One Health—Why, How, and What?

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Abstract

The rationale for integrated approaches to health is based on dynamic complexity, where systems of communication and collaboration are difficult to delimit and are embedded in an ecological and cultural context where no element can be considered independently. The formal concept and application of One Health that has evolved over the past decade have grown out of interdisciplinary efforts of human health, animal health and environmental health professionals as well as other disciplines (e.g., social sciences, risk communicators, educators, etc.), via recognition of the need for systems thinking. One Health can provide a complimentary, yet fully distinct approach to health when compared to traditional biomedical sciences—as Ruegg *et al.* have said, "One Health is a paradigm shift from mechanistic determinism in health sciences to post-normal science." One Health, therefore, provides an opportunity to shift from pathogenesis as a framework to salutogenesis, without abandoning the former.

Presentation Synthesis

The English word 'health' comes from Germanic to Old English where it meant 'whole'. In modernity, it seems health has been misunderstood to mean the 'absence of disease,' which does not define anything about health itself. My learning journey through One Health informs me that health means whole and that one means we are one world, one species (*Homo sapiens*), and that everything is interconnected. The most important aspect of the journey has been to determine that 'why' of One Health. In my experience, it is to <u>cultivate the health of animals, peoples, and places</u>. It is easy to see, then, that the modern term One Health re-discovers global indigenous knowledge, from native peoples of the Americas to Australia, as their conceptualizations of health and interconnectedness have been around for thousands of years.

The 'how' of One Health is where opportunities for social innovation and novel syntheses are most abundant. Starting with Charles Darwin's less famous 'other books,' *The Descent of Man and Selection in Relation to Sex*, and *The Expression of the Emotions in Man and Animals*, where relevant explanations were provided that underpin One Health. While Darwin is most famous for *On the Origin of Species*, which depicts evolution largely as the product of ruthless individual competition for survival and reproductive success, it says nothing specifically about the evolutionary descent of the human species. *On the Origin of Species*' two main conclusions were that diverse groups of animals evolve from one or a few common ancestors (<u>we are one species</u>), and the mechanism of natural selection as the driver of individual evolution. In his other books, Darwin laid the ground in evolutionary biology for the <u>necessity of psycho-social integration for human health</u>. 'Social instinct', a term Darwin used as one of the key adaptations for humans and other animals that form long-lasting social groups. According to

Darwin, "…of all the differences between man and the lower animals, the moral sense or conscience is by far the most important." Moral sense was an adaptation of the human species that was inherited as a consequence of organic evolution. The urge for social belonging is just as essential to human well-being as the urge to individual competition, and the two instinctive, but conflicting, motives exist for the same reason—evolution. Years later, Erik Erikson brought forth the concept of human development in a social context, being the first to propose that children not only are biological organisms but also products of society's expectations, prejudices, and prohibitions. Erikson used the term 'wholeness' interchangeably with psycho-social integration. Health is wholeness is psycho-social integration and is evolutionarily selected at the level of communities of humans. Erikson also warned of unhealthy fragmentation caused by what he called 'pseudospeciation.' Pseudospeciation describes the unhealthy, destructive mechanism that leads to human conflict, aggression, and war; and it refers to the "arrogant placing of one's nation, race, culture and (or) society ahead of others; the failure to recognize that all of humanity was of one species." Forces such as pseudospeciation were invoked by Bruce Alexander in his book *The Globalization of Addiction*, where he shows that "Addiction is neither a disease nor a moral failure, but a narrowly focused lifestyle that functions as a meagre substitute for people who desperately lack psycho-social integration." Alexander produced the Dislocation Theory of Addiction, which identifies addiction as an adaptive response to broader societal problems that dislocate the individual from a sense of meaning, purpose, and value, driving them towards addictive behaviors. Once again, we see that psycho-social integration, or a sense of belonging, is necessary for health. In the Americas, the dislocation that started with the European invasion and conquest, along with slavery, and continues to this day with gentrification yields a fragmented, unhealthy society, with widespread addiction as a symptom. Darwin's *On the Origin of Species* transformed society while *The Expression of the Emotions in Man and Animals* laid the groundwork for the now classical view that people emote in biologically rooted, universally recognizable ways. Lisa Feldman Barrett's *How Emotions Are Made* has revolutionized our understanding of emotions. Barrett has shown that emotion is constructed in the moment by core systems that interact across the whole brain, aided by a lifetime of learning. "What we see, hear, touch, taste, and smell," she writes, "are all simulations of the world, not reactions to it." She continues "You might think that… the things you see and hear influence what you feel, but it's mostly the other way around!" There are profound implications to her theory in all fields of human endeavor and specifically for what she calls "the casual brutality of social interactions," which are deeply unhealthy. "The emotional climate of our culture is unhealthy and we should be having serious conversations about it," according to Barrett, and this is connected to our biology as shown by Darwin, Erikson, and Alexander, as well as her work.

To animate and bring forth the 'how' of One Health requires a departure from analytical reductionism and scientific positivism. Like the proverbial 'blind men and the elephant' fable, the 'how' of One Health must include 'systems thinking' to relieve us from our individual realities which we conflate with the whole picture. There is a tendency of academics and other organizations to seek to "simplify" complex problems with the unintended consequence of impeding significant change and often creating new problems through ineffective 'quick fixes,' based on linear thinking. In an 'iceberg' view of reality, we see events (or symptoms) while

ignoring the systemic structures and patterns that keep producing the 'problems' we wish to rid ourselves of. In addition to 'systems thinking,' we must shift the medical paradigm of health from a pathogenesis framework to a salutogenesis framework. Because the goal of modern medical systems is sick care, a pathogenesis framework may be necessary. However, when we wish to cultivate health, such a framework is a serious hindrance. The final animating component of One Health praxis is to embrace 'curb-cutting,' coupled with 'design thinking'. According to Angela Glover Blackwell, "When the walls of exclusion come tumbling down, everyone benefits." Curb-cutting approaches are animated by equity and social justice. It has been repeatedly demonstrated that laws and programs designed to benefit vulnerable groups, such as the disabled or people of color, often end up benefitting all of society. This is not unexpected for systems thinkers that understand that 'seeing the whole elephant' is only possible by maximizing the diversity of 'blind men' touching the elephant so that through collective awareness may the understanding of the whole elephant occur. Curb-cutting as a name comes from the cutting of curbs to support the needs of people in wheelchairs and started in the 1950s though the story of it comes from the 1970s in Berkley. Once the curbs got cut, everyone benefitted, for example, a) parents pushing strollers, b) workers pushing heavy carts, c) business travelers wheeling luggage, d) runners & skateboarders, and e) 10% of "unencumbered pedestrians" go out of their way to use a curb cut. Other examples include seat belt legislation (initial focus—children), affirmative action (initial focus, black people), non-smoking on planes (initial focus—flight attendants), and bike lanes (initial focus—bicyclists). Furthermore, if we ignore the challenges faced by the most vulnerable not only cannot co-design better social systems and technologies, we create a drag on economic growth, prosperity, and national well-being. Inclusion allows all of us to win whereas exclusion and inequity are highly toxic to health, by definition, because we are divided and not whole. Wholeness is health and curb-cutting through co-design with the leadership of the most vulnerable underpin the ethic of One Health. However, as Tony Goldberg and Jonathan Patz state, "An ethic, to be an ethic, has to develop in the minds of a thinking community—i.e., the people who will live by it—and not be thrust upon them." So, the 'how' of One Health is about awareness-based development of such an ethic in the community through processes of Participatory Action Research in models that explicitly lead to community ownership and co-design of new systems that cultivate health. As Rosa González of Facilitating Power's tool on community ownership states, "It's time to unlock collective power and capacity for transformative solutions."

The 'what' of One Health is both the simplest part to summarize and it's also the one that is least useful for community partnerships. One Health in action, therefore, is characterized by inter-sectoral, inter-professional, transdisciplinary teams formed and sustained in a resident- and equity-centered, place-sourced, manner. One Health Leaders, therefore, catalyze/form/lead networks of people across traditional boundaries to enable 'horizontal flow' and distributed forms of leadership that enable power normalization with residents. They operate as strategists, facilitators, and organizers as needed (by the residents). One Health governance and infrastructure includes policies, institutions, and rules in a co-design, co-management, co-delivery model that must build shared awareness of a health ethic, understanding, and trust, as well as deep appreciation for different perspectives and needs

while shifting design from 'problem-solving' to designing for need. One Health partnerships result in community ownership to allow sustainability and continuity. Territorial behaviors amongst professional groups and agencies are a significant barrier to One Health because key players must have the willingness, freedom, and capacity to share responsibility and resources. From an academic side, it is clear that multi-disciplinarity ('experts working in isolation') models are insufficient and ineffective. Power dynamics and research justice are a challenge that must be overcome with academics before they are ready to participate and contribute effectively. Educational/experiential opportunities are needed for academics to be ready to engage with One Health in this way.

Finally, there is reason for optimism in the face of complexity. Together, we can achieve a future where: a) health is a shared value/ethic in our communities, which we have intentionally cultivated; b) cross-sector, cross-professional, resident-centered, place-sourced partnerships that cultivate health become the norm; c) we intentionally create healthier, more equitable (more whole=more healthy) communities, taking into account our cultures and biology, creating belonging (wholeness=healthy) for all residents; and d) we strengthen and integrate medical services and systems through de-industrialization, leaning towards effectiveness and resilience over financial efficiency, bringing back the care into healthcare and expanding significantly social care.