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Asking More of Our Metaphors: Narrative Strategies to End the ‘War on Alzheimer’s’ and Humanize Cognitive Aging

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In all facets of our lives, humans construct meaning to understand their place in the world and their relationships to one another and to broader environments. Within this semantic web, words, stories, and metaphors play a key role in the meaning-making process, with the latter serving as a particularly important means of fluidly integrating thoughts, values, and actions across cognitive domains. Derived from the Greek roots “meta” (over/across) and “phor” (to carry) and literally meaning “carrying across,” metaphor guides an understanding of one thing in terms of another. It is such a pervasive tendency in human speech and thought that researchers have established we utter one metaphor for every 10-25 words, or about six metaphors a minute (Geary 2011). This holds true in medicine and public health, wherein our prevalent, ever-evolving metaphors of disease have the social power to literally position people and resources within a culture.

For centuries, it has been noted that war metaphors are deeply embedded in the rhetorical patterns of Western and Eastern cultures (Jobst et al. 2000). Scholars have identified how contemporary biomedical knowledge is particularly rife with war-related idioms that mediate public understanding of such dread conditions as HIV/AIDS, tuberculosis, cancer, and mental illness (see Sontag 1978; Sontag 1989). Understanding diseases through the primal frame of warfare certainly concentrates efforts to intervene in human suffering, but can have the unintended effect of conjuring fear and stigma, dehumanizing those affected, and precluding “higher” thought processes that allow for wiser individual and social response (George and Whitehouse 2014). For decades, efforts to counter the bellicose metaphors that guided our initial understanding of the HIV “epidemic” have been largely successful, and the featured article by Nie et al. joins a broader literature in advancing a more humane vernacular. So too can the authors’ analysis serve as a jumping-off point for thinking about military metaphors that have seeped into our understanding of *chronic*

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diseases, where, in the absence of specific pathogens, they are perhaps even more deleterious than in the realm of infectious disease.

Alzheimer's disease (AD) provides an interesting point of comparison. While the phenomenology of “senility” was documented thousands of years ago in ancient Egyptian texts, it is only within the last 100-years that we have come to understand the condition as a “conquerable” illness called “Alzheimer's.” First noted in 1906 by German psychiatrist Alois Alzheimer, who, ironically, doubted he had discovered a condition separate from “senile dementia,” AD was a seldom-used diagnosis for much of the 20th century. However, in the 1970s, in response to a rapidly aging population, the newly-created National Institute on Aging (NIA) decided to strategically phase out the word “senility” and diminish the use of the more general term “dementia” in favor of language framing rising prevalence of cognitive decline as a “disease epidemic” called “Alzheimer's” on par with polio. By making an intentional effort to blend the domains of an infectious (polio) and chronic (brain aging-related) disease through the war metaphor both in Congressional hearings and communications with the lay public, the NIA and other advocacy organizations propagated a new idea – that cognitive frailty was the result of a single disease-process called “Alzheimer's” that existed outside the spectrum of normal age-related changes and could be specifically attacked. To generate political support and research dollars, the NIA promoted a strategy its leaders termed the “health politics of anguish” to emphasize the tragic aspects of Alzheimer's—that it causes a “loss of self” in its victims and imposes a “burden” on family members and society at large (Ballenger 2006).

In recent decades, the “War on Alzheimer's” has gained momentum, with funding largely marshaled to remove or preempt the formation of beta amyloid, a molecular compound first noted by Dr. Alzheimer that has been hypothesized as “toxic” to neurons. Researchers have thusly “battled” amyloid as if it were a pathogen despite the fact that it appears to have a complex, highly-regulated role in normal brain function. Indeed, unlike the HIV virus, amyloid pathology does not correlate with clinical symptoms and has repeatedly been found in the brains of one-third of “normal” elderly persons, blurring the line between the normal and pathological. Further, AD is highly heterogeneous, encompassing not only the two classic hallmarks of amyloid plaques and neurofibrillary tangles, but also other overlapping pathologies such as vascular insults and Lewy bodies, as well as other markers of brain aging (Whitehouse and George 2008). In turn, drugs targeting one aspect (amyloid) of this apparent diffuse syndrome have failed to provide clinical benefit. We now find ourselves in the uncomfortable position of the “War on Alzheimer's” having fixed public understanding around the untenable notion that AD is a singular “disease” separate from aging and thus amenable to cure. As with HIV, the idioms of warfare so prevalent in the Alzheimer's field have emphasized fear and anxiety while channeling resources away from prevention, care, and other approaches not premised on amyloid “toxicity.”

We agree with Nie et al. that, as regards chronic diseases like AD, we should seek greater humanity in our metaphors. Instead of prosecuting a “war” that many if not most experts regard as fundamentally unwinnable we might shift expectations from an absolute “cure” or “prevention” to the more realistic “postponement” of the more debilitating effects of brain aging that can be achieved by modifying known biological, psychosocial, and environmental

risk factors. Opting for a concept like “postponement” can shift us away from warring idioms like “end,” “halt,” “reverse,” “fight,” “arrest,” and “cure” that promise more than science can deliver and metaphorically render the brain a seat of violence and those with memory challenges as “victims” (George 2010).

Scrubbing Alzheimer's of language largely appropriated from an infectious disease paradigm can also inform more prudent research expenditures. By abandoning current notions that we are at “war” against a few specific proteins, research can be broadened to more fundamentally understand brain aging processes within the context of the lifespan, and study the intricate multi-systemic and environmental interactions that affect cognitive health. While not as profitable as drug development, public health initiatives that reduce vascular risk factors, modulate oxidative stress and inflammation, guard against traumatic brain injuries, promote social engagement and lifelong learning, reduce exposure to neurotoxins, and other common-sense actions should be an explicit component of our societal response to AD. War metaphors are ineffective at capturing these socioecological determinants of health, and new ones are needed to narrate the contribution of the known factors that accelerate cognitive decline. One useful concept that can contribute to this narrative is “cognitive reserve,” which refers to the brain's ability to maintain cognitive function in the face of neuropathological damage. “Building reserve” can take place at the personal level—through patterns of individual actions supporting cognitive health—but importantly also at the community level—by implementing policies and practices that address socio-ecological determinants of health affecting many brains. An increased focus on enhancing reserve counters narratives of “war” with narratives of “resilience,” while making clear that social policies to ameliorate poverty, disparities in wealth, lack of healthcare, limited access to higher education, food insecurity and the promotion/marketing of fast food, the presence of heavy metals in drinking water, the consequences of climate change, and stress brought on by flattened wages, rising cost of living, and austerity measures can support lifespan cognitive health at the population level (Lock 2013).

Beyond the specific examples of HIV and Alzheimer's, there is a larger point at play. Military metaphors in biomedicine are principally about dominating nature and consistent with conventional thinking in Western culture. As Nie et al. argue, non-Western cultures more commonly invoke idioms of peaceful coexistence with nature and unity at the community-level, and it seems there would be much benefit from embracing these ecological metaphors in biomedicine (Annas 1995). Even at a microbiological level, we live in relationship to other living creatures and organisms, and health is most fundamentally reliant on promoting diversity and resilience. Ecologic metaphors also invite a robust evolutionary perspective that can consider the interaction of genes and environment at many levels over long intervals (e.g., epigenetics, evolutionary medicine, and population health).

That said, ecological metaphors are admittedly nuanced and abstract, and our challenge is to manifest them in peoples' lives in meaningful ways. In isolation, the new metaphors promoted here and by Nie et al. offer limited benefit; however, when woven into substantive stories they can produce a choral richness that begins shifting the narrative that sits in peoples' minds about particular diseases. Such change requires the commitment of disciplinary and lay communities to buy into the higher principles embedded in new

metaphors and explore new and unconventional modes of expression (e.g., social media). In Ghana, the Akan people share a proverb that “Wisdom is like a baobab tree; no individual can embrace it.” Similarly, improving human health, including cognitive aging, will require many people to collectively share ecological-oriented idioms/stories that move us past entrenched military metaphors and inspire wiser actions contributing to increased quality of life (Whitehouse 2016). Indeed, it is in our shared humanity, storytelling prowess, and capacity to humbly affect complex systems that we can jointly embrace greater wisdom to address the challenges of cognitive aging and the long-term health of our species.

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