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Resilience Rhetorics in Science, Technology, and Medicine

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Rhetoric is a resilient art. Its stability and mutability across centuries attest to its dynamism as a domain of knowledge production and engaged practice. While resilience is understood differentially across scholarly and popular domains, it nearly always addresses questions of how to respond, adapt, and persist through adverse circumstances (for a review of this diverse literature, see Flynn, Sotirin, & Brady, 2012). For example, resilience has become a key trope for describing the practices of (bio)security, sustainability, human health, child development, infrastructure, technological systems, and other common sites of study in rhetorics of science, technology, and medicine (RSTM). Recently, rhetoricians have also taken up resilience; these scholars are interested both in using rhetoric to understand resilience and using resilience to understand rhetoric.

This special issue of POROI is intended to further the scholarly conversation on resilience rhetorics. In particular, we hope to highlight the deeply rhetorical, critical, cultural, and material-semiotic work being done by and with theories and metaphors of resilience. The collection of articles assembled here initially arose from our experience co-chairing the Association for Rhetoric of Science, Technology, and Medicine's (ARSTM) second annual preconference at the biennial Rhetoric Society of America (RSA) conference in Minneapolis, Minnesota, in 2018. The ARSTM preconferences at RSA and the National Communication Association (NCA) meetings always focus on a core theme; other themes have included trust, evidence, and translation (ARSTM, 2019). Based on his experience with ARSTM's article of the year

award, in 2017, Kenny first proposed that we co-chair a preconference on resilience. As scholars of ecological/environmental rhetoric, we were influenced by two leading articles on rhetorics and resilience--Bridie McGreavy's 2016 "Resilience as discourse" in *Environmental Communication* and Nathan Stormer and Bridie McGreavy's 2017 article, "Thinking ecologically about rhetoric's ontology: Capacity, vulnerability, and resilience" in *Philosophy & Rhetoric*. It was time to talk resilience through technoscientific domains. And as good rhetoricians, we leapt at this *kairotic* opportunity.

The theme also proved appropriate to broader conversations (still) happening within ARSTM about the place of politics in the field and the field's place in broader political contexts. As we wrote in the preconference call for proposals:

> Often resilience is understood as an ability to cope, to recover quickly, and to reduce vulnerability by bouncing back and returning to a desired stable state (Holling, 2001; Walker and Salt, 2012). Yet rhetorical scholars have elaborated on resilience as a dynamic discourse that can disrupt or stabilize cosmopolitan nationalism and neoliberal capitalism (Bean, Keranen, and Durfy, 2011); as a path for growth in changing circumstances dependent upon emergent community responses (McGreavy, 2016); and as an attribute of infrastructure and technological systems that can serve as useful guides for deliberation (Johnson and Johnson, 2016). These rhetorical approaches to resilience capture the elasticity between change/stability and security/vulnerability dialectics that have yet to be fully addressed by RSTM scholars so well positioned to do so. (ARSTM, 2019)

Resilience as a concept evokes the material world and the politics that shape it. It also invites many different approaches, thereby fostering conversation among scholars with a variety of theoretical and ethical commitments. These commitments can be complementary or in tension; they can overlap, diverge, contradict, and inform each other. Exploring what resilience means for rhetoric is a way to map this terrain in order to deepen our understanding of and hopes for RSTM, as well as for rhetoric writ broad, in and out of the academy. Talking about resilience is a path to talking about what the world is, what it should be, and how dynamic processes, relationships, and material realities connect the two.

Popular understandings of resilience tend to individualize or communalize it as a property, a tool, or a set of skills to be possessed. Individuals and communities experiencing adversities are constantly told to 'just follow these steps' to become "a resilient person/community." These ways of grappling with resilience are ubiquitous and indeed have been suspiciously ascendant with the rise of the global right, economic nationalism, and global deregulation. This decoupling of resilience from interdependency and relationality is also suspiciously resonant with the classic American bootstrap logic, which burdens individuals with their success or failure in the face of difficulty or oppression rather than critiquing circumstances that create oppressive situations in the first place. In this way, resilience can become a kind of middle-class pathology of tough love that claims relevance to everything from raising children to investment portfolios to the tearfully resilient comeback of Billy Ray Cyrus with Lil Nas.

These individualistic, static, resistant versions of resilience mute its rhetorical and political potential for radically reimagining how systems develop, evolve, and respond to both chronic and acute stressors. This potential is all the more relevant to the 21st-century U.S. context, where our cities are segregated (Logan & Parman, 2015; Schuetz *et al.*, 2018); our civic and political infrastructure is in tatters; and the concentration of money and power is increasingly held in fewer hands (Chomsky, 2017; Saez, 2016). In short, resilience can be--and often is--problematically used to buttress the idea that inequality is symptomatic not of structural problems, but of deficiencies of character, class, or custom that must be overcome. It is against such worldings of resilience that this collection asks: How can resilience be kept appropriately political through rhetoric? And furthermore, how might this be done within and through technoscientific contexts?

Resilience Rhetorics in Technoscientific Contexts

In its scholarly use, resilience has been of particular interest for psychologists and ecologists. In psychology, resilience is synonymous with "positive adaptation, or the ability to maintain or regain mental health, despite experiencing adversity" (Herrman, Stewart, & Diaz-Granados, 2011). In other words, resilience is an unambiguous good, aiming for the outcome of mental health for individual humans. By definition then, it is a specific trait possessed (or not) by specific people. In contrast, in ecology, resilience is not, at least initially, freighted with the same ethical weight; when first

introduced in 1973 by Crawford Stanley Holling, ecological resilience was simply a term for ecosystems' potential for persistence despite destabilizing factors. This ecological understanding of resilience has endured into the 21st-century, with ecological scholars including Holling defining it as "the capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks" (Walker, Holling, Carpenter, & Kinzig, 2004, p. 6). This capacity determines whether systems can both "adapt to *and benefit* from change" (Walker *et al.*, 2004, p. 1, emphasis added). Particularly with the shift to include studies of social-ecological systems, the relevance of traditional ecological versions of resilience to current pressing environmental issues is clear. For example, climate change has and continues to increase the frequency and intensity of extreme weather events and natural disasters (USGCRP, 2018). This traditional aspiration to be resilient, to maintain how-things-are in the face of apocalyptic versions of how-things-might-be, can seem like an obvious good.

However, an appropriately critical understanding of resilience would argue that resilience is not just a set of skills to adapt to adverse events; nor is it a stage for the honorific actions of heroic individuals; resilience is not a property to be possessed and returned to in some tranquil and stable past that never existed for most people in the first place. Moreover, as Danny MacKinnon and Kate Driscoll Derickson (2012) argued, when applied to social relations, ecological versions of resilience can impose conservative top-down visions of society on communities, whose boundaries may be more defined by "capitalist social relations" (p. 253) than by spatial measures. We know where these versions of resilience lead. It's time to think other thoughts.

In this special issue, Raquel Robvais points us to the feminist rhetorical work of Elizabeth Flynn, Patricia Sotirin, and Ann Brady (2012) who leverage similar critiques of the limited popular understandings of resilience. By attending to feminist agency, *metis*, and relationality, they argue that resilience itself is a form of relationality that entails an ongoing responsiveness that is not transformative by affecting change in bleak or oppressive circumstances, but in "changing the way a life is lived" (Flynn, Sotirin, & Brady, 2012, p. 7). By focusing on agency, *metis*, and relationality, they understand resilience as feminist rhetorical action within pernicious circumstances: "a feminist rhetoric of resilience mobilizes the power of imagination and reflexive

meaning making in order to continually reinvent selves and possibilities and to precipitate change" (Flynn *et al.*, 2012, p. 8). The continual process of self-reinvention in forms of relationality necessarily view *ethos* in relation to *oikos*, a refashioning of identity and possibility by recreating meaning through choice making in sometimes limiting contexts.

Within the RSTM rhetorical literature, Hamilton Bean, Lisa Keränen, and Margaret Durfy (2011) used constitutive rhetoric to propose that resilience and vulnerability were linked: "a people can be constituted as resilience precisely because they can also be coded as vulnerable" (p. 434). Building on this literature and others, McGreavy (2016) proposed that vulnerability should be understood as a mutual relationship between human and nonhumans and a source of strength for growth and transformation (p. 115). Embracing vulnerability is an opening up of affectability for creative and transformative possibilities. Yet, for McGreavy (2016), the consequences of vulnerability are standpoint dependent, i.e., consequences depend upon emergent responses and responsive, adaptive, and persistent assemblages that sustain work over time. For Stormer and McGreavy (2017), embracing vulnerability is not an exercise in frailty, but a potential strength for adaptive capacities. In this line of reasoning, a nonvulnerable state is not possible, let alone desirable (Stormer & McGreavy, 2017, p. 19). Rather, vulnerability is the ontological condition for subjectivity since the ability to be affected also conditions a responsive potential. Thus, rhetoric does not encompass all that is to be found in resilience, but rather resilience is a conceptual frame to explain how "diverse constituents develop rhetorical capacities and perpetuate certain rhetorical potentialities" (Stormer & McGreavy, 2017, p. 17). Resilience is an orienting terminal for tracing how materialities in relation to humans become rhetorical in different ways over time.

Yet if resilience is the capacity for adaptive persistence that depends on the vulnerabilities of all participants, then some distinguishing among scales of vulnerability seems appropriate in order to discuss politics. After all, if taken to extremes, vulnerability as a capacity to be affected can create resentment and anger from marginalized communities who are perpetually made vulnerable, sometimes to the violent edges of annihilation. This is one reason why resilience discourses cannot escape politics, and also a reason why scholars also forward notions of "precarity" (Hesford, Licona, & Teston, 2018). In cases where vulnerability becomes a continuous

experience of violence, addressing communities experiencing injustice as resilient can become a breeding ground for political distrust.

   The illogic of vulnerability can also work in the reverse—to sustain privilege in many of its forms, especially when vulnerability becomes unsubstantiated and/or exaggerated victimization. In these cases, suffering a minor loss can transform vulnerability into individualized victimhood that also breeds resentment because it is based on manufactured forms of suffering that distract from structural issues of power and privilege. In this sense, precarity has a critical advantage over resilience since it cultivates a deliberate attention to vulnerabilities through the inequities of differential exposures to violence and death (Hesford *et al.*, 2018). On the other hand, resilience tends to emphasize change and distributed forms of agency more than precarity. Precarity's sense of agency is mobilized as a mutual precarity for a politics of solidarity through forms of resistance (Hesford *et al.*, 2018, p. 6). While this description certainly applies to some articles in this special issue, they also emphasize how resilience harnesses the situational intelligence of *metis* as a source of persistence, responsiveness, and flexibility even within the politically induced conditions of precarity. Without a way to adjudicate equity, resilience reinforces social norms; but without a theory of change and agency, precarity may unnecessarily frame vulnerability as a permanence. In these ways, precarity and resilience might be co-productive in important ways consequential for rhetorical studies.

Overview of the Special Issue

Broadly speaking, and for the purposes of this special issue, we can understand different approaches to rhetoric and resilience by understanding the theoretical investments and methodological proclivities of the scholars present in these pages. On the one hand are those scholars invested what we call rhetorics of resilience: neo-classical rhetorical analyses in which resilience acts as a metaphor for rhetoric (Abeles, Jack, & Singer, 2019; Harris, 2019; Opel & Rodriguez, 2019; Spoel & Derkatch, 2019; Robvais, 2019); on the other hand, there is rhetorical resilience: resilience as a complex material-semiotic best worked through rhetoric as a form of praxis (Ackerman, 2019; Johnson & Johnson, 2019; Keeling, Garza, Nartey, & Carvunis, 2019; McGreavy, 2019). We will gloss these two positions as rhetorics of resilience and rhetorical resilience. The difference is largely one of orientation: resilience is either a topic to

be rhetorically analyzed through a case (rhetorics of resilience; rhetorician as observer; rhetoric as tool; resilience as subject), or a complex rhetorical practice that itself demonstrates resilience (rhetorical resilience; rhetors as practitioners of resilience; rhetoric as art; resilience as practice). Each of these positions has its theoretical investments and methodological practices that we see as consequential for the development of rhetorical studies. On the other hand, as Oren Abeles, Jordynn Jack, and Sarah Singer and Bridie McGreavy demonstrate in this issue, there may indeed be quite a bit of overlap among these two areas with rhetoricians moving in and out of various modes of rhetorical analysis.

   To return to the question of how RSTM can uniquely understand resilience we follow the nine essays in this special issue that grapple with rhetorical resilience across a variety of technoscientific contexts from urban infrastructure (Ackerman, 2019; Johnson & Johnson, 2019), to health and wellness (Harris, 2019; Opel & Rodriguez, 2019; Robvais, 2019; Spoel & Derkatch, 2019), and ecology and evolutionary biology (Abeles, Jack, & Singer, 2019; Keeling *et al.*, 2019; McGreavy, 2019). Throughout these essays is an impulse toward applying resilience in technoscientific domains, as Keeling *et al.* do in their analysis of varying uses of the term 'function' in the scientific literature on *de novo* gene birth. They argue that 'function's' multiple uses make it a recalcitrant and resilient concept that is portable and durable across onto-epistemological contexts (St. Amant & Graham, 2019). Moving from the scientific literature to public discourse, other authors pursue critical analyses of resilience. Dawn Opel and Eric Rodriguez, and Philippa Spoel and Colleen Derkatch, for example, make two contributions to resilience at the level of critique. Opel and Rodriguez rhetorically analyze and critique a population health initiative and its associated website and database to argue that resilience—as an ability to cope, reduce vulnerability, and exert control—creates a constitutive rhetoric for governance that excludes the very people the project intended to help. Similarly, Spoel and Derkatch are critical of Canadian food charters whose ambiguous and shifting appeals to self-reliance overdetermine any just notion of resilience in favor of an individualized and enterprising ethos of responsibility for one's own well-being. In both cases, what concerns these rhetoricians are the ways that resilience furthers those structural logics of inequality by using its discourse as technology of separation, classification, and individuation that elides the politics of resilience.

Thus, one specific characteristic of how RSTM practitioners approach resilience is with a healthy (pun intended) amount of skepticism and critique for those tendencies of technoscientific practices to reductively quantify the qualitative, classify human/nonhuman bodies (racial and otherwise) for capital accumulation, and uncritically prop up dehumanizing power relations. The ability to critique these narrow forms of resilience within technoscientific domains remains a historic and particular strength of rhetoricians engaging science, technology, and medicine.

Beyond critique, the authors in this special issue also identify how technoscientific domains contain crevices for the inventional work of rhetoric that may yet be able to work resilience in different ways. As Meredith Johnson and Nathan Johnson argue in this issue, resilience can always be done multiply, and attending to how visions of resilience constitute publics and shape decision making is a key point for rhetorical inventions. Their connection of resilience to the sensorium echoes John Ackerman's attunement to the possibilities for creative disruption when he analyzes production neighborhoods through tropes of wild cosmopolitanism and contaminated diversity (Tsing, 2015). In arguing that urban infrastructures oscillate, he asserts it is an embodied movement of compassionate attention that allows rhetoricians to track reverberations as sensorial points of contact to catalogue diverse technicities and their geographies. Both Ackerman and McGreavy write of "oscillation," but to different ends. McGreavy's theorization of disruptive oscillations is rooted in her attention to cycles and to the arguments structured around them. Her methodological contribution here draws aesthetics and poetics into our reflections on resilience, pushing us--like many of the other authors here-- beyond logos to a fuller understanding of the work 'resilience' does.

In turn, Raquel Robvais furthers this shift beyond abstract logics by attending to embodied performances as acts of resilience. By focusing on how sickle cell patients', or warriors', embodied performances resist racialized medical assumptions of the "difficult patient" and create a community of warriors in online spaces, Robvais demonstrates the relational and metic capacity of warriors to maintain a semblance of humanity. Such practices chart modes of survival when human suffering and pain is ignored and made invisible. This question of how to make phenomena rhetorically visible and resilient animates Ables, Jack, and Singer's classical analysis of tropes across ecological, evolutionary, and medical

contexts to argue that any tropological figuration that turns language beyond its most literal sense is an effort in inventional resilience. As these authors argue, and as Jeanne Fahnestock reiterates in her response, the applicability of the figures of speech to technoscientific discourses and practices challenges a verbal/material dissociation in our application of the rhetorical tradition. Similarly, in Randy Allen Harris's exploration of rhetoric's neuroscientific roots, he makes a persuasive case for language's materiality by arguing that rhetoric and neuroscience in combination provide each other explanatory power. The resilience of certain kinds of rhetoric among dementia patients, he explains, tells us something about both rhetoric and the brain. Together, these essays demonstrate the variety of ways resilience can be folded to do inventional work for dramatically different outcomes and effects.

Acknowledgements

Reference List

Association for the Rhetoric of Science, Technology, and Medicine. (2019). Past meetings. Retrieved from http://www.arstmonline.org/meetings/prior-cfps-schedules/

Association for the Rhetoric of Science, Technology, and Medicine. (2019). RSA 2018 Preconference CFP. Retrieved from http://www.arstmonline.org/meetings/prior-cfps-schedules/rsa-preconference-2018/

Bean, H., Keränen, L., & Durfy, M. (2011). "This Is London": Cosmopolitan nationalism and the discourse of resilience in the case of the 7/7 terrorist attacks. *Rhetoric & Public Affairs*, *14*(3), 427–464. https://doi.org/10.1353/rap.2011.0018

Chomsky, N. (2017). *Requiem for the American Dream: The 10 principles of concentration of wealth & power*. New York: Seven Stories Press.

Flynn, E. A., Sotirin, P., & Brady, A. (2012). *Feminist rhetorical resilience*. Boulder, CO: University Press of Colorado.

Herrman, H., Stewart, D. E., & Diaz-Granados, N. (2011). What is resilience? *The Canadian Journal of Psychiatry*, *56*(5), 8.

Hesford, W. S., Licona, A. C., & Teston, C. (Eds.). (2018). *Precarious rhetorics*. Columbus, OH: Ohio State University Press.

Holling, C. S. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics, 4*, 1-23.

Logan, T., & Parman, J. (2015). *The national rise in residential segregation* (Working Paper No. 20934; p. 66). Retrieved from https://www.nber.org/papers/w20934.pdf

MacKinnon, D., & Derickson, K. D. (2013). From resilience to resourcefulness: A critique of resilience policy and activism. *Progress in Human Geography*, *37*(2), 253–270. https://doi.org/10.1177/0309132512454775

McGreavy, B. (2016). Resilience as discourse. *Environmental Communication, 10*(1), 104–121. https://doi.org/10.1080/17524032.2015.1014390

Saez, E. (2016). *Striking it richer: The evolution of top incomes in the United States (updated with 2015 preliminary estimates).* Retrieved from https://eml.berkeley.edu/~saez/saez-UStopincomes-2015.pdf

Schuetz, J., Larrimore, J., Merry, E. A., Robles, B. J., Tranfaglia, A., & Gonzalez, A. (2018). Are central cities poor and non-white? *Journal of Housing Economics, 40*, 83–94. https://doi.org/10.1016/j.jhe.2017.11.001

St. Amant, K., & Graham, S. S. (2019). Research that resonates: A perspective on durable and portable approaches to scholarship in technical communication and rhetoric of science. *Technical Communication Quarterly, 28*(2), 99–111. https://doi.org/10.1080/10572252.2019.1591118

Stormer, N., & McGreavy, B. (2017). Thinking ecologically about rhetoric's ontology: Capacity, vulnerability, and resilience. *Philosophy & Rhetoric, 50*(1), 1–25. https://doi.org/10.5325/philrhet.50.1.0001

Tsing, A. L. (2015). *The mushroom at the end of the world: On the possibility of life in capitalist ruins.* Princeton, NJ: Princeton University Press.

USGCRP. (2018). *Impacts, risks, and adaptation in the United States: Fourth national climate assessment, Volume II* (p. 1515). Washington, DC: U.S. Global Change Research Program.

Walker, B., Holling, C. S., Carpenter, S., & Kinzig, A. (2004). Resilience, adaptability and transformability in social–ecological Systems. *Ecology and Society, 9*(2). https://doi.org/10.5751/ES-00650-090205