

*The Parasite-Stress Theory of  
Values and Sociality, Infectious Disease,  
History and Human Values Worldwide*

by Randy Thornhill and Corey L. Fincher  
New York: Springer Science & Business Media, 2014  
ISBN 978-3319080390  
Hardcover, \$209, 449 pp.

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In their book *The Parasite-Stress Theory of Values and Sociality*, Randy Thornhill, Distinguished Professor at The University of New Mexico, and Corey L. Fincher, Assistant Professor at University of Warwick, present a new interpretation of human values and cultural behaviors, on the basis of ecological variations in parasite-stress prevalence across and within nations.

The first chapter of the volume is a detailed introduction outlining the contents. Before delineating their theory in upcoming chapters, in the second chapter Thornhill and Fincher discuss their philosophical viewpoints on scientific investigation in general, and evolutionary science in particular. First, the chapter compares philosophical and scientific methods of knowing, concerning exploration of the universe and its function. In particular, in this chapter the authors challenge philosophical aesthetics and argue that pure philosophical reasoning cannot discover causes of nature without scientific testing. The authors further argue that due to personal differences in values (biased common sense, intuition, and emotional validation of ideas), human pure reasoning, thinking, and deduction are biased, and that aesthetic philosophy cannot empirically falsify or verify hypotheses. They also argue that all areas of science that deal with life and living beings are evolutionary in essence, and that humans are evolved animals and living beings—hence, that all studies of humans are evolutionary and biological studies.

Next, the authors explain the enculturation process and review different theories on cultural learning. They assert that “enculturation of the individual is an active ontogenetic process of choice of information from the environment that yields reproductive competence in the local culture” (p. 36). In the other words, they propose that the ontogeny of people is designed to choose ideas, ways of thinking, and attitudes and values that are ancestrally adaptive social navigations in the local culture. They claim that cultural acquisitions are local psychological adaptations that are caused by infectious disease–related ecological adversities that design people ontogeny.

Chapter 3 begins by highlighting the importance of *immunity* and *infectious diseases* as underlying causes of evolutionary selection. Thornhill and Fincher define two immune systems for humans: (1)

the classical immune system, that is, the biological structures and mechanisms of defense against parasites; and (2) the behavioural immune system, which is defined as *infectious disease avoidance behavior* and the way humans cope with them when they are afflicted. The second system is the main focus of this volume. In discussing the geographical localization of parasite-host co-evolution, the authors argue that “host defense works most effectively, or only, against local parasite species, strains, or genotypes, but not against those evolving in nearby host groups. Hence, out-groups may often harbor novel parasites that cannot be defended against very well, or at all, by an individual or his or her immunologically similar in-group members. Out-group individuals pose the additional infectious-disease threat of lacking knowledge of local customs, manners, and norms in general, many of which may prevent infection from local parasites” (p. 61). Hence, in ecological settings where disease stress is high, there are adaptive preferences and values that are more inclined toward ethnocentrism, xenophobia, philopatry (the absence of dispersal away from the natal range for reproduction), and conservatism in order to avoid parasite stress from the out-groups. On this basis, the authors assume that as parasite stress declines, the tendency toward contacting out-group individuals, and tolerating their values and belief systems, increases.

In the fourth chapter, the authors review the traditionally proposed and alleged causes for cross-cultural variations in values by other scientists. They assert that the parasite-stress theory of values is not an alternative to the traditional scientific approach toward cultural differences (notably climate and wealth), but complementary. For example, they consider the spectrum from collectivism to liberalism by reviewing the traditional research on these topics, and argue that according to the parasite-stress theory of sociality, all the differences between these two ideological poles “are caused proximately by the greater parasite prevalence in collectivist regions than in individualist locales” (p. 88). They show that the characteristics of collectivists and individualists—conservatism/liberalism, self-concept, reasoning styles, social network, intersexual relationships, hierarchy, honor and norms, the pace of life, language, governmental systems, resource distribution, economics, civil conflict, religiosity, and other values that correlate with collectivism versus individualism—are caused by a given region’s *level of parasite adversity*. In the other words, collectivism (in contrast to individualism) functions as a defense against infectious disease, and is more adaptive in cultures where the prevalence of parasites is higher.

From the fifth chapter on, the authors go through detailed explanations and elaborate on what they have briefly explained in the previous chapters so far. Thornhill and Fincher deal with collectivism-individualism, family ties, and philopatry regarding the parasite-stress theory of values (chapter 5). They reason that countries with low parasite stress are more individualistic than countries with high parasite stress, which tend to adhere to more collectivistic attitudes. Additionally, they hypothesize that high philopatry (reduced dispersal) is an adaptation for avoiding contact with novel parasites by limiting the transactions and alliances with out-group individuals. This denotes that the reciprocity is conditional, meaning that reciprocity is more beneficial under low-risk conditions.

Based on the parasite-stress theory of values, Thornhill and Fincher hypothesize that the underlying causes for cross-cultural differences regarding the importance attributed to physical attractiveness for mate selection, as well as engagement in monogamous/polygamous marriages, are dependent on the local prevalence of parasite stress (chapter 6). Additionally, they consider other mating-related factors, such as frequency and intensity of polygamy, marital divorce, inbreeding, and male sexual competition, to be also influenced by the regional parasite stress.

The next chapter focuses on the personality characteristics of extraversion/introversion and openness to experience (neophilia; chapter 7). According to the parasite-stress theory values, extro-

version and higher levels of openness are prevalent under ecological conditions of low infectious disease adversity, while introversion and lower levels of openness under ecological conditions of higher prevalence of infectious disease. Next, the authors review the related literature about interpersonal violence, homicide, and lethal and non-lethal aggression against romantic partners (chapter 8). Here, they also argue that interpersonal violence and homicide are positively correlated with parasite prevalence.

After reviewing the hypotheses explaining cross-cultural differences in religiosity, Thornhill and Fincher argue that there is a positive association between religiosity and parasite stress, cross-nationally and across the US states (chapter 9). Moreover they hypothesize that variation in values pertaining to cross-national autocracy-democracy are also related to the level of parasite prevalence (chapter 10). “Political systems are proximate manifestations of the human behavioral immune system and its range of values, evoked by variable parasite stress. In terms of evolutionary or ultimate causation, political systems are the product of natural selection that favored the conditional expression of the features of the behavioral immune system that allow ancestrally adaptive social navigation under variable amounts of parasite stress in the local environment” (p. 298).

In the next chapter, the parasite-stress theory of economics is presented, and it is argued that variable parasite stress across regions accounts for regional variation in economic productivity, as infectious diseases and parasite stress (1) cause morbidity and hence reduce people’s capability to produce; (2) increase regional collectivistic tendency, which reduces innovativeness and interregional diffusion of innovations; and (3) has negative effect on cognitive ability, which reduces innovativeness and, thus, economic wellbeing in a region (chapter 11). Finally, the parasite-stress theory of values explains the frequencies of the major types of within-nation intergroup conflict, such as civil war, coups, and revolutions (chapter 12). It is argued that parasite stress and collectivism in the countries of the world would promote ethnocentrism and xenophobia (antagonism toward out-group members), which would cause all the major types of within-region civil conflict per se.

*The Parasite-Stress Theory of Values and Sociality* is a very interesting and well-written volume that definitely contributes greatly to all human behavioral sciences, and opens new windows for an evolutionary perspective toward the political, economic, and social sciences. This volume is an essential read for anyone who is interested in evolutionary approaches to behavioral and social sciences, and a must for experts and students of the evolutionary sciences and of the anthropology and philosophy of science.