to Rebuild American Prosperity



60-stop book tour

ST mission: support a model of development that allows America's cities, towns, and neighborhoods to become financially strong and resilient

- Growth Ponzi Scheme
- dead-end cul-du-sac example: no commercial or thru traffic: how long will it take city to recoup the cost to build the roadway?
- closed loop infrastructure. a developer built homes and city infrastructure, turned it over to city. Property owners paid mortgage and taxes; city never collected enough taxes to maintain. if city collected enough, it would raise taxes 46% with 3% increases over 25 years (sewer, water, roads)
- industrial development: ok, we lose money on residential, so let's make it up on commercial.
- Growth Ponzi scheme slides
- History lesson: causes of Depression, resolution by WWII. Not a good way to build a society
- We're wired to highly value positive feedback today and deeply discount future ramifications. A human flaw deeply embedded in all of us
- We have built an entire economic system exploiting the basic human flaw.
- Post-war growth has departed from previous generations.
- Today we build all at once; our ancestors build things incrementally, subject to constant improvement. in the past, all cities began as pop-up shacks, hopes, and dreams. small bets about what could be.
- incremental renewal mechanism needs to be organic and natural; community owned.
- complex, incremental, adaptable, and messy to hyper-charged strategy where building and growth takes place on the edge. Get rid of blight, build brand new.
- Buffalo example; Lafayette example
- pre-war development pattern is strong. postwar is incapable of adaptation and evolution; it is inflexible; it has no renewal mechanism, so it is inherently fragile and will break.
- cities will need to face decisions about what to maintain, and what to let crumble away. they will not be able to raise the money.
- Detroit example
- Chuck is here because he feels that we are a part of the answer. Needs to be first, not last. Maintainers should be the centerpiece, not an afterthought. Maintenance embodies the technical work as well as a spirit of community.
- PAGE 251: maintenance should not be large, transformative projects. Rather, ongoing basic maintenance with an obsessive attention to detail.
- Places like Lafayette needs to be showered with love. small scale, as an obsession, one step at a time. He's advocating for a culture change: "If maintenance is the priority - and it must be the priority--then the people who perform maintenance must be a priority. That's a different culture, one where the maintenance worker is a value-adding artisan, not the lowest-cost cog in a bigger system"

now a 501c3 and a book



General Maintenance Track Collaborative Notes Doc

themaintainers.org

eg road, culdesac, resurface. will take city 37 y to recoup cost from adjoining tax base - road will wear out before then. no thru or commercial traffic so only beneficiaries are homes on street.

developer, originally, built roads as well as homes, and then turned over to city to maintain. local taxes were meant to pay for it, but don't - would need 46% more property taxes

business park - similar - plus tax inducements to get biz to move in. also chuches, school bus yard, don't pay tax

this is the growth ponzi scheme

you get a little bit of tax each year and it looks like it stacks up but every 25y say you spend it all and maybe a bit more on redoing the infra... and when you add all the projects up it just tanks after a while

strongtowns.org

the depression - war - all dreadful. after war, created kinetic growth machine by duplicating a pattern, centralised, efficient

we all discount the negative ramifications in the future
a human flaw

we build these days as if we'll finish them and they will be magically maintained forever
our ancestors did not, they built incrementally, we'd see cities around world all looked the same, shanties, then growth. a small pop up shack main street. since ww2 it's all changed, everyone does different stuff
if the little popups faired, well, they failed. wall st didn't crash
it's little bets only.

as people gather, land becomes more valuable, pressures growth - grow up, out, intense.

our maintenance history is about defaulting on our promises
because we made unreasonable promises

we have to own it together, not outsource
we need to cocreate our cities

historic street - wood shacks, 2-3storey wood buildings, 2-3story stone, then parking lots and half full buildings, the growth has failed the city, pushed it out to failure

example - 3 blocks which got jumped over by post war growth.
on, still tiny shacks; another, tore down crap and build taco drive through. looks like growth, looks good.
the blighted block is worth 1.1m. the same block with same public infra only worth 600k.
the old stuff is outperforming, after a century of neglect, the shiny new of today.

themaintainers.org



the taco joint will become a used car lot then derelict then someone will want tax subsidy to redo it

Buffalo NY. lost population, hard times.

the actual wealth there is in the central stuff, the messy old main street

example - great stuff going on at edges in theory - but the wealth is in the poor people communities

Urban3 group

so why do cities go broke?

P&L maps go wrong. we mis-indentify the blocks which generate more in tax than ongoing cost

the poor areas don't look great (but then they aren't costing a lot)

but the city may be neglecting them too - these are not the squeaky wheel areas who get stuff fixed

the fancy box stores and malls and 3 car garages in cul de sacs are where costs are more

the old stuff is resilient, flexible, strong

we have built an inflexible system

one option - raise taxes. x5 just to pay to maintain what they have, not to grow more. can't tax people that much

the idea of doing stuff when state sends money or a bond issue - won't work

some places will have to be allowed to go so you can maintain others

look to detroit

they are along this path

everyone knows it. everyone thinks their city couldn't be like that. but detroit was wealthy and fancy. they

pioneered commuter suburbs, they ran highways through neighbourhoods and made parking lots - all

pioneering

did well, comparatively, in the depression

the bankruptcy happens slowly then all at once

detroit is just a bit ahead

book calls for celebration of maintenance

to front and centre

maintenance like walt disney parks - ongoing basic care, obsessive attention to detail.

shower with love



that means celebrate
that means the people who perform are the priority

growth solved the great depression
today's problems are different
we must shift
from growth to stability
from new to maintain
to squeeze value from what we have
=> maintenance mindset

q from stewart brand
artists go to poor areas, then they gentrify
what about grateful degradation - let it go so it doesn't die but becomes cheap but functional for the creatives?
does this work?
A: SF/oakland, sure. big cities with capital firehose.
ok to grow if the wealth created brings people along with it. slower increments.
small cities, lafayette, so different.

over time, cities have wealthy people in the city and poor at the edge.
new cities used to be started by the poor and it was a way to get a leg up
but now since ww2, cities are poor people middle, wealth in suburbs

dense poor - you can walk to food store, bus to job, form community bonds.
in suburb . growth spread, you lose that/
poor people in suburbs are condemned to a dreadful life if you don't have a car
you can't walk

so the answer is, more like triage than graceful decline, because some places will have to not have services,
but need ways to welcome people to what remains.

Maintenance in Jewish Thought (Lightning Talk)

(David Kalman)

SPEAKER BIO:

- David Zvi Kalman is Fellow in Residence at the Shalom Hartman Institute of North America and an affiliated scholar at the Katz Center for Advanced Judaic Studies at the University of Pennsylvania. His research focuses on interactions between Jewish history and the history of technology.

god must continually recreate the world, not just a one off



Existence is tenuous, in liturgy, God's role in constant upkeep is recognized
In the Zohar, God's activity has not stopped, but a continual process.

Feminist theologians - G

Obligated Self - Benjamin - reimagining ethics as the mother child relationship

Keeping Scientific Equipment of Various Ages Running in a Nanotechnology Laboratory (Lightning Talk)

(Danielle Bovenberg)

SPEAKER BIO:

- Danielle is a PhD student in Technology Management at UC Santa Barbara. She uses ethnographic methods to study technology and organizations. In the project she reports on here, she is studying the role of old equipment in nanofabrication research and development facilities.

Modular upgrades - third party vendors in scientific equipment

legacy vendors and code. Machine shops and eBay become central to the process of keeping the equipment running. Often keep duplicates.

Focus in her thesis:

1. Modular upgrades in the process of innovation.
2. Third party vendors. Standards enable cooperation and coordination across time and organizations.
3. Duplicates and backup parts - an organizations manages uncertainty by having backups

Female Machine Operators and the Maintenance of the Factory System (Lightning Talk)

(Yuan Yi)

Chinese labor history of female machine operators and the significance of their maintenance work. We need to enlarge our view to include (male) mechanics and (female) operators.

Spinning included over 10 machines,

objects often broke on the machines,

The yarn broke frequently.

After failed attempts to fix the machine, the entire machine would need to be renewed.

[ADD YOUR NOTES BELOW]

Festival of Maintenance: A Celebration of Those Who Maintain Different Parts of Our World (Lightning Talk)

(Laura James)

<https://festivalofmaintenance.org.uk/>

twitter: @maintenancefest and #maintainfest

facebook: <https://www.facebook.com/MaintenanceFest>



Speaker: @LaurieJ and lbj20.blogspot.com

SPEAKER BIO:

- In 2018 Laura James created the Festival of Maintenance, a grassroots community event to explore maintenance across digital, physical and social contexts, and to recognise and celebrate the work of those involved in care, stewardship, repair and maintaining. She will be reporting back from the second edition of the Festival, highlighting questions and learnings from a diverse group of practitioners and ‘maintenance curious’ folks in the UK.

Human development and maintenance processes need to be developed at the same time.

structural problems

Humans act through acts of ennoblement

Warranties and receipts are important for the circular economy.

boring revolution

Shannon Mattern: what would degrowth look like in the context of digital infrastructure? Must move beyond things like individual responses like quitting Facebook.

“what could we do now to build the new world? The maintenance economy?”

[ADD YOUR NOTES BELOW]

Mowed Over: Community Governance of Public Space (Workshop)

(Gia Biagi, Ben Helphand, Laura Lawson, Stephanie Steinhardt (moderator))

Laura Lawson, ljlawson@sebs.rutgers.edu

The hive of community maintenance and governance. Wide variety of institutions and governance forms.

(From slides): benefits of community governance and stewardship - ownership, cohesion, flexibility, etc.

Neighborspace partnership examples... sites along the river in Chicago.

Gia - architect - thinking vertically and horizontally.

Maintenance challenges between Chicago and Mexico City (Montezuma’s bathtub)

Spent 15 years in City Hall (Chicago)

What public assets do we invest in?

Single models for community governance don’t work all that well; context and nuance is everything.

Community-based models require small scale pieces for building relationships. Community-based groups need information and communication

Scale of engagement: from inform-consult-involve-collaborate-empower. Be clear about where you are.

Scale might drive some decisions about where to place partners along this continuum.

Laura - Branch Brook Park

Care of the Park: maintaining the investment in the park. Collaboration of city, county, Rutgers, community. Master gardener program.



Urban agriculture - community gardens/open space tend to be agricultural.

- benevolent dictator model vs ????? model
- both models and everything in between needs to address long-term concerns for sustainability: access to materials, volunteer days (careful: burnout is high), individual plots

BREAKOUTS

Group 1 - Community Governance Simulation:

- Elementary school: **Elementary schools want to grow saplings and grow them in the park for an annual fundraiser**
- Arts organization: Drawing classes have met in the park to do painting and quiet
- Neighbor: The park is good for birthday parties (7am-9pm Sat - Sunday) - trash cans get overfilled so by the time the kids come back on Monday the trash doesn't get picked up till Wednesday
- Neighborhood - They would like barbeque grills
- Urban planners: Are there things showing up in the park that indicate how people WANT to use the space, even though it wasn't meant that way
 - Is the neighborhood changing - are their new
 - No play component so there are corners where kids are making it happen
 - After school programs need a playground or some place for kids to play - kids have been trying to make it happen
 - Recreational opps should reflect the neighborhood recreational preferences
- Elementary school:
 - Indigenous peoples celebration at the same time as the birthday party

How do we ensure that all these different perspectives are represented?

- Do we start a friends of group?
- Do we create an organization?
- Do we charge fees for party reservations

Discussion:

- Neighbor - coming from a decentralized area - it would be great to have that
 - There are such diverse interests that Friends group might not work
 - It might be better to do something fee based because - if people have never seen an organization that allowed for more centralized governance - you go to fee based
- School - the school doesn't have any extra money to help - we are suffering from the same problem
 - The school provide labor - if there was a way to incorporate the work into the curriculum
 - Little kids interested in picking up trash - giving the students a stewardship roles
- Could you use the fees to provide the YMCA with a way to help
 - Birthday party teams get paid to pick up the trash
 - Urban tree planters
- **YMCA cold have a job skills training**
- As soon as money starts to exchange hands you need accountability
 - The ymca COULD DO IT
 - But they would be running the park
- Who negotiates with the YMCA



- Who facilitates that - a labor council or park advisory board
- As needs change
- How do fees affect the usage of park
 - Unless there is a fence around the park, whoever wants to use it can use it
 - Online calendar to reserve the rental space
 - If you want to reserve sports spaces, or grills for leagues you have to rent it
- There are many parks that fund themselves through weddings and bday parties and that funds tree car and snow removal
- Could an arts organization do an annual fundraiser
 - We have to raise our own money so we couldn't make a promise to be able to provide
- Sponsorship - light manufacturing, an event for the
- **Equinox idea - that could tie in with the school curriculum**
 - **Some orgs start meeting every month and stop gardening, and then they are no longer focusing on the park, but rather the meeting and disagreements**
- Park 27 - no one knows what i
- Arts organization could create some branding and signage

Lawyering as Maintenance (Panel)

(Simmi Kaur, Chuck Roslof, Sei Young Pyo, Amanda Levendowski, Kendra Albert (moderator))

SPEAKER BIOS:

- Chuck Roslof is a Legal Counsel at the Wikimedia Foundation, where they work on intellectual property issues. They also are an organizer for the Queerness and Games (QGCon) and a volunteer for GamerX.
- Sei Young Pyo is a Staff Attorney and the Director of the Immigrant Justice Project at the Sylvia Rivera Law Project.
- Amanda Levendowski directs the new Intellectual Property and Information Policy (iPIP) Clinic at Georgetown Law.
- Simmi Kaur is an attorney in the criminal defense practice at Bronx Defenders.
- Kendra Albert is a clinical instructor at the Cyberlaw Clinic at Harvard Law School.

Simmi Kaur: simmik@bronxdefenders.org

Kendra Albert: kalbert@law.harvard.edu

Chuck:

- What does maintenance and lawyering look like in Wikimedia foundation?
 - Legal review
 - governance
 - policies and procedures
 - The global community of volunteers are supported by Wikimedia - so one of the lawyering maintenance pieces are providing legal support for a network of regionally based organizations

Simmi

- What does maintenance and lawyering look like in public defense?



- Defend people accused of crimes in the Bronx
- Maintaining their innocence through the life of their case
- Best possible outcome might be an acquittal - the charges go away, you aren't found guilty and then you have to reint
- Holistic defence of Bronx Defenders - as soon as an accusation is made and charges are filed, you might lose your job or your kids before you are even found guilty - your immigration status - ----- these happen when the charges are filed not when you are found guilty or innocent
- It doesn't help someone if you get an acquittal but you've already lost your kids
- Works on a team of social workers, immigration lawyers, etc.
- Identifying other needs that clients have an able to bring in the right people to maintain their dignity and humanity
- Bookings is where you see a judge - bail set, etc
- Simmi is on an early defense team - pre-arraignment advocacy
 - They will start advocating before charges are filed
 - Taking maintenance to a new level
 - It could conclude accompanying someone to turn themselves in - just attending that,
 - Letting their family know at what point of the process they are in
- It's talking to their parents about what kinds of issues a teenage client might have
- The majority of the work is in and around the court case
- Maintaining relationships within a network of care/control
- Amanda
 - Info Policy and IP at Georgetown law
 - Opportunity for students to take on real clients - under supervision of a barred attorney
 - Students are learning to be maintainers
 - Students maintain the agenda, the body of case law to be responsive, interviewing their clients (so they trust you to give them information)
 - The goal is to internalize ethical practice, good judgement and creative thinking and bringing that out into the world as practicing law
 - Maintenance on top of that for Amanda:
 - Running seminars on primary areas of law and social justice movements
 - Maintaining the relationship with AMnda and students and lawyers
 - While they have cases - they are trying out being a lawyer
 - Students are experimenting with these roles - each student, team, and client is different
 - Maintenance is often:
 - Maintaing yourself - composure in the face in the face of upsetting counterfactuals
 - relationships with clients when they are no longer your client
 - Sending clients updates on relevant decisions
 - Maintaining your internal sense of what worked or didn't work
 - Was it pedagogically rich



- Did it make a positive impact
- Maintaining your own self and safety
 - It can be hard to give that much to a job and make time to take care of yourself
 - Many clients are experiencing trauma so you are experiencing second hand trauma
- Lawyers describe their work as practice - and that is how many maintainers have

KENDRA - Questions about maintaining relationships:

- Simmi
 - Working with prosecutors is hard - because you don't share a world view but they control so much in your clients life
 - It feels like a lot of her job is maintaining how others are feeling
 - Also figuring out how the judge is feeling
 - Tapping into what a prosecutor cares about
 - Self-maintenance part has been challenging - feels like you are responsible for maintaining everyone else's emotions but your own
 - Many that were motivated to come to this work - is because social justice and mass incarceration is wrong and they are fighting against it and on a day to day can get lost
 - Maintaining their values and politics
- Amanda
 - In a clinical practice the relationships are different - you have to maintain relationships with your students
 - Honoring their responsibility being in this dual role
 - You can't just tell the student they are the lawyer and then do all the things that are actually lawyering behind the scenes
 - Also relationships with your other legal faculty/colleagues
 - Even though you might do some of the work in your clinics - the students are learning those core concepts by OTHER faculty
 - If you do this you have a much better sense of what students are learning, the framing and how that tracks to the project and clients that the students ill take on
 - By the time they get to Amanda, they are about to go out and start practicing > and self care is not part of the traditional education and training (high rates of substance abuse in the profession)
- Chuck
 - Work of an in-house attorney - the relationships with their colleagues outside the legal department
 - We are launching this thing tomorrow - and if Chuck has a personal relationship with someone they will give him a heads up that allows him to protect the communities and the organization

Lawyers as maintainers of the system - how are role as attorneys - there is an ethical code; how do you maintain a system

- Amanda
 - Practices tech law in academia, that's three institutions that people take issue with
 - Trying to figure out boundaries within the system



- Many people maintaining boundaries to keep people out - maintaining a practice where you can be within and without
- Trying to teach lawyers how to question the boundaries of the system - you can do that work while still working within the bounds of that system
- Gain the respectability of the people inside of the system in order to gain the leverage needed to stretch those systems
- Maintaining different boundaries - by already joining I've abandoned hope for change of that system
- At what point does that acknowledge the need for change has become implicit
- Chuck
 - He works at a nonprofit and he feels that might allow him to avoid some challenges spoken about by others but one thing that can be difficult
 - Maintaining the platform and the space
 - Letting the community have control over that means they may make decisions that they don't agree with - where the wikimedia community came from is tech, not always most inclusive spaces -
 - Chuck's role is to allow people to create decisions on their own
- Simmi
 - Are we cogs in the system - are we fighting the system
 - To a person incarcerated, they are very much a part of the system
 - Are you satisfied with your attorney
 - People can't take off work - they have to come to court
 - It's a self-satisfied question to be asking - they may have only met someone for 2 minutes
 - When homelessness is criminalized, Simmi feels like she is there or keep it running
 - Building individual power is why we came
 - It affects you and your values day in and day out
- Kendra
 - One of the other questions about maintenance of the system is how lawyers regulate themselves
 - Who rights rules for attorneys - attorneys
 - Even if you aren't complicit in a particular system the power that lawyers are given as special is itself is a product of lawyers investing themselves with that power
 - Your clients don't want to have to deal with you
- Amanda
 - Being part of a lawyer is being a hierarchy - hierarchies where there are specific rules where you have made it
 - Part of that credentialing also makes it hard to maintain boundaries of being within and without - maybe if I can just get here then maybe I can just put the peddle to the metal
 - Don't want students to wait 10 years to make the system

DISCUSSION AND QUESTIONS



- How do you deal with “order” being based on agreeing?
 - Kendra - fighting the hypothetical - one thing that Kendra learned in law school was to let go of the idea that there was just the law - there is so much contextual interpretation and reasoning
 - No more unitary concept of law and justice - I’m going to look at what is in front of me and see if it tracks to my values
 - Talking to clients about potential risks
 - A lot of it is not about law but the realities of the playing field they are on
- In order to have all order - we don’t have to agree

Q1: what is your job, and what is the role of maintenance in your lawyering work?

Chuck: Wikimedia foundation, in-house attorney. keeping the org going: contracts, HR, governance. Also, legal review of statements (etc) from org - prevent litigation. Maintaining policies; affiliates, partners, trademarks.

Simmi: Public defender in NYC. “Maintainer” is what I do! Help people maintain their innocence. Costs of false accusations are very high--bad things happen when charges are filed, not at point of conviction.

Amanda: IP Clinic at Georgetown Law. Teaching students to be maintainers of the clinic: the agenda for the clinic, the body of case law. Goal is to teach them how to be lawyers. Legal work is a practice; it’s challenging enough, so if it’s not meaningful it can be draining

Simmi: spends time talking to prosecutors, difficult because they don’t see eye to eye.

Monday Daily Wrap-Up and Closing Remarks

Concluding thoughts on day 1:

- care, motion, and making connections (Cori and Taeyoon)
- incrementalism; growth is not synonymous with success (Chuck, Mowed Over)
- Data/research to inform policy and practice, and vice-versa (Labor)
- Who benefits? Who is getting left out? Why? If it’s systematic and structural, what steps can be taken to make the world more just? Examples of exploitation from all panels
- care and control dichotomy
- Roleplaying game - FUN - people take advantage of this space to break out of traditional modes of interaction
- maintaining systems that have moral ambiguities--technology, law, universities
- Gen Track embodies arguments for **breadth**: “oh, now I get it, I’m a maintainer!”

Transport:

- How institutional practices influence or constrain individual practices
- Maintainers innovate - they create new technologies and procedures in their
- Tomorrow there are many great panels - smart cities, safety and bias,

Information



- Had a great day in the information track - it was interesting to see how things spoke to each other in ways they hadn't anticipated
- Recurring themes:
 - Austerity and neoliberalism
 -

General

- Bolt of inspiration from Cory & Taeyoon, care, control, motion,
- Incrementalism - the importance of one step at a time and taking your time
- Growth is not synonymous with success
- Labor was a major theme - who benefits from all these different systems - if the reasons are systematic and structural
- All panels looked at exploitation
- Role playing game in a session on the governance of community space
 - Opportunity to do things differently
- Lawyering as maintenance - maintaining systems that have moral ambiguities, embodying three institutions: tech, lawyer and universities
- General track embodies arguments for breadth - oh, I get it, I'm a maintainer

TUESDAY

Mel Gregg & Deb Chachra: Keynotes & Moderated Discussion

Maintaining yourself; your work as a productive subject today (work-life balance)

Background: work/life blurring. notifications, distractions, to-do lists, task management -> productivity pressure. Anxiety; trouble creating a language to talk about the problems of constant productivity.

Counterproductive: productivity apps

Four computing modes define laptop activity

Cultural comparisons across 3 countries. 4 consistent themes, or modes of computing:

- communication & sharing (the work of getting the work done)
- personal organization (keeping yourself organized)
- casual creation
- expert production

Examples of a few different interviewees with multiple apps, machines

Expectations and issues:

- workers getting feedback overnight (global partners, i.e. Facebook guy)
- students working in public (work visible to peers via LMS etc)
- screen size matters: mobile isn't big enough

Generational expectation: filing to keep things in order vs browser windows (which aren't bookmarks)



For this generation, saving is being replaced by syncing; storage appearing increasingly unnecessary
People increasingly saying they couldn't live without google, they love google, etc. Big implications for political economy (monopolization, etc)

Evolutions in computing maintenance **slide**

- Physical, Personal, Cloud

Knowledge professionals stress: inherited structures and metaphors while things are changing.

Deb Chachra

Pakistan to Toronto to Boston

Daily routine--infrastructures that support everything.

Who Cooked Adam Smith's Dinner? (who was doing the domestic labor for Adam Smith, and why didn't it feature in his economic model)

Infrastructure scores: crisis around maintenance.

Infrastructural systems replace gendered labor; so when these systems fail, gendered labor steps up.

Water treatment systems.

Any sufficiently advanced neglect is indistinguishable from malice.

Maintenance of a treatment facility does not prevent breakdown in light of the broader ecological system

DoT before firefighters, to make sure roads are OK

Our collective infrastructure needs to be:

- maintained
- resilient
- sustainable
- equitable

energy footprint of infrastructure is ~40% of total energy use.

Downton Abbey: electric toaster and electrified houses. Which side of the divide do you end up on?

Infrastructurally privileged, or disadvantaged? Not under our control, other than to try to make advantages available to everyone in the world. BUT: we can't do it with fossil fuels.

Equitable infrastructure isn't just about maintenance, it's also about making lives globally equitable. For this, we need renewable infrastructural system.

Equitable, maintained, resilient, sustainable--these all are intermingled.

These are our collective systems, facing systemic challenges.



DGW: what happens when infrastructure goes away, and when it fails... When Slack goes down in SV, everything stops. How do infrastructure outages affect knowledge workers, and what strategies can they use to overcome it?

MG: who do you depend on for your infrastructure? co-working and 'Office as a service'.

Won't pay for a 5-year lease, but will pay to have Kombucha on tap. But they do have robust wi-fi backup systems!

Mel:

studying workers and work routines

what we mean by maintenance and maintenance work and self-care

reproducing ourselves as a productive subject each day

Mel uses the word productivity carefully - she's been studying work and productivity for many years, starting with how mobile phones and social media were influencing the lives of professionals.

At that time Australia was already talking about "creative industries," drawing on Richard Florida.

Constant notifications

People don't count checking email as work, which leads to problems because we spend about half our time doing such tasks.

She came to focus on the intimacy of work, and the binds that work creates for certain kinds of knowledge professionals.

In her next book, Counterproductive, she came to focus on how productivity was influencing the way we think about work and self.

Boom in productivity apps aligned with when Mel moved to the USA

Mel just now finished a study of laptop use

29 x 3 hour interviews. 4 professional user categories

Tried to focus on younger worker/users - and types of workers that often get left out, like freelancers

Went to 3 different countries.

4 modes of computing: communication + sharing mode, Casual creation mode (using cloud services to create content that makes them look professional - like tweeting a conference) , personal organization mode (this is how you organize yourself to get work done - this is maintenance work - like organizing files - managing calendars), and expert production mode (this is the one engineers like and design for - this is not where users spend most of their time - it's where they would like to spend most of their time - they spend most of their time in the social modes).

A Case: Bill is a comedian and musician. He uses Canva to produce fliers to try to get people to attend their show.

David: software startup - i

When students use Gsuite, they are doing their work in public - their peers can constantly see what they are up to.

Use Canva to manage calendars



The laptop is unique because it allows people to do all four modes. It's simply not true that young people do everything on their phone. People have habitual senses of what a laptop can do - including viewing an entire week on a calendar.

Extreme user - hundreds of browser tabs

For this generation, saving is being replaced by syncing - storage is not appealing.

Evolutions in computing maintenance:

people feel overwhelmed by the amount of information that their systems are bringing to them.

But people are developing a new way of being in this information wave

Moving from filing cabinets and paper to the personal computer era where the metaphor of the file continues, but now we are moving beyond this. Now laptops are only temporary devices in the longer evolution of a document or product.

Deb:

Deb's parents are from what was then India but is now Pakistan, but they moved as part of a mass migration to India. A few months before Deb was born they moved to be near Toronto and near Niagara Falls.

Her dad worked at the hydro and nuclear power plant.

She got her Phd in engineering and then moved to Boston.

She shows a picture of the Boston Athenaeum where she spends her day

She returns to her home and can enjoy electricity, heat, clean water.

Who cooked Adam Smith's Dinner? book. - points out that Adam Smith did not do the gendered labor that made his book possible.

Wages for Housework -

The reason Deb can spend her day at the library and then go home and cook a quick dinner is because she's connected to these big modern infrastructure. Housework (gendered) has been displaced by modern infrastructural systems.

American infrastructure gets a D+ from the ASCE infrastructure report card. If it was a student it would be on academic probation.

When systems fail, gendered labor steps up to replace the infrastructure.

In Mexico City, the aqueduct is being over-drained and pipes are not maintained. Water scarcity is a fact of life. The women in the neighborhood are the ones who step up to fill in the lack.

“any sufficiently advanced neglect is indistinguishable from maintenance”

Maintenance isn't about sustaining the status quo, especially in the face of change, including climate change.

The energy footprint of infrastructure is about 40% of our total energy use. A significant fraction of our energy use

There is a second sense in which this is not sustainable

Reference to Downton Abbey - large number of servants responsible for keeping the house running



It takes place in the early part of the 20th century when the transition from aristocracy to modernity

(In the scene featured, the maid got an electric toaster)

Immigration researcher (name) - talks about feudalism - you are the person that tended up being born and growing up in the castle but just like there is nothing you can say to a surf - there is nothing you can say to people born in a less well-developed country.

None of us have circumstances have control over their birth - but Deb was born into an infrastructural birthright that her parents were not.

100 years ago she would NOT have been born into infrastructural aristocracy.

The privilege that we have - how do we make that available to the world

There are not enough fossil fuels to make that happen. THERE IS enough on earth if we use fossil fuels.

Equitable infrastructure is not just “who does the maintenance” or who deals with lack of maintenance

It’s the idea - how do we make our lives globally equitable.

Our collective infrastructure needs to be:

maintained, sustainable, equitable, resilient

These are our collective systems, facing systemic challenges

Our work is to address these challenges collectively

DISCUSSION:

- Don: Careful thought about what happens when infrastructure breaks and the inequality that results from that. As a technology worker, infrastructure often fails. In Silicon Valley when slack goes down. In the 4 modes of computing - when the communication mode shuts down, all the other modes go out the window. How do you see the failure of infrastructure impact on knowledge workers. Examples:
 - Mel: The location and proximity to other people - THE REAL QUESTION IS WHO IS RESPONSIBLE FOR THE WIFI. She goes to a lot of coworking events. What happens with the wifi goes down in a coworking space. They have a backup situation for wifi because they know that wifi is the key for all these freelancers. For many workers working freelancing - there is no backup for that connectivity. Most people in the world don’t get the PC from their employer. That is a big bias in the way that PCs have been building and selling devices. Mel is trying to get the engineers a better idea about what work ACTUALLY looks like so the changes can be made at the platform level
 - Deb: In alrger infrastructure - she was talking to the CTO of the college - right when the transition from lines to wifi. IF someone can be called at 3am to fix something - it’s infrastructure. Infrastructures going through a progression. When she showed the Downton Abbey toaster - that was like the era when wifi was a luxury. Then it moves to a service. And finally, it becomes a utility - a thing upon which other services are built.
 - GPS or electricity - relative infrastructure, wifi in your building - when it fails it’s not because of a fiber optic cable



- Things can go from being a utility to being a RIGHT. Water is in South Africa's constitution. In the USA, electricity is a right. It is a political right.
- Canada has a plan to roll out broadband but not quite to the place where wifi is a right
- Raquel
 - A common thread is the distribution of labor - whose doing what and what level of granularity
 - In maintenance speak, maintenance work is discussed in a masculine light - there is a masculinity associated with it
 - How does gender or other type of distributions play out
 - Mel's training is in gender studies - gender is usually a prominent feature of analysis. The reason that engineers have overlooked the importance of communication and sharing is because that work is feminized - the work of keeping organizations running, through committee work, through creating records, etc. It is a generalization, but we see the consequences of that often.
 - One thing that has been very important about the rise of slack is that it has come out of the realization that people do like to chat with people that aren't in the same division or the same company.
 - And to be thinking about how you're designing software to enable communication - convivial aspects of like - [Note: LIKE TAEYOON - THINKING AWAY FROM UTILITY]
 - The desire to be productive - when tracing the history of time management techniques - domestic science and home economics where some of the first versions of time management.
 - What we see in the fetishization of productivity is the problem where - people once had someone to delegate administrative work is that there is no longer someone to delegate that work to - the bot or the AI will provide the repair or the trauma of removing your secretary
 - Deb:
 - I am young enough that I never had a secretary. But there are still colleagues that have them. Some colleagues say, I finished emails and now I have to get rid of my real work - and I have some news for you about what your real work is
- OPEN QUESTIONS TO THE AUDIENCE:
 - We know most messages we get on email are from bots, or machines - but the fact of those messages is that they are presented as a human we know. Can anything be said about humanizing automated communications and the impact of that
 - Mel:
 - I find them annoying too - what has been noticeable to me, there is a growing trend for the simulation of the human to the subtle to the attentiveness of your workload - the bots pay lip service to your business. The niceties are a historically peculiar evolution in American business discourse



- Mel looked at self-help manuals are about being nicer to get people to do things that you want to do. Business self help of that genre is more relevant to the analysis of that bot design and how it is applied in today's culture
- Sales culture in the USA is very strange. In the US, there are specific conversations we have not had because of the commercial orientation of that culture. It is symptomatic of a culture of the internet that has become commercialized
- Infrastructure birth rights: What do computing infrastructure birth rights look like as we enter into 5G, especially with global north and global south. Is privacy a manifesting of that birthright
 - Deb: One of the things that Deb looks to is danah boyd's "context collapse"
 - Talking to her friend in the NY subway, they are in public but that is a very different thing if someone recorded their conversation
 - There are different definitions of what public and private are - one piece of this is that we conflate what counts as public and private
 - The darker side is that technology of scale - "privacy through obscurity" was really only available on smaller scales
 - Because of commercial imperatives, we haven't started dealing with this AT ALL
 - The impact of this type of mass privacy will be borne differentially by who has power and who doesn't
 - Mel: Want to discuss what's going on in China in the last few years. On the topic of privacy in particular, the last time she went to China, people were using a lot more obfuscation tech than previously. Governments control over wechat has caused innovation to pushing to different communication networks. In China if you ask people if they care that the gov is monitoring - they say, I have nothing to hide, I am not special. In the USA, you start to hear the same thing when you ask about privacy in relation to Google and Facebook - as long as they have nothing to hide they are happy to have that level of convenience in exchange
 - What technology are we talking about with AI - In China, it is ubiquitous in a way that Americans are not ready for. What we consider to be privacy in a USA, and my rights (rule of law and property), it matters in terms of how people understand breach of privacy. That is headed for a very challenging future. When it comes to crowd control, population control, lack of gun control - more people are going to want more camera surveillance, and that will be more political and exacerbates the conflicts in the us. The birthright idea may itself be cultural. It is also concerning. AI is creating the perverse effects - someone was celebrating that there black skin could be recognized by facial recognition - if that's celebratory - and if that's what we are aiming for in explicability - that's surprising.



- In looking at some of the personal digital archiving literature - helplessness in the face of waves of information - 2 ways for addressing this > let's design system that puts authorities into the hands of users , everyone needs a librarian or archivist and we'll create best practices. How do we not reify the feminized labor of organizing information - tracking that against AI and individuals working with their data. Also personal responsibility and one day we'll be able to do this - besides those areas, what else is there.
 - Mel: What I find challenging about the interpretations of neoliberalism in academia, is that is often the end of the analysis/biopolitics - the idea of population control in relation to AI, one way of thinking about what the biopolitical looks like - it doesn't relate at all to the concerns of overeducated persons keeping up with their email. I don't want to use neoliberalism - because what it absolves is a set of options and choices that they don't acknowledge - the choice to check your email on the weekend. It is a choice to do that. The reason she uses intimacy to talk about their work - there has traditionally been a sense of rewards about being employed in a middle class
 - People's response to things - the ability to say no. Anxieties about performance are caught up in longer historical change
- Deb: social control and AI - for Mel, elaborate?
 - Mel: this comes out of the use of cameras in China's schools - schools are starting to have cameras in schools because they are worried about school shootings. In China, parents want that because they are worried about performance. EEG headbands for students - to map that data to the cameras. That consent to give more privacy away is also aligned with coming up in the middle class in China. Being part of the great mobility. There is more support for surveillance in early China for the purposes of building the middle class.
 - By contrast - in the USA, there is a discussion about how AI can be used to rebuild the middle class. The press about AI taking our jobs is not helping
 - Population con

Impermanence (Panel)

(Roy Decker, Sabir Khan, Jamie Ready, Andrew Russell (moderator))

Meredith Sattler: msattler@vt.edu

- Sabir Khan: The richness of academy, practice and responsibility
 - 50% of industrial design and engineering
 - Last 5 years issues around repair and maintenance for engineers
 - They work with existing things - not so in architecture, this session comes out of the studio that Sabir taught in the spring
 - How do we think about time, duration and imprea - in an industry or privileges the new
 - Image of a room paired with a car - 90th year anniversary of both
 - Pairing of automobile technology and modern architecture go way back
 - 2 photos from work in the spring semester



- 2 technological artifacts - look at how they age; create something that could be a shrine and shed
- 2 things happened here -
 - Students got involved in repurposing materials
 - Students also observed weathering on campus
- This began to give them a sense of how something they might design actually ages
- Students were asked to draw what they see and learn from what they are seeing
- There was a copper facade on a building - they started to see the oxidation and they began researching how that can be addressed and how that fed into the design of something 10 years out - imagining themselves outside the presentism
- When S. Kahn gave them a hand drawing, every brick is done in slow time, and what he got back was bitmap texture
 - This is coming from an expediency, and a solutionism: well if we need brick, let me just download brick textures online
- Texture.
- It isn't just sense of the invisible labor - it was a loss of the sense of the material
- This has also been part of modernism from the beginning
 - 1986 pavilion - reopened quarries to use the original material
 - Now everything is failing in that building
- Image of local architects installing a project that looks like marble - "Missing Materiality", North African onyx walls and covered them in white plastic so people can SEE the maintenance
- This building is shown outside of temporality
 - The material comes from other disciplines - artists have been calling to our attention - Ukeles - taking from this, S. Kahn asks the students to shadow a maintenance crew to understand the classed labor
- S. Kahn was taken to the Barcelona pavilion - and the first thing she did was to go up to the allowed wall and lick it; she called it licking the Barcelona pavilion -
 - This brought back texture, not just the visual bitmap - when the architecture students see that today, they are horrified.
- Missing materiality is the biggest missing challenge
- Roy Decker:
 - The firm is a way to think about maintenance, not as an afterthought but as essential
 - Time - we think about the spectacle of the thing we mak
 - The thing is conceived, delivered, and needs maintenance
 - Time regards to material science and our lives - there are permanent things and transient things
 - What we call structure and appear stable are actually just moving at a slower rate than we are
 - Once you think about maintenance as part of the design problem you have to expand the scope
 - Decker is a design firm



- Architects often get hired after the performance requirements are set
 - in doing a lot of work with the National Guard, maintenance is never mentioned in the performance metrics
- So when architects get hired later, the architects are the decorators.
- Architects rarely go back to their buildings the maintenance labor is often pushed downstream
- Decker wanted to involve an expanded practice - more engaged with the consequences of their work
 - They do a lot of community planning - they are laying the vocabulary and the seeds for how to empower a community to define projects in a mature way that enhances the health of the community
- Components:
 - Develop
 - Design - we should all be providing inspiring spaces to be in; the well-being of our social encounters are part of the environment
 - Care - they have a facilities care group > they are part of the studio and part of the team
- One project example
 - Community college building - once care is thought of as a design problem, it changes how you think about building
 - GSA wants you to design a 100 year building
 - Okay what lasts for 100 years - the structure? the roof only has a 25 year warranty
 - Mechanical systems - most mechanical systems reach their life out but they will have to be changed to
 - What about data systems - 5 years of useful life
 - All of a sudden, time in relation to design of buildings - let's make building we CAN maintain
 - Heinz Community College faces south and north - EW axis
 - Environmentally smart building
 - The make-up of the building
 - The mechanical and data system scan be easily accessed and changed
 - No soft finishes
 - The orgs we work for have very little money for maintenance
 - Designed to maintain the systems that each have a different measure of time
- Notion of expanded form operating throughout their practice
- Jamie Ready
 - Civil engineer by training
 - Design decisions and maintenance
 - Facilities management at Georgia Tech
 - 550 people



- mostly skilled trades, safety professionals, etc,
- Collectively, FM keeps the lights on
- Campus has 250 buildings 400 acres
- 8M square ft is maintained by the FM team
- 19% of buildings are over 50 years
- 27% 25-50 years
- 45% 10-25 years
- 10% less than 10 years old
- Much more money spent to maintain than to build the building in the first place
- Proactive maintenance
- Most tasks are mechanical - many AV technicians
- Sometimes systems are over engineered, so just to get the building cooled you have to take other systems offline
- Building examples on campus
 - Scheller College of Business
 - 3 glass sculptures - these are beautiful but caring and cleaning them is a major undertaking - there is only one person in the US that can do this, doors after to be removed
 - The track lighting installed for the sculptures are all burned out because they can't get a lift into the building to change the lightbulb - just to switch the lighting, that will be a major cost
- J. Erskine Building
 - nearing the end of life for the roof
 - There are 24 separate roof sections
 - It will cost 3-4 times as much to replace these than all other buildings on campus
- MODERATED DISCUSSION
 - Is the artist the person to clean the artwork?
 - No he was trained by the artist
 - Fascinated committed to the idea of a firm committing to the maintenance of a building overtime? How does that work contractually?
 - The ambition to redefine what an architecture practice - we had to figure out how to incorporate these ideas into everything MEANWHILE - contractually, all these activities have been separate
 - They formed companies at the level of the designing practice, they separate them at a contractual level - clients can contract for the maintenance separate, contractually
 - The day to day practice is integrated and insurance companies are working on one kind of coverage for firms like this but still separate
 - The cashflow is also different for each of these areas
 - Facility care is stable
 - Architecture cash flow goes up and down
 - If you weave the different ones together you have a stable model
 - In a situation like the building examples -



- What records and things are available for you to figure out what materials to use?
 - We have architectural files and teams that help us backtrack
 - If those documents are not available, they seek outside help to come up with a design strategy
- It seems like you all have tremendous opportunity to tap the people that are actually maintaining
 - Have maintenance crews come into the class?
 - Yes - it just started - it started with the engineers
 - With the architecture students, its abstract - so it's been interesting getting the architecture students to engage
 - Comparative maintenance budgets
 - How different the costs are with different buildings?
 - When you deal with a client in the planning stage - do you give them costs overtime
 - The budgets have to do with the type of use of the building
 - Some buildings have clean rooms - like - labs, the cleaning and care of that is more expensive
 - Everything has a square foot price to replace it - and the use determines that
 - Also legacy issues - if there has been a major renovation - the newer buildings seem to cost them more
 - There is an increased cost to designing and building a building that has an expectation upfront that it will be maintained
 - Making building with an “open infrastructure” and that adds square footage costs
 - Helping clients afford a better building by stripping away the things that cannot be maintained
 - How to approach stakeholders that don't necessarily understand these maintenance costs?
 - Expediency is the current focus; it's pessimistic in some sense
 - One does what one does in ones' practice - but the broader and long
 - When you get involved in the economy of projects upfront
 - “What's very important - you only designing for the life of the bonds that are financing the building”
 - Value of investment in relation to its use
 - Buildings are thought of as products
 - Tight fit between financing and the building itself
 - - The way to maintenance is NOT A SINGLE EXPERTISE OR PIECE OF LABOR
 - The way that work is structured for maintenance teams - sometimes it is hard for the workers themselves to see how the other roles that contribute to maintenance make up a bigger picture



- Challenging the students to think beyond a box that will be placed perfectly - starting the conversation

Architecture (Panel)

(Vyta Baselice, Keojin Jin, Meredith Sattler, Andrew Russell (moderator))

SPEAKER BIOS:

- Vyta Baselice is a PhD candidate in American Studies at the George Washington University, where she is completing a dissertation on the cultural and social history of concrete, titled “The Gospel of Concrete: American Infrastructure and Global Power.” Her research is centered on twentieth century architecture and urbanism, with a particular focus on the manufacture and dissemination of construction materials and their effects upon built, social, and natural environments.
- Keojin Jin is a licensed architect working at Skidmore Owings & Merrill as an architect and a firm-wide researcher. He participates in designing of super-tall office towers as well as industrial laboratory buildings around the world. He is also part of SOM’s ‘Net Zero Cities Research Group’ establishing various cities’ urban condition to be used for sustainable building designs.

NOTES

Keojin Jin:

Begins with Lewis Mumford quotation: “The rise of the megalopolis is the last stage in the classical cycle of civilization, which would end with complete disruption and downfall.”

Ski jumper - graceful falling

Sustainable architecture is usually new towers

The rest of our urban area is mostly urban highrises - built cheap and economically

Club of Rome and the Limits to Growth - the limits of our world and environment.

Cities as energy systems and the emotion of urban metabolism

What kind of thinking processes do we need to create a sustainable society?

In the post-growth phase, consumption outpaces production and then falls precipitously.

Turns to an example of highrises in his hometown which are being torn down after only being used for a couple decades.

Cement consumption per capita graph - fast growth leads to intensive cement consumption.

Urban population rate is directly tied to cement consumption

Before new concrete typology takes over, a pre-growth settlement takes place - haphazard planning. So the traditional response is to have highly planned concrete reinforced apartment buildings.

housing units are standardized and are perfect for trade and investment. You buy them to sell them.

These concrete buildings are then torn down and then you create higher and higher towers.

Some of the buildings are being torn down because pipes leak and rust. Replacing the pipe is more expensive than just tearing down and starting over (because everything is poured into the concrete).

When consumption outpaces production, we need to rethink the norms and utilize new methods. Create a prosperous, graceful decline.

Maintaining for the future - creating retrofit strategies.

Vyta Baselice:

Concrete Breakdown - studies concrete from a cultural studies perspective



concrete is the most consumed material on the globe after water

Concrete was sold as a material of permanence that didn't need to be maintained. Shows an ad that claims that "concrete is permanent. It actually improves with age"

The industry's motto was "concrete . . . for permanence"

What are cement and concrete? Cement is burnt with limestone at 2700 degrees fahrenheit. It's an ingredient. Often cast as "scientific."

Portland cement association: formed around 1900 as the industry was expanding.

The cement show was founded in 1908 - showing off cement to the public.

Thomas Edison's single pour house - sold as hygienic because you could just hose down the walls.

Frank Dusey of Iowa called for more regulation of the cement industry - he said that cement was not impermanent and needed maintenance contrary to the industry's claims. He said the industry needed to be strictly regulated.

Dusey now looks prophetic - the ASCE points out infrastructural failure - but ironically the concrete industry would hugely benefit from infrastructure spending.

Maintenance under climate change is even tougher: increased wetness degrades concrete faster - so we'll either need to maintain more or use the material less.

Meredith Sattler:

Why is it so challenging to get architects to consider maintenance, and what can we do about it?

The look and appeal of perfection and permanence, which are a fairy tale.

Biosphere 2 - the design process links to the maintenance processes

The bacteria in biosphere 2 began to separate from other organisms outside

what is maintenance in architecture

british standards for maintenance

Hilary Sample has written the best book addressing this issue. on weathering

More" building technology" and other professional journals

maintenance is in Vitruvius too

low-maintenance sustainable design strategies

Hilary focuses on high-maintenance strategies.

All of these strategies link to sustainable and resilient design

sustainable design tries to deal with stability

resilience is about dealing with uncertainty and change

in architecture it's chunked into material vs performance/service (environmental control). Maintenance sits between these two categories.

Maintenance is about maintaining the bodies.

Stewart Brand and how Buildings Learn: taught us about the temporality of buildings

Where's the architect's brand's schema?

We either see the architect or maintenance but not both together.

Drop city book.

split between back to the lab and back to the land.

Cowan shows us women labor and shows us housekeeper and health keeper always working together.

"If you can't draw it, it doesn't exist"



We draw with computers today - where's the dirt? where's the litter? How do you represent maintenance?

Where are we seeing maintenance today in the world of architecture? The assemblages of humans and non-humans.

Complex, not complicated.

weathering and designing for slowing degradation: orchestrating natural processes.

High tech solutions.

redundancy - the mars rover as example.

How did biosphere 2 deal with maintenance and sustainability? They drew it. But this included a lot of hubris.

Decent, Safe, and Sanitary? Kenilworth Courts and the Envirotechnical Failures of Public Housing in Washington, D.C. (Lightning Talk)

(Justin Shapiro)

Justin Shapiro: maintenance of dump/toxic park reflected complexities of pollution, hazardous conditions that took the death of a young child before the dump was closed. City of Washington was put in a position to balance the needs of maintenance, public health, safety, and undemocratic processes. This underscores the need to humanize maintenance in the face of bureaucracy and neglect.

The Guild of Leaks, Cracks, and Holes (Lightning Talk)

(Varun Adibhatla)

social media links

<https://twitter.com/vr00n>

blog/website links

www.argolabs.org

<https://medium.com/a-r-g-o>

SPEAKER BIO:

- Varun is a public technologist and co-founder of Applied Research in Government Operations (ARGO), a non-profit organization that builds, operates, and maintains data infrastructure to transform how water reliability, street quality, and other basic public services are delivered in the public's interest. Varun has M.S degrees in Information Science (Penn State) and Applied Urban Science (NYU)

Varun Adibhatla: Guild of the Leaks, Cracks, and Holes: following up from Chuck Marohn's post-WW2 mentality of infrastructure, Varun advocates for a "guild" of leaks, cracks, and holes that elevates the prominence and prestige of maintenance work. Varun also draws on Hindu imagery, which elevates maintenance as equal in status to creation and destruction, as part of the cosmic order. Looking at mundane work as essential and the continual work involved. Even provides a "coat of arms"



The Careful Archipelago: Performing Maintenance in the Penguin Exhibit (Lightning Talk)

(Matt Battles)

Matthew Battles: associate director of lab at Harvard: “performing maintenance in the penguin exhibit,” based on months of volunteer work in an aquarium. His research findings: at the New England Aquarium, the ecology is unique from the standpoint of maintenance: performative and public aspect, including 4 hours of cleaning by penguins themselves. In addition to penguins, there is maintenance by humans--cleaning supplies, e.g. and food that wouldn’t be available to them in the wild-- resulting in a symbiotic relationship of human-non-human ecology and maintenance (“multi-species maintenance”).

Representing Maintenance: Upkeep as Critical Reading and Writing Practice (Lightning Talk)

(Brandon Benevento) brandon.benevento@uconn.edu

Brandon Benevento: maintenance in American representations of work, post-WWII, based on dissertation work. He attended previous maintainers conference in Hoboken, and at this conference wants to make a case for maintenance theoretically--which he examines also through literature--from Melville to Toni Morrison. Maintenance is a subject and a practice, involved from life to death, and he argues that it has feminist roots that also has Marxist origins--and focuses on the quality of work itself. Whether or not we find “joy” in maintenance, it is part of a universal experience.

Historic Districts: A call for equity (Lightning Talk)

(Angelyn Chandler)

chandlerangelyn@gmail.com / @ChandlerAngelyn twitter / @chandlerangelyn instagram

SPEAKER BIO:

- Angelyn is an architect and a Vice President in the Capital division at the New York City Economic Development Corporation. Her work in architecture and urban design ranges from large-scale park development to community-focused planning, design, and preservation initiatives.

Angelyn Chandler: Historic Districts: A Call for Equality: as an architect, Chandler spoke about the purchase of her new home and the urban development of Hudson, New York. She describes the history of previous inhabitants to her neighborhood, who came from blue collar backgrounds, in contrast to the more educated and professionally trained inhabitants who now come from NYC for cheaper living. Some 19th century housing has been excluded from the national historic district, which leads to decreased tax benefits and increased costs for maintenance hoisted onto new homeowners, connected to concerns about rent costs, gentrification. She calls for careful and holistic consideration of which buildings are included/excluded from national historic districts for a variety of political, economic, and legal reasons.



'Making do' to Sewing-up Protest: A Hands-on Mending Workshop (Workshop)

(Devon Olson, Ellan F. Spero, Jessica Meyerson (moderator))

Devon Olson, devon.olson.2@und.edu @devononabike

speaker bio: Devon Olson is a Research and Education Librarian at the University of North Dakota School of Medicine. In the past she has spent time working in community archives and historical societies in Brooklyn and Seattle and is interested in bringing narrative, performance, and community-focused frameworks to bear on issues of information access and agency as well as traditional information literacy instruction.

Ellan F. Spero efs8@mit.edu @ellanfei

Ellan Spero is historian of science and technology who both wears and knits many hats. She is a social entrepreneur, co-founder and chief curriculum officer of Station 1, a nonprofit organization focused on socially-directed science and technology, and a lecturer at the Massachusetts Institute of Technology. Drawing on a multidisciplinary background in science, design, and history, her research addresses the ways that people envision human progress, through the institutions, things, and narratives that they create. Spero holds a Ph.D. from The Massachusetts Institute of Technology (MIT) in History, Anthropology, Science, Technology and Society, a B.S. and M.S. from Cornell University in Fiber Science and Apparel Design, and M.A from the Fashion Institute of Technology (FIT) in Museum Studies and Textile Conservation.
[ADD YOUR NOTES BELOW]

Right to Repair and the Circular Economy (Panel)

(Daniel Crowder, Jonathan Coopersmith, Katie Allen, Ellen Stewart, Nathan Proctor, Lee Vinsel (moderator))

Katie Allen - katie.allen@fixsoftware.com | TW: @allen__katie

Nathan Proctor - nproctor@pirg.org | TW: @nProctor

Ellen Stewart nrvtimebank@gmail.com

Jonathan Coopersmith - j-coopersmith@tamu.edu TW: @faxhistory

Panelists represented

Presentations...

Lee's questions:

- what's your utopia?
- what are the obstacles?

Questions:

- what do we teach?
- how to connect generations?

NP: industrial design should be required to teach tear-downs.



LV: how many items in repair cafes are under restrictions?

Dan: rate of repair vs not-repaired; our volunteers have a pretty high rate.

Mel Gregg - how do we get allies into the discussion and into the room? R2R has advocates and allies within industry, but they need some support and help to make the case. Need to get into the supply chain as well - lots of complexities in there, technical and other obstacles to repair are buried in supply chain logistics.

Also, how do we know how many phones are disposed?

Data for e-waste and recycling are extremely patchy

Question on economics, tying back to Chuck Marohn - scale of buildings and infrastructure.

Dan: need for more bright young people to join the trades. Old buildings: "I could bulldoze it for half the cost."

Information Track Reports Out

- Hello - provocations
- Discussion at tables
- Discussion across the board

Software Track Reports Out

- Hello - provocations
 - Pressures of maintenance with pressures of instagram
 - Ethics of the maintenance of software
 - Responsibility of who uses your code - Ex. ICE
 - Responsibilities to users
 - Mix of academics and practitioners
 - Technical maintenance
 - Economics of open source - maintainers do not get their share of abundance
 - Companies make a lot of money transforming maintenance into products
 - Why so much value is created - but maintainers don't
 - Fate of so many depend on so few
 - What is the policy, practice and care policy of consumption to contributions
- Discussion at tables
 - The topics are the same in many ways
 - In info track - you let things go because it is making more of ourselves - we can't maintain ourselves
 - How to make programs run with the triage metaphor
 - Decision tools for that
 - Labor of love is problematic



- You do a thing, you maybe get money for that , and then there is no support afterward - is that simply setting people up to fail
- When systems require a heavy burden in terms of technical and conceptual
- Cultural change - not because it's good for business >
 - What's wrong with making a business case -
 - CSR - piecemeal, there is no one solution
 - Regulation
- Discussion across the board
 - The role of maintenance is ahead of the curve
 - Maintainerati
 - What lessons are there - rise in new roles
- Hippocratic License and “don't be evil”
 - JSLint license has similar language, IBM asked Douglas Crockford for permission to use it “for evil” - <https://en.wikipedia.org/wiki/JSLint>

Transportation Track Reports Out

- Hello - provocations
- Discussion at tables
- Discussion across the board

General Track Reports Out

- **Report Out:** Andy: Themes: need to connect *research and practice*; moral case for maintainers; environmental/economic considerations. More qualitative/quantitative data is needed and the need to advocate for more work and concerns for maintenance. In the panels, we had a good combination of scholars and professionals, so we need to build alliances and more of them. Another theme was on the *culture of maintenance*, to tell different modes of interaction. Society needs to change expectations by thinking ecologically. This also brings out patterns of exploitation along gender, economic, class lines. By paying attention to cultures of maintenance, this brings up governance issues. The third theme was how to pay for maintenance--economic concerns, and we even had an economist in attendance. The need for intergenerational justice was also present.
- Andy text:
- 1. Need to **connect research and practice**; combine moral case for maintenance and maintainers with economic and environmental considerations. Need more data. There are a lot of questions that we can't answer. Raise and share specific research questions. More collaborations between researchers & advocates in different areas. E.g. Katie Allen at Fiix, Nathan Proctor w R2R, Impermanence panel that included faculty member, architect, and facilities mgmt director. Need to be mindful of where we're building alliances (echoes of info discussion)
- 2. Attention to **cultures of maintenance**—status, values, awareness. Telling stories, emphasizing different modes of interaction (Cori), reflecting on our own time and labor and experiences (Deb & Mel). Our society needs to change our expectations. Think ecologically: the environment around us is not fixed; it's actually changing. And a crisis is upon us, visible in California fires,



Miami floods. Patterns of exploitation, past and present, along gender and racial lines. We need to change prevailing modes of behavior! Models for community contributions and governance - open source, transport/communities. Panel on community governance of parks and gardens - social fabric, social governance

- **3. How do we pay for this?** Current models (a la Marohn and architects) don't make any sense. In architecture, infrastructure, and other areas, the full costs are not being paid or even anticipated right now. Big implications for the world that young people will inherit ("intergenerational justice"). But there is a body of expertise here—people in facilities management and asset management. Alex Reiss Sorokin looked at 2 different facilities mgmt groups. Jamie Ready @ GT: glass sculpture.)
- **Discussion:** There is potential for more cross-pollination and in the future perhaps there could be combo sessions between the tracks, to allow for more even more conversation among participants. The role of labor was discussed, and the undervaluing of maintenance labor of individuals who are not in the room, such as the maintenance of building structures. Someone appreciated that they were intentionally represented in the conference, but they might be brought into the conversation more, so we are talking *with* and not just *about* them as maintainers. Someone else brought up the disability community and issues of access--another area that could be brought to the forefront in future conferences. How do we pay serious attention to the "performance" of maintenance, and bring this into teaching about maintenance? And how do we bring recognition of value into play? Also came up was the need to talk about maintenance as normalized and depicted in positive ways to elevate maintenance. Stuart suggested that a future conference might be at a hotel and involve tours from facility manager and cleaning staff and dishwashing staff, etc. Don brought up the theme of death and maintenance as *weeding*, that comes up in software as well, and is a boring and laborious and neglected aspect of maintenance. Someone else brought up the right to repair and mending--they take skill and time. Laura James brought up the role of stories as what people remembers. We need more stories of maintainers--and not just hero narratives but as collectives as well. Don got on stage and talked about the Maintainerati Foundation, and new online discussion forum: <https://discourse.maintainerati.org>
- **Final remarks:** Jess thanked attendees and acknowledged feedback received. Post-conference survey will go out. We will think about how to include more, foster more conversations. Thank you all!