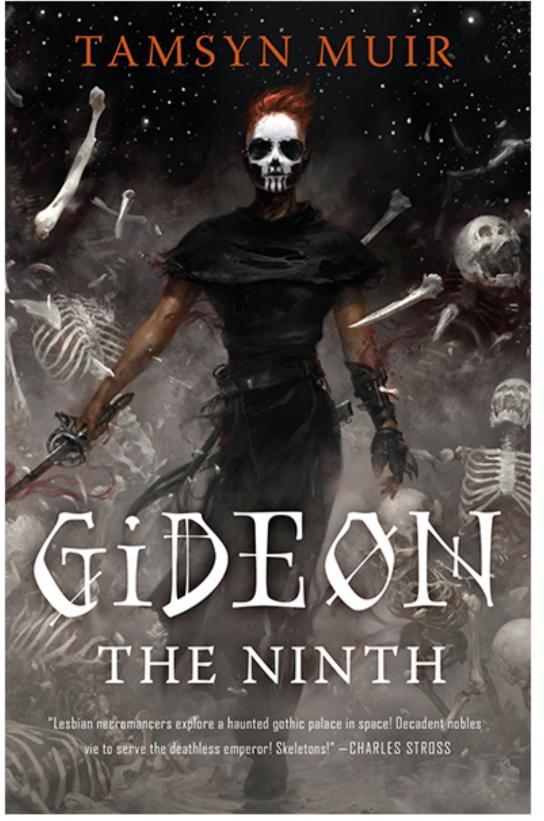
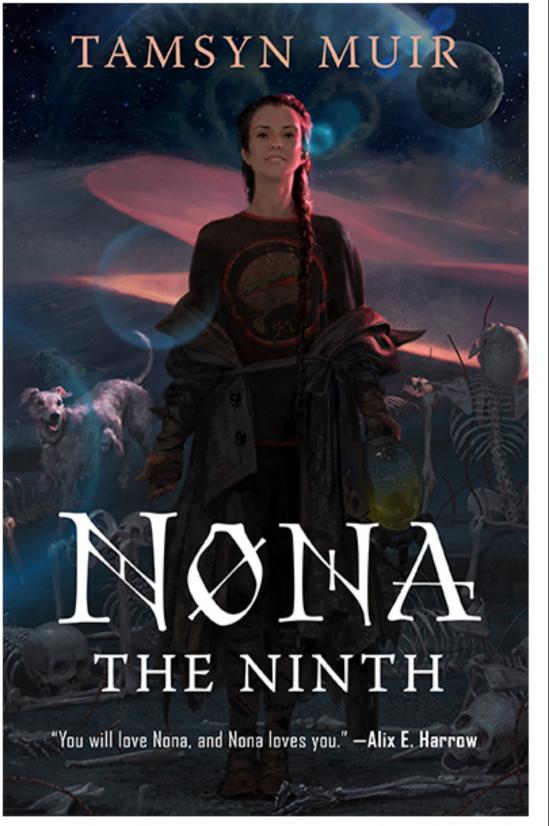
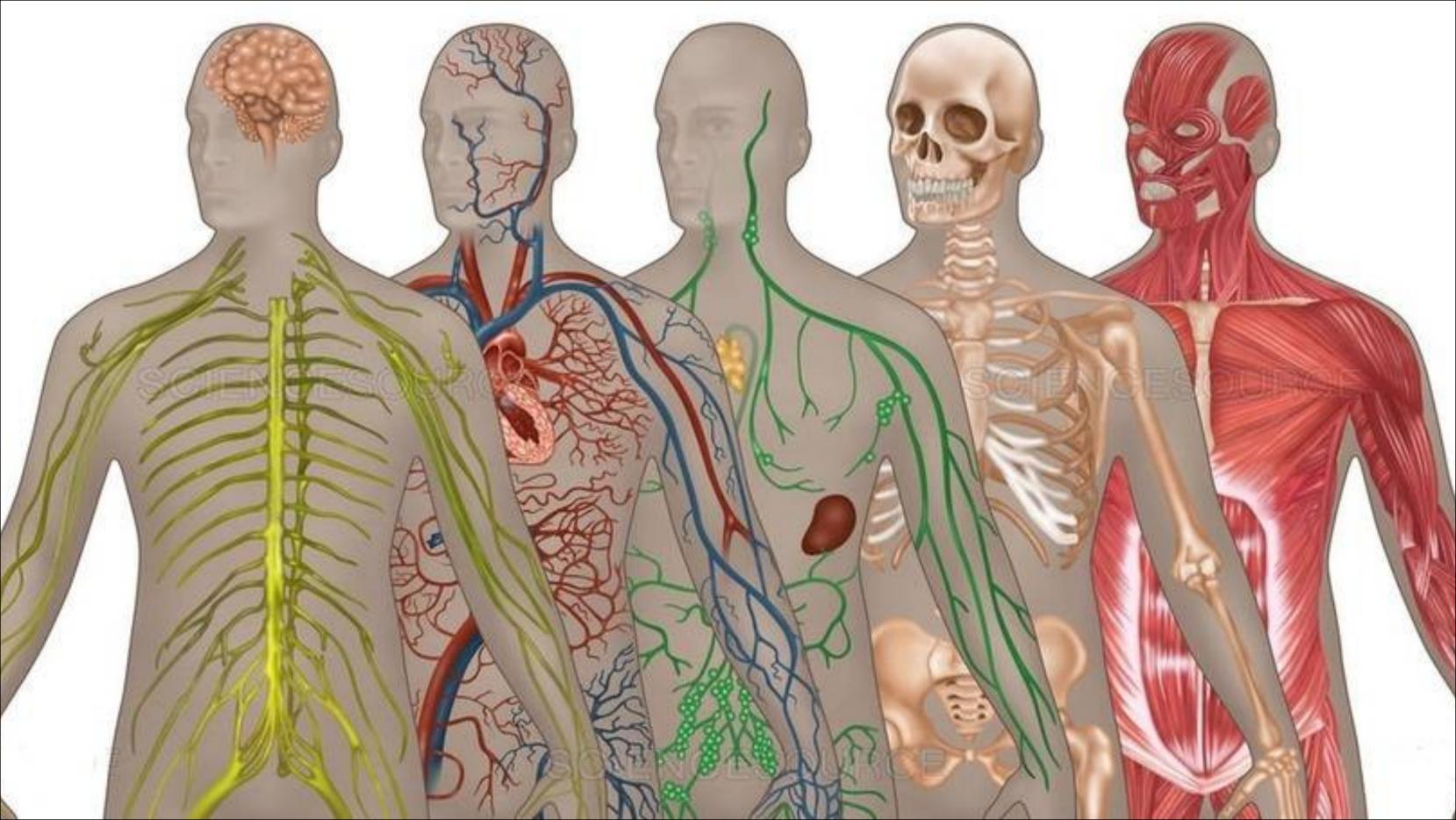
change is in our bones

by fen











Four concepts for resilience and the implications for the future of resilience engineering

David D. Woods

Initiative on Complexity in Natural, Social & Engineered Systems, The Ohio State University, United States

ARTICLE INFO

Keywords:
Resilience engineering
Resilience
Sustainability
Resilient control
Robust control
Complexity
Complex adaptive systems

ABSTRACT

The concept of system resilience is important and popular—in fact, hyper-popular over the last few years. Clarifying the technical meanings and foundations of the concept of resilience would appear to be necessary. Proposals for defining resilience are flourishing as well. This paper organizes the different technical approaches to the question of what is resilience and how to engineer it in complex adaptive systems. This paper groups the different uses of the label 'resilience' around four basic concepts: (1) resilience as rebound from trauma and return to equilibrium; (2) resilience as a synonym for robustness; (3) resilience as the opposite of brittleness, i.e., as graceful extensibility when surprise challenges boundaries; (4) resilience as network architectures that can sustain the ability to adapt to future surprises as conditions evolve.

graceful extensibility

- how systems stretch to handle surprises

adaptive capacity

- the ability to adapt and alter the system over time in response to feedback.

change is in our bones

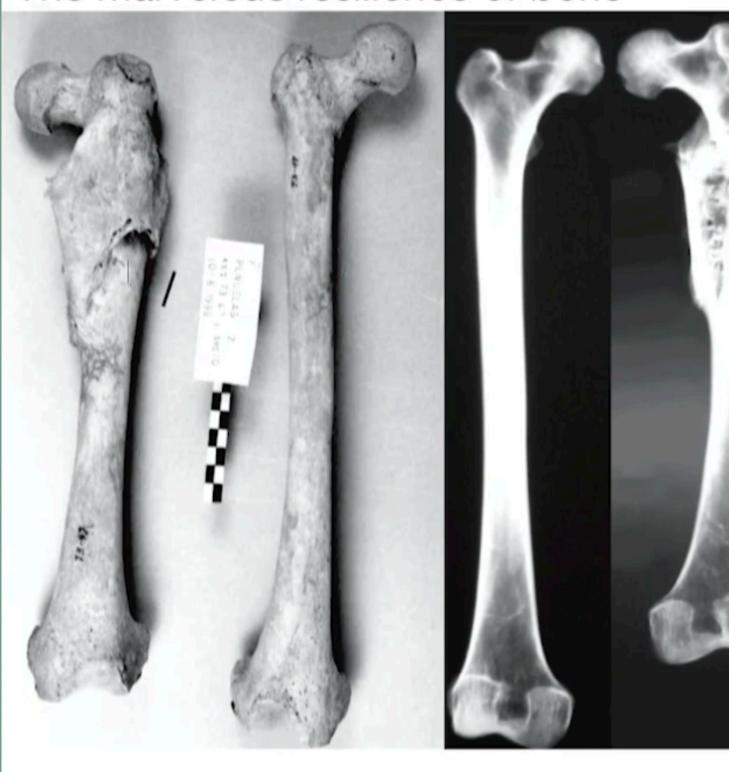
1. constant destruction and construction of the system

2. construction & destruction happens in response to stresses on the system

3. utilizing tight signaling between loosely coupled systems

4. happens without administrative oversight or control

The marvelous resilience of bone





~1400 AD 50+ yr old ♀

Rosado MA, Vernacchio-Wilson J (2006). Paleopathology and osteobiography of the people of Peñuelas, Chile's semiarid north. *Mem Inst Oswaldo Cruz, Rio de Janeiro* 101(Suppl. II): 85-95. (fig. 24 - 26).



Resilience Engineering

 a type of engineering applied to an already resilient system in order to bring its adaptive capacity to bear more effectively



queer theory for lichens

Queer Theory for Lichens

DAVID GRIFFITHS

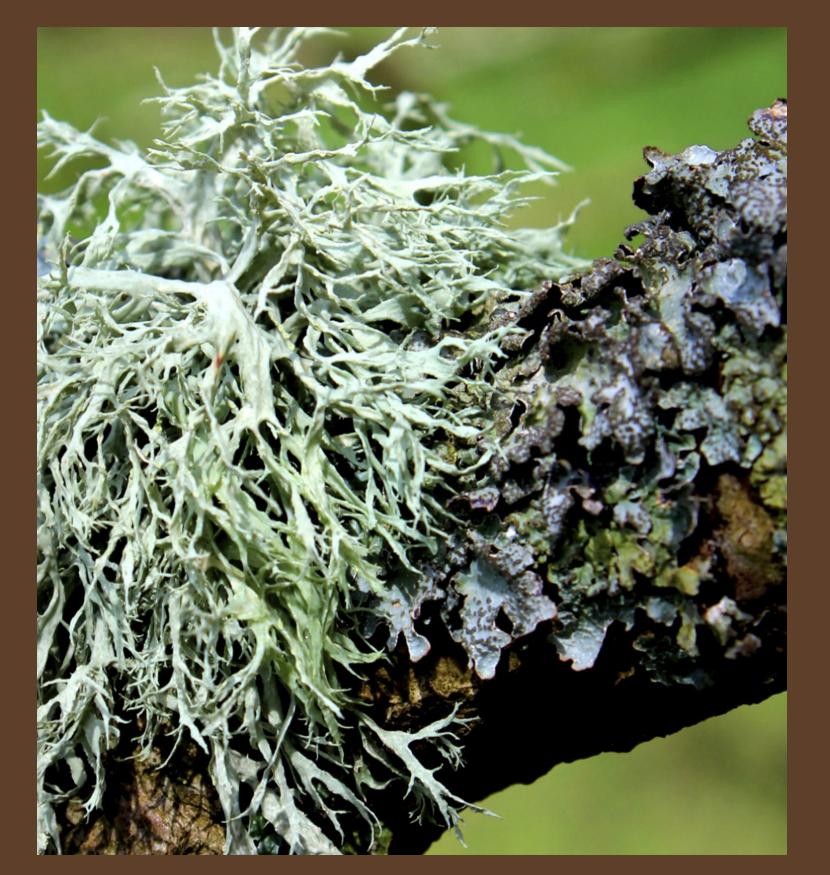
"Lichens are queer things" —Wyndham

"We are all lichens." This is the concluding sentence of an article published in December 2012 in *The Quarterly Review of Biology*. The article, "A Symbiotic View of Life: We Have Never Been Individuals," is co-authored by biologist Scott F. Gilbert,

heterosexuality and sexual reproduction in defining and legitimating bodies, practices and communities.

The Symbiotic View of Life

lichens







lichens are queer things

Shouldn't a fish whose gonads can be first male, then female, help us to determine what constitutes "male" and "female"?... Shouldn't the longterm female homosexual pair bonding in certain species of gulls help define our views of successful parenting, and help reflect on the intersection of social norms and biology?

^{1.} Sharon Kinsman "Life, Sex, and Cells."

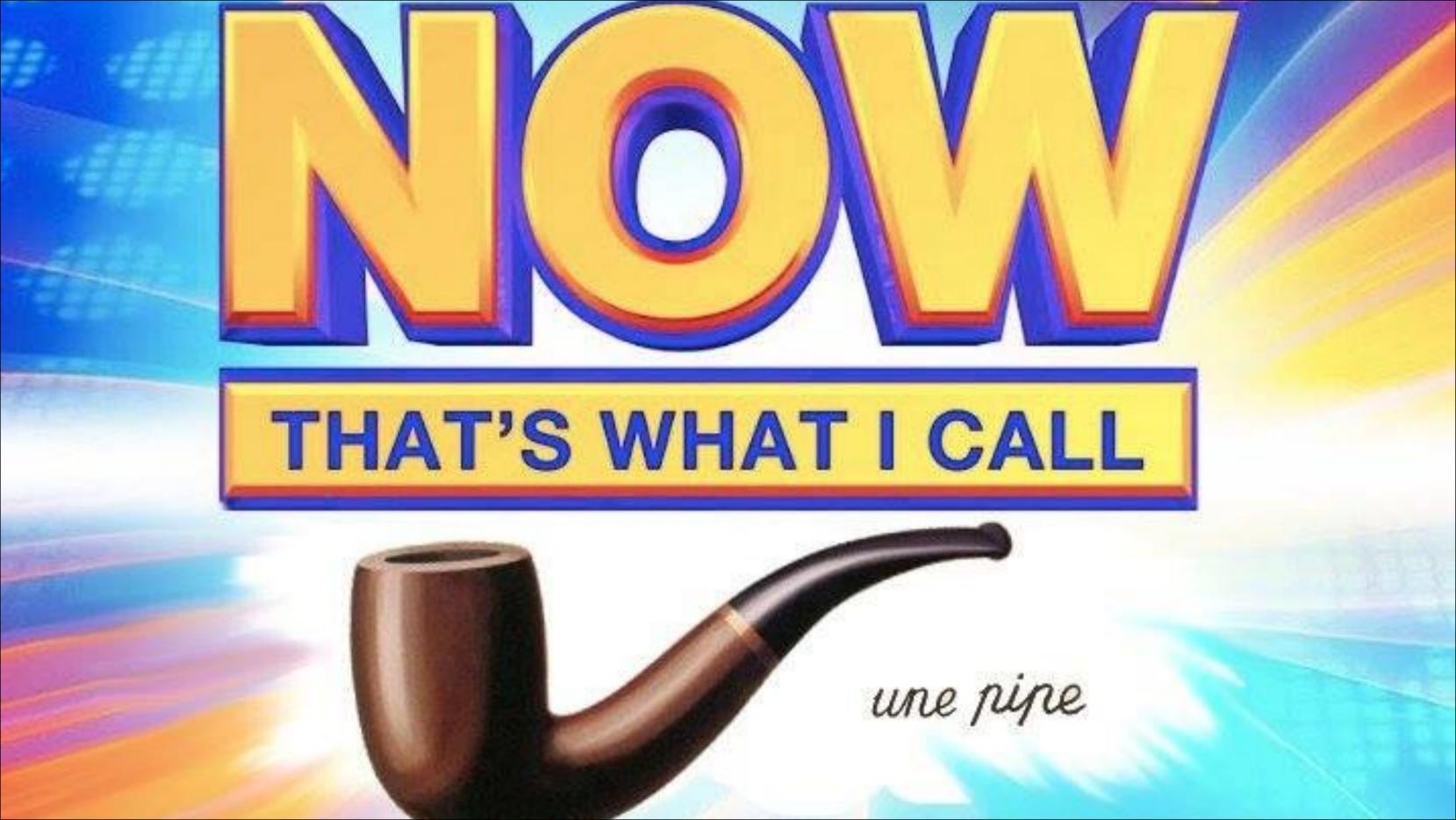
we are all lichens

Eating, digesting and living are impossible without our symbiotic relationships... if life and nature are to be found anywhere, it is not autonomous individuals but the constitutive comminglings, involvements, and interconnected relationships that make up the ecological mesh.¹

^{1.} David Griffiths, "Queer Theory for Lichens"

symbiosis is resilience and is inherently queer

we live in a society





Ceci n'est pas une pipe.

medical v societal models of disability¹

medical (individual) view

treats illness that you (individually) have within you and separates you from the rest of society

societal (symbiotic) view

 interconnected systems and degrees of disability or illness existing inside it. How can we bring our natural resilience best to bear as a group to treat this problem?

out groups almost always disempowered population

transition & resilience

Gender Dysphoria

Gender Dysphoria is kinda bullshit

'cause here's the real secret of the universe. If you want to change sex, it's possible. For all human history we've had this divide between men and women, but if you want to cross that divide, if you want to transcend it entirely and be neither, it's possible.¹

Abigail Thorn, Philosophy Tube: "I Emailed My Doctor 133 Times: The Crisis In the British Healthcare System" https://www.youtube.com/watch?v=v1eWIshUzr8

In particular, hold in one hand all of masculinity, Thor, Leonidas, Beowulf, James Bond, Andrew Tate, Jordan Peterson, all of them. And in the other just two milligrams of estrogen a day and tell me which one is more powerful.¹

Abigail Thorn, Philosophy Tube: "I Emailed My Doctor 133 Times: The Crisis In the British Healthcare System" https://www.youtube.com/watch?v=v1eWIshUzr8

We live in a culture that valorizes men and treats them as the default but when you're a trans woman you can take all of that and just [blow it away] and be happier for it.¹

1. Abigail Thorn, Philosophy Tube: "I Emailed My Doctor 133 Times: The Crisis In the British Healthcare System" https://www.youtube.com/watch?v=v1eWIshUzr8

change is in our bones

being transgender is an act of resilience

1. constant destruction and reconstruction of gender

2. in response to feedback (internal & external)

3. utilizing tight communication between loosely coupled systems

4. without—or often in spite of—central authoritative control

mutual aid

building symbiotic links between individuals communities of support

Education

- stories & social media
- zines
- community maintained websites:
 - https://transfemscience.org
 - https://genderdysphoria.fyi/en

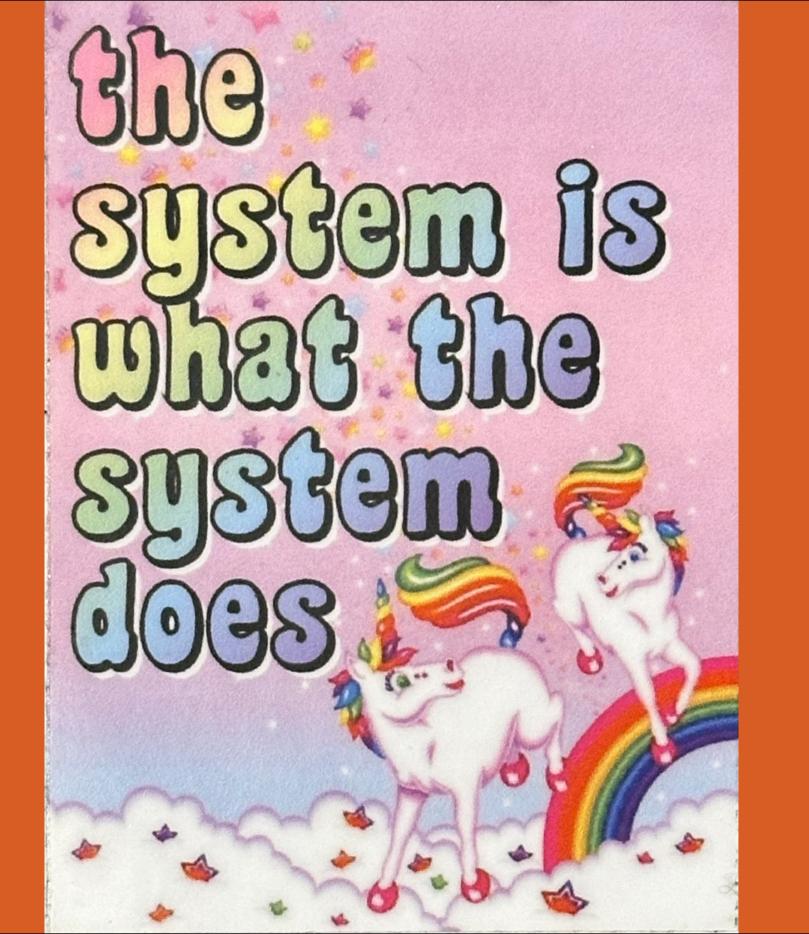
Mutual Aid: a Factor of Evolution - Petr Kropotkin



REVOLUTION

BETERRAFORM ED) SRE

capitalism has an endless capacity to co-opt revolutionary movements and sell back SAFe versions for our consumption that do not challenge existing power structures



[Resilience engineering] is an attempt to bring the resilience, which is located in the people who are actually maintaining our systems, to bear in ways that allow it to flow more effectively to improve function.¹

1. Dr. Richard Cook, A Few Observations on the Marvelous Resilience of Bone & Resilience Engineering

we are all lichen

change is in our bones

A PODCAST ABOUT THE INNER WORKINGS OF OUR DIGITAL WORLD

fen aldrich

Developer Advocate

a Equinix

mastodon:

crayzeigh@hachyderm.io

email:

faldrich@equinix.com

slides:

speaking.crayzeigh.com