

Editorial

Welcome to a New Journal—*Journal of Evolutionary Medicine*

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Evolutionary principles have been increasingly applied to the health sciences over the past 30 years. The discipline that is emerging from these applications, often referred to as evolutionary medicine, has already provided a better understanding of what disease is and why it occurs, and frameworks for more effective interventions. It emphasizes that disease may result from mismatches between present and past environments, but also that humans are continually evolving in response to current environments. It clarifies when treatment of disease manifestations may be helpful or harmful and how interventions to control infectious diseases may lead to antibiotic resistance and vaccine escape. In the future, evolutionary medicine may make crucial contributions to the global control of diseases that have defied conventional efforts. It may contribute to the control of infectious diseases by identifying interventions that force pathogens to evolve toward benignity, as has occurred in response to diphtheria vaccination. More generally evolutionary medicine may help control disease by emphasizing the multifaceted nature of disease causation and by identifying the causal links that are most vulnerable to intervention.

Although evolutionary medicine has already contributed to a more coherent understanding of health and disease, it also shows signs of fragmentation. There is, for example, risk of a schism between anthropological and biological research within the discipline. History suggests how unfortunate such a division would be. Where would our knowledge about prion diseases be without the study of kuru among the Fore? In the firm belief that such divisions tend to be artifacts of incomplete understanding rather than reflections of natural divisions, I will work to make this new journal a unifying instrument.

My general goal as Editor-in-Chief of the *Journal of Evolutionary Medicine* will be to foster the integration of evolutionary principles within the health sciences. I hope that this journal will provide an outlet for articles that could profoundly advance scientific understanding of health and disease, but might otherwise be casualties of an imperfect system of peer review. One temptation I will resist is the formulaic evaluation of manuscripts, which runs the risk of excluding studies that challenge the conventional

wisdom, and that therefore could be the most significant studies of all. I encourage authors, editors, and reviewers to consider alternative hypotheses, recognizing that they may be mutually exclusive or complementary, and to structure innovative thinking with rigorous analysis in the best of scientific traditions.

The *Journal of Evolutionary Medicine* will encourage coverage of research areas that are particularly vibrant and productive. Application of evolutionary principles to cancer is one of these areas. The main reason is that cancer is intimately dependent on evolutionary processes—evolution of normal cells to cancerous cells, evolution of cellular barriers to cancer, and evolution of parasite characteristics that compromise these barriers in their hosts. Recognition of this central role for evolution is occurring concurrently with the flowering of a sophisticated understanding of oncogenic mechanisms which links the interactions at the molecular level with interactions among cells and both internal and external environments. For the next few years at least, evolution and cancer will therefore be an area of emphasis for the journal. In the first volume we will have a Forum on Evolution and Cancer, which will be a collection of articles from experts who will present what they believe to be the most important consequences of an evolutionary perspective on cancer. We plan to have similar forums on other critical issues in succeeding years.

The journal welcomes articles across the spectrum of health sciences. We will address underlying principles and specific medical problems, clinical and epidemiological studies, practice and policy, theory and empirical analysis. Ultimately, I hope that this journal will eliminate the need for its existence. That will happen when evolutionary perspectives suffuse all disciplines of the health sciences. Although I tend to be optimistic, I do not expect that this goal will be reached in my lifetime, and certainly not during my tenure as the Editor-in-Chief of the *Journal of Evolutionary Medicine*. With these aspirations and expectations in mind I welcome you to join us as observers and participants in this endeavor.

Paul W. Ewald
Editor-in-Chief