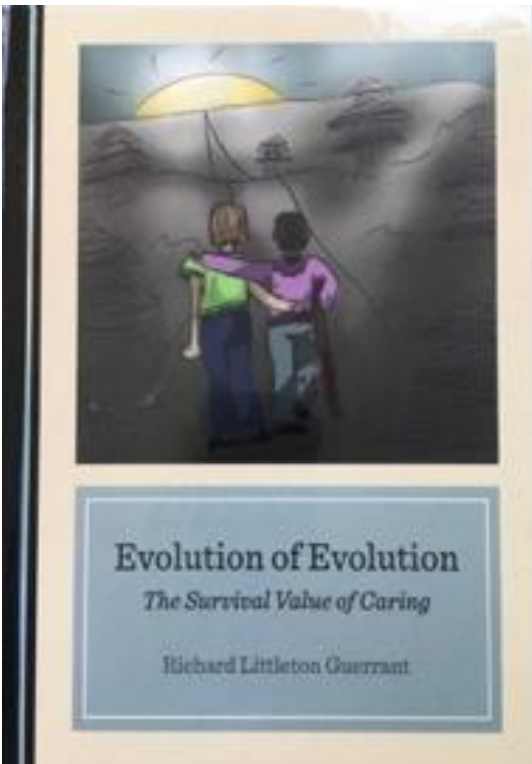## Prof. Richard L. Guerrant Publications

Evolution of Evolution: The Survival Value of Caring by RL Guerrant describes how evolution itself is changing, ever more rapidly, now driven more by human technology and behavior than by Darwin's slowly plodding natural selection in biology. Guerrant notes how several major traits have changed from being selective advantages to the opposite, selective disadvantages or even threats to survival. Hemoglobin S (Sickle cell trait) that was once advantageous in protecting young children from malaria, if we can control or eradicate malaria, sickle cell hemoglobin is only a terrible disease. Perhaps similarly, Guerrant and his colleagues in Brazil have discovered that the major recognized risk allele for Alzheimer's Disease, ApoE4, may have evolved in part because it actually protected children with heavy diarrhea burdens living in poor conditions of water, hygiene and sanitation, as did all of our ancestors only 2-3 generations back [with family graves of young children having died of typhoid or cholera].

To those, Guerrant adds traits called "thrift alleles" and such complex traits as aggressive behavior, that was once a selective advantage for hunting food or killing adversaries, but that has now become one of the gravest threats to human survival. He even suggests that we weigh moving from competition to collaboration, revenge to forgiveness, population control by good (not bad) health, the dichotomy of science and the humanities to respectful synergistic convergence, and evolving from myopic "isms" to shared meaning, seeing "self" as the whole human family. Indeed, both Science and the Humanities must respectfully learn from the other, lest left alone, they threaten civilization as we know it.
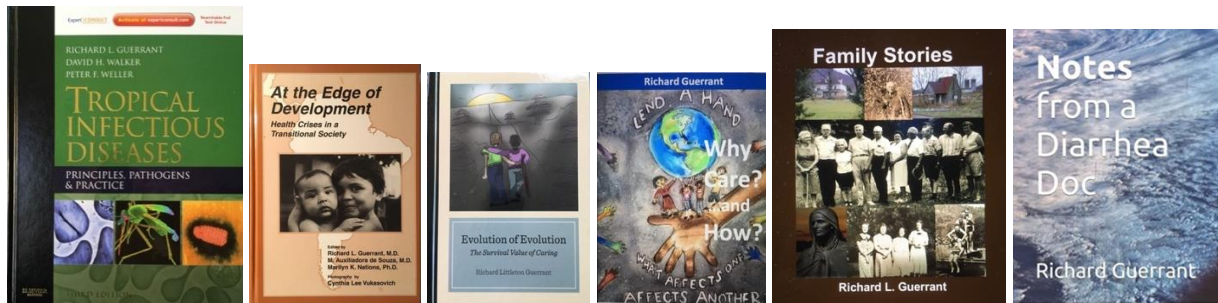
"Evolution of Evolution: The Survival Value of Caring," is available on Amazon [Kindle for <$10; paperback for <$30 or hardcover for $37. website *Kindle Release* or https://www.amazon.com/Evolution-Richard-Littleton-Guerrant/dp/1527576280/ref=monarch_sidesheet

From Amazon website: Numerous scholarly articles and books have been written about biologic and social evolution, compassion, life's meaning, violence and predictions of future outcomes. However, what is not often addressed, but is increasingly desperately needed, is the realization of the evolutionary survival value of caring for others. This book strives to link our humanities and religious philosophies to a scientific understanding of human destiny, and provide a key to meaning in our lives. Though this idea has incubated for over two decades, recent extremism in Charlottesville and global threats of inhumanity and violence make this more timely than ever for all who care about who we are and our children's future. Furthermore, our capacity for benefit or destruction of Homo sapiens or civilization as we know it sets a ticking timer on the urgency of this realization and focused action; we don't have 'forever' to 'get it!'

Guerrant's sequel to Evolution of Evolution is "Why Care? …and How?" is available for $8-12 on Kindle or paperback at: https://www.amazon.com/Why-Care-How-Richard-Guerrant/dp/B09NRLZJXK/ref=tmm_pap_swatch_0?_encoding=UTF8&qid=1640396017&sr=8-3

book projects, the last four since 2018.

Caring for others is complex and hard; why should we bother? And if so, how should we do it? As an infectious diseases physician-researcher who has worked in Congo, Bangladesh, South Africa and Brazil, Guerrant draws from science and from historic religious and secular philosophies to argue that caring for others is imperative for the survival of a just and meaningful humanity, not to mention our personal well-being, lest we lose the most precious part of being human. Our technologic capacities for remarkably beneficial or narrowly selfish destruction place a ticking clock on the urgency of learning to care.

Amidst one of history's most divisively polarized times with unprecedented wealth and health, but also unprecedented capacity for destruction, what can we expect? What is driving this unparalleled rate of change and is there anything we can do about it? In just the last year, we have seen near miraculous, ground-breaking science vastly exceed any prior expectations of speed or effectiveness, driven by a frighteningly swift global viral pandemic. Yet human behavior and disparities literally threaten to give the virus the edge over even these extraordinary technologic advances.

"Why Care? …and How?" addresses the collision of scientific technology with human behavior from the perspective of a lifelong infectious diseases physician-researcher who has lived and worked with close friends and colleagues in Africa, Asia and South America. From the perspective of a scientist who is fascinated by time and evolution, not to mention personal and societal survival and quality of life, it wrestles with what we are learning in science and how these burgeoning changes are literally driving what evolves. No longer is the plodding pace of Darwinian natural selection the main driver of change, it is now Homo sapiens ourselves! Hence the urgent need for this message to better understand and appreciate the full richness of our humanity. No longer can we simply keep science and the humanities apart; they are inextricably intertwined, and either alone can endanger our future if not our very existence.

The hope is that, upon seeing the breadth of science, philosophy and even economics with which Guerrant wrestles, we can each engage our own thinking about why and how we really must learn to care about others. Poets and sages have mightily taught these messages, and now, from technology and human experience we all join in learning the survival value of respect and caring for others, as if our lives depend on it; because they do!