COLLECT & CONTROL

For those of us who've been up on this stage today, this Cybernetics Extravaganza probably came into being through a conversation *with*, or an email invitation *from*, one of the event organizers. **[2]** For most of you sitting out there, the conference likely began as a website that looks like one I would've made in college while listening to math rock. It offers some scrolling text, a heady blurb and a list of names. **[3]** If those words piqued your interest, you clicked a link and jumped over to another website where the promise of intellectual exchange compelled you to engage in a financial transaction yielding tickets. **[4]** A digital record of your purchase might've brought you through these doors on Wednesday, Thursday, or Friday evening for one of three workshops.

[5] Even for those of us gathered here and now, ostensibly for the same event, the Cybernetic phenomenon is composed of a variety of integrated platforms. **[6]** To our remote viewers, we're probably a low-resolution feed streaming from their laptops or smartphones. **[7]** For those of us whose bodies are present in this room – you, disciplined by your linear rows of furnishings and my elevation and amplified voice; and me, intimidated by that same elevation and amplification – the architecture and acoustics and meticulously organized schedule are controlling the terms of our interaction. In a few minutes, when we transition into a different formal arrangement up here on stage, the terms of that interaction – and its discursive politics – will change.

[8] Websites and workshops, lectures and Livestreams, structured Q&A's and informal interstitial chit-chat, and all the Tweets and Facebook posts that are likely augmenting our immediate reality: each of those communication systems structures the nature of our exchange – with one another, and

with the information that's flowing between us. They make this Cybernetic Carnival a system of communicative systems, each with its own aesthetics and rhetorics and politics.

This is nothing unique. Most conferences nowadays are similarly multiplatform affairs. **[9]** But very few conferences have their own library and librarian, **[10]** let alone their own library *simulation* **[11]** and 636-item catalog. **[12]** So what distinguishes the library as a communicative form and a control mechanism?

There are a whole bunch of interlocking infrastructures and protocols, operating at different scales – and sometimes with different logics. We'll look at a few:

[13] Let's start at the geographic scale: "Library systems" typically call to mind a public, architectural geography composed of central libraries and branches. Rarely do we give thought to the networks linking these individual nodes, let alone the über-system that extends far beyond the libraries' built environments, catalogs, and databases. But these networks are crucial: the wealth of our libraries' resources and services could never be contained within their walls. **[14]** If our branch libraries were reconstructed to accommodate the entire material and digital collection its patrons can access, each Carnegie would rival the size of the Starrett-Lehigh building. Even those branches have their own "branch operations" in the form of distributed, off-site storage, servers, and managerial operations.

[15] BookOps the Long Island city-based sorting facility that serves the New York and Brooklyn public library systems, is but one example of the integral, if often overlooked, components that make up a complex inter-network of library logistics — its built environment, back-stage spaces of

labor and resource allocation, and a widely distributed digital terrain — and enable the movement and sharing of library resources and services.

[16] In 2004, library consultant Lorcan Dempsey proposed that librarians think about their work, particularly the pathway from resource "discovery to delivery," in logistical terms. The manufacturing and shipping worlds have, of course, long labored over the perfection of logistical systems, and Dempsey argued that libraries' expanding collaborative efforts — among them, the management of e-resources and shared print collections in high-density storage facilities — pose similar supply-chain management challenges. **[17]** Scholars across a variety of fields have also engaged logistics: architects and geographers have examined the theme as a spatial design phenomenon, and my field of media studies has recently turned its attention to logistical media that coordinate and control the movement of people, things, and capital across time and space. **[18]** Book stacks, delivery trucks, call numbers, catalogues, collection management software, and interlibrary loan systems all might be counted among libraries' wide range of logistical media.

As I toured BookOps and marveled at its conveyor belts and computer monitors displaying a panoply of enterprise management software, it became apparent just how critical interoperability among these media, their alignments and misalignments, are to the functioning of library systems' many interlocking networks.

[19] Simply put, libraries need software, termed middleware, to mediate between the countless software platforms they use to operate. But the definition of libraries' middleware might also be extended to include hardware, as the material operations within library buildings and the physical connections between those buildings are profoundly dependent on layers upon layers of

interconnected software, just as their digital resources rely on physical, place-based materials and labor. In nodes like BookOps and across library systems, middleware ties the physical and the virtual together.

[20:B] It's hard to wrap one's head around the breadth of these distributed systems — all the far-flung truck routes, database subscriptions, interlibrary loans, and protocols. But acknowledging this complicated logistical network makes visible the labor, equipment, and expertise required to build and maintain our libraries, one of our society's few remaining intellectual and cultural commons.

[21] Grappling with the means by which our technical and intellectual resources are inter-networked also helps us recognize that logistical consolidation can be put toward myriad ends: we can produce a global panoptical Google, or cultivate a universal public resource. We choose whether to advocate for corporate monopolies or cultural commons – in other words, what types of control we want our communication and computing systems to effect. Better understanding and investing in the logistical systems that route our power, packages, and — particularly with libraries — *knowledge* means greater potential to shape not only our built landscapes, but our political and intellectual ones as well.

[22] If you're interested in this esoteric world of library logistics, I wrote an article a couple years ago about BookOps; the ReCAP high-density storage facility in Princeton, which serves the NYPL research libraries and Columbia and Princeton universities; and library consortiums' concerted efforts to manage corporate vendors and expensive database subscriptions. If that sounds cool to you, check it out. That's a library joke.

[23] I conclude that article by examining the friction in feedback between the various systems that constitute an information infrastructure. I note that all the place-bound physical materials and

seemingly placeless digital resources of the library follow distinct paths of acquisition, processing, delivery, and maintenance. And the logistical spaces, like BookOps and ReCAP, that carry out those processes mediate between the human and the machine: they're cybernetic. They make use of automated conveyance systems that structure, but ultimately depend upon, workers' manual labor. They use bar codes and conveyor belts in tandem with analog systems — color-coded paper slips denoting a book's language and location, stacks of plastic bins — to route materials to their destinations. **[24]** In collection development, data-driven analytics rub up against staff expertise and patrons' unpredictable desires to drive decisions regarding what materials to acquire and where to keep them. Patrons access books through digital interfaces with nested layers of software behind them. In all cases, middleware — not just mediating software, but also mediating spaces and people — has to reconcile the old and the new, the hard and the soft, the automated and the manual, the human-readable and computer-intelligible.

[25] Libraries are cybernetic systems of systems. They're composed of intersecting, entangled architectures and infrastructures of control. **[26]** They're logistical operations. They're built spaces: **[27]** architecture, interior designs, **[28]** and furnishings – and the habitus they create. They're storage structures. **[29]** They're network architectures and nodes of digital inclusion. **[30]** They're classification systems. **[31]** They're catalogs. **[32]** They're vendor agreements and **[33]** access policies and circulation mechanisms. **[34]** And they're middleware: all the stuff – software and hardware, architecture and bodies, protocols and policies – that has to media feedback between these different operational and political and epistemological regimes.

So, now, I'd like to join our librarians in considering the role of the Cybernetics library within the broader communication systems of this conference.

LIBRARY

A temporary locally-circulating cybernetics research library complements the workshops and speaker programs, and includes contributions from Reanimation Library, Wendy's Subway and Monoskop. The library is installed at Prime Produce through the conference. Guests are welcome to check out selections during the event using the QR codes associated with each book. Selected library materials will be highlighted in conjunction with each panel.

The library was organized by Sarah Hamerman and David Isaac Hecht with Dan Taeyoung and Charles Eppley. Remote viewers at home are invited to participate in a live social simulation of the library developed by Taeyoung and Francis Tseng, which brings live video streams and curated library materials into a shared virtual environment.

The CyberCon Simulation (CyberSym) creates a feedback loop between conference speakers and attendees, framing the conference itself as a cybernetic system.

SIMULATION

CyberSym connects the Cybernetics Library to a virtual world of interconnected simple systems. When a Library Book is checked out, the ideas contained within that Book propagate through The Plane of Monuments, which mediates the real and the virtual; then into the simulated world, The Sphere of Encounters, manifesting as shocks, interventions, revolutions, and revelations that alter the world's dynamics and history.

Views of these worlds will be projected, so attendees can see the impact of the books they choose and watch the world unfold. Finally, after each speaker, The Planet of Encounters will collectively formulate a question for each speaker to respond to.