Open Scientist Handbook • OSH

Fierce Equality

Bruce R. Caron

Published on: Mar 10, 2021

DOI: 10.21428/8bbb7f85.f3f43dac

License: [Creative Commons Attribution 4.0 International License \(CC-BY 4.0\)](https://creativecommons.org/licenses/by/4.0/)

“The Ju/’hoansi people of the Kalahari have always been fiercely egalitarian. They hate inequality or showing off, and shun formal leadership institutions. It’s what made them part of the most successful, sustainable civilisation in human history...” James Suzman in *The Guardian*, [October 2017](#)

“Open scientists in the academy are fiercely egalitarian. They hate inequality or showing off, and shun formal leadership institutions. It’s what made them part of the most successful, sustainable intellectual forces in human history...” *Hopeful message from the near future.*

This is Sue (true). She really loves open science (not as true). Fierce equality is universalism with teeth. Photo credit: Daniel Mennerich on Flickr. CC by-nd-nc 2.0

Why fierce equality matters to the academy

The academy needs equality, and not just the word. It needs normative, active, celebrated, *fierce* equality. It needs this first as a corrective to the twisted incentives of the past century of perversely cumulative advantage (DiPrete and Eirich 2006). It needs this as an open door for scientists in the south who have been locked out of

conversations. It needs this to ground a new operating logic that does not permit the hiring of temporary faculty at penurious wage scales. It needs this to repair so many years of gender inequality. It needs this because the best science comes from a requisite variety of knowing that is all inclusive. Here we will explore this need.

The Academy Lacks Fierce Equality Today

The contrast between what fierce equality would look like in the academy and what you will find today, looking around your university, your discipline, your career (and those of your students), is probably striking. It was never supposed to be this way.

Science was meant to be rigorously inclusive. Merton (1942) used the term “universalism” to describe the foundational democratic norm of science (one of four norms, also the norm that most tended to be “deviously affirmed in theory and suppressed in practice” (ibid)). Universalism meant, and still means, that scientific discoveries can be made anywhere, by anyone. New discoveries are validated by the community (usually through replication). Their discoverers have equal standing in the “republic of science” (Polanyi 1962) without the need for additional institutional or personal validation. There are pragmatic constraints about proper methods and reporting that add a higher threshold to enter the cadre able to do and report science. Fierce equality ensures that crossing this threshold is not anybody’s exclusive privilege.

Cumulative Advantage

The suppression of universalism has several sources, including the external logic of neoliberal markets. Another factor is what Merton termed the Matthew effect. The Matthew effect describes all the ways that advantages accrue to a few individuals and are, simultaneously stripped from the rest. “Differences in individual capabilities aside, then, processes of cumulative advantage and disadvantage accentuate inequalities in science and learning: inequalities of peer recognition, inequalities of access to resources, and inequalities of scientific productivity. Individual self-selection and institutional social selection interact to affect successive probabilities of being variously located in the opportunity structure of science” (Merton 1988).

Cumulative advantage has well-studied institutional and geographic features, which lead to advantages and disadvantages in hiring, funding, and publication. Despite a raft of entitled pronouncements to this effect, the academy is not a meritocracy; or else, it’s a terrible example of one ([Morton](#) 2019 (Accessed May 30, 2019); Standing 2011; [Emkhe](#) 2018 (Accessed May 30, 2019); Way, et al. 2019; [Harmon](#) 2018 (paywalled, Accessed May 30, 2019); NAS Committee on the Impacts of Sexual

Harassment in Academia 2018). Academia is an informally reproduced aristocracy. It was never supposed to be this way; apart from the fact that it's been this way for a long time. Which is why fierce equality matters.

“It is the priority rule which identifies the author of the discovery as soon as he or she publishes and which thus determines the constitution of “reputation capital,” a decisive element when it comes to obtaining grants. ‘The norm of openness is incentive-compatible with a collegiate reputational reward system based upon accepted claims to priority’ (David 1998). The priority rule creates contexts of races (or tournaments), while ensuring that results are disclosed. It is a remarkable device since it allows for the creation of private assets, a form of intellectual property, resulting from the very act of foregoing exclusive ownership of the knowledge concerned. Here the need to be identified and recognized as the one who discovered forces people to release new knowledge quickly and completely. In this sense, the priority rule is a highly effective device that offers non-market incentives to the production of public goods...” (Foray 2004).

Hyper-competitiveness (and funding)

Hyper-competitiveness at the institutional and personal level “crowds out” (Binswanger 2014) science’s intrinsic motivations and promotes quantity over quality, “bad science” (Smaldino and McElreath 2016), and marketable formalism over research needs. Worse, it crowds out scientists who refuse to play the bullshit-excellence game required by the gamification of reputation in the academy. The “priority rule” of discovery in the academy is really just a method to gamify episodes in the lives of research teams for the reward of individuals against the benefits of discovery for science and the world. Foray does not claim that personal recognition is required for scientists to rapidly release research results; or that personal ownership of the knowledge contributes to knowledge sharing. “On the contrary, the tournament contexts created by the priority rule, as well as the size of related rewards, tend to encourage bad conduct” (ibid). The production of the public goods of science in these circumstances has become sub-optimal, feeding the goods of reputation metrics instead of the benefits of open demand sharing across the academy.

Competition also feeds the Matthew effect: “[I]ntense competition also leads to ‘the Matthew effect’...this competition and these rewards reduce creativity; encourage gamesmanship (and concomitant defensive conservatism on the part of review panels) in granting competitions; create a bias towards ostensibly novel (though largely non-disruptive), positive, and even inflated results on the part of authors and editors; and

they discourage the pursuit and publication of replication studies, even when these call into serious question important results in the field” (Moore, et al. 2017). Science loses on all scores.

For science, hyper-competitiveness is a race to the bottom that so many institutions are fighting to win using arbitrary metrics as goals. “Competitiveness has therefore become a priority for universities and their main goal is to perform as highly as possible in measurable indicators which play an important role in these artificially staged competitions” (Binswanger 2014).

Fierce equality and funding

Universities, funding agencies, and major foundations will need to construct new hiring, promotion, and funding practices that ignore ersatz excellence, pseudo-merit, and cumulative advantages. This process begins by envisioning how the outcomes of funding can be shared with equity across society, and then operationalize this vision. A recent funding model (Pluchino et al. 2018) revealed that, since talent is well distributed across research populations, funding researchers who have already had a success (mainly due to luck, which is another interesting finding) underfunds others with great talent, but less fortune to date. Giving every researcher access to some funding would result in greatly improved research returns on these funds. Refactoring hiring, promotion, and funding is the academy’s greatest need, and largest challenge, today. Changing the core logic for hiring, promotion, and funding will be a monumental task (Smaldino, et al. 2019). Failing this task, science will continue its race to the bottom. Tossing this task onto the shoulders of “open science” is perhaps unfair: this is a wider, deeper need of science and society (Newfield 2016).

What fierce equality adds here is a new/old logic to anchor the discussions and decisions over what must come next. Like Merton, you can begin with the classic science norm of universalism; this time around, it’s vigorously affirmed in practice. You will find discussions on alternative research funding schemes and tenure solutions in other parts of the Handbook. As we learned in *The Work of Culture* (above), the academy will need to change behaviors to change attitudes, to change practices, to change research culture toward new ways (and sources and, hopefully, new amounts) of funding.

A closer look at fierce equality

What is “fierce equality” and how is this better than simple “equality”? You might note here that the Ju/’hoansi people, those hunter-gatherers who have practiced this for

millennia, do not call their own cultural practices “fierce equality.” This is how anthropologists have captured the integral role that equality has in their cultural practices, and the tough behaviors that are used to maintain this equality. Highly visible, shared cultural behaviors protect this norm against those within their group who are “bad actors.” Fierce equality is equality publicly defended at every opportunity where personal or group entitlement pops up. Those who might argue that fierce equality would only work in small-scale cultural groups might want to reflect that most academic work happens in small-scale cultural groups (labs, departments, college faculties, teams).

“The more widely the republic of science extends over the globe, the more numerous become its members in each country and the greater the material resources at its command, the more clearly emerges the need for a strong and effective scientific authority to reign over this republic. When we reject today the interference of political Jr religious authorities with the pursuit of science, we must do this in the name of the established scientific authority which safeguards the pursuit of science” (Polanyi 1962).

Fierce equality means that open-science organizational behaviors: governance policies, rules, codes of conduct, plans for sharing and access to resources and to recognition, funding strategies, hiring practices, and face-to-face interactions are liable to be judged by how they promote equality within the global “republic of science.” Fierce equality operates internally in the academy (nobody expects the rest of the world to comply), and internally in all of the academy’s various organizations, each of which expresses this norm in their own self-determined governance. Every chapter in this book will talk about how open scientists can promote and perform fierce equality in their daily work.

Fierce equality challenges hierarchy in the academy. [Benkler](#) (2016/17; Accessed June 6, 2019) calls out hierarchy as a key concern when refactoring an organization: “The first is the concern with the power of hierarchy; the power within an organization to be controlling. This is the concern with the bossless organization, this is the concern with participatory governance.” The NAS (2018) pointed to hierarchy as a factor in “mistreatment” in the academy. Organizational change in the academy needs to start with unchallenged hierarchies.

Fierce equality is not a luxury. It is a long-term optimization strategy for the global republic of science; an expectation that emergent capabilities for sharing, mining, mixing, and reusing science objects can only realize their potential as a planet-wide,

provident scientific resource when the entire community adheres (in multifarious ways) to the norm of equality. To build knowledge-maintenance organizations that are self-sustaining across decades and centuries of time, and for the whole of the global academy, there is no more fundamental principle than fierce equality. And there is no better time than now to refactor the academy using fierce equality as a foundational principle. Fierce quality was the advanced cultural practice system that informed the behavior of a majority of humans for tens-of-thousands of years.

“This research also revealed that the Ju/'hoansi were able to make a good living from a sparse environment because they cared little for private property and, above all, were ‘fiercely egalitarian’, as Lee put it. It showed that the Ju/'hoansi had no formalised leadership institutions, no formal hierarchies; men and women enjoyed equal decision-making powers; children played largely noncompetitive games in mixed age groups; and the elderly, while treated with great affection, were not afforded any special status or privileges. This research also demonstrated how the Ju/'hoansi's ‘fierce egalitarianism’ underwrote their affluence. For it was their egalitarianism that ensured that no-one bothered accumulating wealth and simultaneously enabled limited resources to flow organically through communities, helping to ensure that even in times of episodic scarcity everyone got more or less enough.

There is no question that this dynamic was very effective. If a society is judged by its endurance over time, then this was almost certainly the most successful society in human history—and by a considerable margin. New genomic analyses suggest that the Ju/'hoansi and their ancestors lived continuously in southern Africa from soon after modern H sapiens settled there, most likely around 200,000 years ago. Recent archaeological finds across southern Africa also indicate that key elements of the Ju/'hoansi's material culture extend back at least 70,000 years and possibly long before. As importantly, genome mutation-rate analyses suggest that the broader population group from which the Ju/'hoansi descended, the Khoisan, were not only the largest population of H sapiens, but also did not suffer population declines to the same extent as other populations over the past 100,000 years. Taken in tandem with the fact that other well-documented hunting and gathering societies, from the Mbendjele BaYaka of Congo to the Agta in the Philippines (whose most recent common ancestor with the Ju/'hoansi was around 150,000 years ago), were similarly egalitarian, this suggests that the Ju/'hoansi's direct ancestors were almost certainly ‘fiercely egalitarian’ too” [Suzman](#) (Accessed June 6, 2020).

The academy as a gift economy

Fierce equality opens up contributions from across the world of science, and works at strengthening the “long tail” of discovery where real diversity spawns a massive variety of intelligences and promises innovation, discovery, fresh ideas, new knowledge. Fierce equality upholds the academy as an open gift economy, with its own logic of demand supply.

As Lewis Hyde puts it: “A scientist may conduct his research in solitude, but he cannot do it in isolation. The ends of science require coordination. Each individual’s work must ‘fit,’ and the synthetic nature of gift exchange makes it an appropriate medium for this integration; it is not just people that must be brought together but the ideas themselves” (Hyde 2009). You can check out Gifting and Reciprocity later in the Handbook. What is important here is that “the academy” or “the republic of science”—whatever you wish to call the planetary endeavor for new knowing—needs to operate as a specific type of gift economy, using [Demand Sharing](#) as its logic, and fierce equality as a core norm. An interesting tension that Hyde notes and resolves is how the academy uses knowledge (e.g., published papers) as gifts to offer status rewards, but does not actually attach this status to individuals as much as to the quality of their work and to their willingness to give this away to the scientific community. Any additional “prestige” attached to these gifts actually works against the interest of the global science community, and can be labeled a perverse effect on this.

“If you can find it within yourself to stop using conversations as a way to convince people that you’re right, you will be stunned at what you’ve been missing. A flood of information will rush in to fill the vacancy left behind by your ego. You might be overwhelmed with knowledge, perspective, insight, and experience. You’ll hear stories you had refused to hear because you were too busy stating and restating your case. If you enter every conversation assuming you have something to learn, you will never be disappointed.

If you want to articulate your opinion, write a blog. If you want to have a conversation, set your opinions aside, at least temporarily. You might find you never want to return to them. You may find you’ve evolved beyond them” (Headlee 2018).

Fierce equality does not mean “all ideas are equal”

Fierce equality is about equity of inclusion in academic life and work. It makes no claim about the relative qualities of the ideas introduced into the scientific conversation. All ideas are liable to validation and evaluations of their usefulness

within their research domains. All findings are liable to interrogations of the methods and data that produced them. All scientists deserve to be heard, to be an equal part of the conversation.

Fierce equality is about erasing the dead weight of privilege, in exchange for open (as in *to all*, with additional recognition for contributions) knowledge collectives: cultural groups inside, outside (or both) of the current academic establishment. The goods of the academy will still be vetted; in fact, reviewed with greater transparency, fairness, and effectiveness than current peer review (Tennant, et al. 2016).

“Given the right opportunities, humans will start behaving in new ways. We will also stop behaving in annoying old ways, even if we’ve always tolerated those annoying behaviors in the past” (Shirky 2010).

Applying a logic of fierce equality to your organization might present a variety of challenges. Your long-standing academic organization may have settled into any number of “annoying behaviors” that are defended as traditions, or simply as “the way we’ve always done things.” This Handbook is here to help you become a culture change agent, to kickstart the conversations that decenter pre-internet, pre-open science practices. Open science is here to offer a whole mix of “the right opportunities,” so your organization can do better things and stop getting better at doing obsolete things (Dintersmith 2018).

Make a vision statement for fierce equality in your organization

A vision of the academic world operating through fierce equality is a thought experiment that many people in many academic organizations will need to do in the next decade. You and your colleagues can open up Culture Changing Activities beginning with statements about values and vision.

Here is one example of a fiercely equal, future-of-the-academy vision statement:

We envision an academy where members openly share their most important thoughts, processes, data, and findings through self-governing commons that are intent on the long-term stewardship of resources, on the value of reuse, on the absolute equality of participation, on the freedom of scientific knowledge, on open access to common infrastructures, and the right of all to participate in discovery and of each to have their work acknowledged, if not with praise, but with kindness and full consideration.

The particulars that inform this vision might include the following:

- Widespread use of lotteries for institutional or volunteer “leadership” positions (including department chairs and some deans), with initial terms of office fairly short (just long enough to evaluate performance) and opportunities for follow-on appointments (with limits). Good service is still noted and can be another source of informal recognition.
- Badges—when these are openly available to be acquired— can also be used as preconditions for entering lotteries. Want to be considered for dean? Take this badge MOOC. Skilling can be acknowledged and rewarded through badges. Badging also can become a primary task for professional associations/societies, as long as the ability to acquire the badge is not made exclusive.
- The act of making one’s science work objects publicly available supports non-exclusive, anti-scarcity services: open repositories, pre-prints, idea farming sites, etc.
- Career moments (promotion, job switching, etc.) are evaluated externally, and keyed to a record of active demand sharing, indications of non-assholish behaviors, and activities that celebrate the institutional values and norms. Also, job applications have a layer of lottery to randomize selection (perhaps between an initial evaluation and the final decision). Implementing this is tricky and will require experimentation to optimize.
- Lotteries are distributed into diversity buckets to be sure that the variety of selectees includes those who might otherwise be excluded.
- Funding gets spread out to the long-tail of the community, with an ability to/requirement to also crowd-source the redistribution of some funds to promote work that is of widespread benefit.
- Laughing at bullshit “excellence” and at the former desire to build exclusive academic “brands.” Remember it is possible to be elite, without being exclusive. Remember “Harvard”? Remember “*Nature*”? Smile. Recognition shifts away from individuals and institutions and to the actual work and all the teams currently adding to this, and the long history of that work.
- Nobel—and other—prizes honor ideas shared among networks (Keating 2018). Lists of scientists across the planet who have contributed to a selected avenue of research might be assembled, mainly as a reference for future collaborations or historical records. Even as we might ridicule a government official for demanding gratitude when he was only doing his job, we need to start ridiculing those who want to claim personal credit for research results that a built on a wellspring of shared knowledge, teamwork, and luck.

Bibliography: Open Scientist Handbook References