Cliodynamics: the Journal of Quantitative History and Cultural Evolution

Editor's Column: Cultural Evolution and Cliodynamics

Peter Turchin
University of Connecticut and the Evolution Institute

The field of Cultural Evolution[1] originated in the work of such theorists as Peter Richerson and Robert Boyd, Luigi Cavalli-Sforza and Marcus Feldman, and Charles Lumsden and E. O. Wilson during the 1970s and 1980s. This interdisciplinary field has been growing rapidly over the past two decades by attracting researchers with a variety of backgrounds in the social and biological sciences. The coming-of-age of Cultural Evolution can be dated to the Strüngmann Forum on Cultural Evolution held in Frankfurt-am-Main in 2012, which assembled more than 40 practitioners (Richerson and Christiansen 2013).

What is cultural evolution? *Culture* is "the ideas, skills, attitudes, and norms that people acquire by teaching, imitation, and/or other kinds of learning from other people" (Richerson and Christiansen 2013). Most broadly, culture is *socially transmitted information*. Cultural evolution, then, is the change of culture over time. Just as the most common definition of biological evolution is the change of gene frequencies with time, at the core of cultural evolution is the temporal change in the frequency of cultural traits.

The concepts, models, and empirical methods of Cultural Evolution provide us with powerful tools for understanding human history. Thus, Cultural Evolution and Cliodynamics (which encompasses all scientific approaches to the study of history) are natural allies. I should note, however, that Cliodynamics is interested in a broad range of dynamical processes that extend beyond cultural evolution. For example, models of demographic growth and decline, dynamics of battles and wars, or mechanics of economic expansion and contraction do not need to involve cultural change. Typically, such political, economic, and demographic processes operate on a faster time scale than cultural change (but see below). For this reason, there are many classes of cliodynamic models that simply assume certain fixed cultural arrangements. For example, demographic dynamics are affected by many cultural elements,

[1]I capitalize Cultural Evolution when referring to it as a scientific discipline, characterized by a shared set of concepts and approaches; uncapitalized cultural evolution refers to the change of culture over time.

Corresponding author's e-mail: peter.turchin@uconn.edu

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such as social norms specifying the 'optimal' number of children. A typical model of population dynamics simply assumes that such norms exist (and don't change) and then predicts how population size changes as a result of births, deaths, and migration processes.

Of course, social norms and institutions *do* change. The theoretical framework of Cultural Evolution enables us to model how this change could result from such processes as natural selection (which may favor, for example, the norm of large family size) and biased transmission (which may favor the norm of small family, if this helps to retain an elite status). Furthermore, cultural change can occur rapidly. For example, demographic transition can replace one set of norms governing families' behavior with a very different set in one or two generations. Accordingly, understanding cultural change becomes very important for making accurate demographic forecasts.

Thus, the distinction between population dynamics models and social evolutionary models is arbitrary and is made for convenience (and to keep models from becoming unmanageably complex). But, to paraphrase Theodosius Dobzhansky, it is clear that nothing in human history makes sense except in the light of cultural evolution.[2] This means that the new insights coming from Cultural Evolution need to be better integrated with models of historical dynamics.

The Editorial Board of *Cliodynamics* has unanimously endorsed a proposal to make a concerted effort to bring our journal to the attention of the practitioners in the field of Cultural Evolution in the coming year (2015). In fact, many of us, including myself, are already active in this field. Additionally, *Cliodynamics* has already published a number of articles using the approaches of Cultural Evolution—the current issue is no exception. These articles include the *Social Evolution Forum* section, which has been featured in every issue of *Cliodynamics* since 2011. Yet, many cultural evolutionists are not yet aware that their manuscripts could find a home with *Cliodynamics*.

To change this perception, the subtitle of the journal has been changed to reflect our emphasis on Cultural Evolution. Beginning with this current issue, the full journal name is now *Cliodynamics: The Journal of Quantitative History and Cultural Evolution*. *Quantitative History* now summarizes the old subtitle (*Theoretical and Mathematical History*). The second part of the subtitle was vigorously discussed among the editors, with some favoring such alternative variants as "Social and Cultural Evolution" or "Social-Cultural Evolution." In the interests of brevity, we decided to retain just "Cultural Evolution" in the subtitle.

[2] The Dobzhansky quote is "Nothing in biology makes sense except in the light of evolution."

We continue to be interested in publishing articles in other core fields of Cliodynamics (historical macrosociology, economic history and cliometrics, mathematical modeling of long-term social processes, and the construction and analysis of historical databases). But we wish to add to our strength in these areas by issuing a call for articles in the fields of social and cultural evolution. We are interested in cultural evolutionary studies that explicitly engage with historical questions, articles developing mathematical models of cultural and social evolution, and experimental studies testing various aspects of how culture changes and evolves. In particular, we are very interested in developing theories and empirical analyses of the evolution of social norms and institutions.

We are looking forward to *Cliodynamics* becoming one of the important journals for researchers interested in cultural and social evolution, and expect that both the study of historical dynamics and the mechanisms of cultural evolution will be thereby enriched.

Reference

Richerson, P. J. and M. H. Christiansen, editors. 2013. *Cultural Evolution: Society, Technology, Language, and Religion* (Strüngmann Forum Reports). MIT Press.