

Karen Darling
Senior Editor
University of Chicago Press

Dear Karen,

To begin with the last question (# 6): By all means, you should further a relationship with the author and encourage her to submit this manuscript in full to the University of Chicago Press. As a caveat, it does cover material that I am extremely interested in, and it does so from a vantage point that I agree with, so perhaps I am an overly biased reviewer. But, on many levels I think this is an outstanding project. It is thoughtful, nuanced, and promises to be a significant contribution to the history of science and medicine. I'm so convinced of the merit of this project, that my thoughts below should be viewed as mere suggestions about what could possibly make it better as the author moves forward.

Question 1: [REDACTED] is a history of human physiology in extreme environments, primarily in the high altitudes and latitudes. Within this backdrop of human physiology, the author hopes to advance several themes, including the role of global networks, the importance of backstage actors, and perhaps most appealing, the tensions between modeling the natural world and experiencing it with one's own body *in situ*. The author also suggests that in each specific chapter, a focus on extreme environments will tell us much about the practice and process of science in general, including its modern cultural significance. Some of these sub-themes, as outlined in the chapter descriptions, are truly original: the expansion of the idea of bioprospecting, for instance, and the tackling of the "history of racial adaptation and environmental acclimatization into the twentieth century," a sorely needed advance on previous scholarship.

Question 2: When the *Osiris* volume, "Science in the Field," appeared in 1996, previous scholarship was heavily biased toward the laboratory sciences. Since then, however, that bias has largely been corrected, though I will be quick to add, a new bias favoring the natural historical field sciences and the geophysical sciences still prevails. Thus, the author's emphasis on introducing the medical sciences, particularly physiology, is indeed welcome. There is very little out there on the history of high altitude physiology, with the standard text being John West's *High Life*, a "magisterial practitioner history," as the author rightly suggests. The author is also correct that even since Kohler's *Labscares*, historians view the consolidation of authority as still occurring in the laboratory, though this is also in the process of losing ground. Examples include Kohler's own work, Sharon Kingsland's "Frits Went's Atomic Age Greenhouse", my work on Victorian mountaineers, and most importantly, in Sarah Tracy's work on Ancel Keys (*Bull. Hist. Med.* 86 (2012): 627–60). The bibliography in Tracy's paper will introduce the author to several other important works in the history of high altitude physiology that should be consulted, though many of them already do appear in the author's published paper in the *BJHS*.

This is all to say that I'm not necessarily convinced that this is a reworking of the lab-field relationship, as work exists that argues for "continuity" and an emphasis on the field over the laboratory. As the author moves forward, she could think more critically about how her

approach compares to others, and how it advances the field (above and beyond the novelty of bringing in physiology and medicine).

The author is also correct about the growing interest at the intersection of the history of science and environmental history. Introducing medicine is indeed exciting and novel, as existing work is still dominated by geology, geography, oceanography, cold war physics and the like. Again, however, there are some precedents for this, primarily in the work of environmental historians with an interest in the history of science, like Gregg Mitman, Brett Walker, Tim LeCain, and others. So, same argument as above. The author, coming not necessarily from environmental history, but rather from the history of sports medicine, could use that approach and her strengths to change the nature of the questions, which a few historians of science and environmental historians are indeed beginning to ask.

The other area I think that this book could advance, perhaps more than other books on the history of high altitude and latitude science, is a focus on the human body as experimental object, and the link to larger questions of using humans as research subjects. This is in the description, but I think it could be highlighted even more, a real engagement with Todd Tucker's, *The Great Starvation Experiment*, or Jones's *Bad Blood*, etc. What a chance to really link exploration, human experimentation, and the history of medicine! In this same vein, something else that this book could do that perhaps others can't, owing to both the author's expertise and her choice of subject matter, is tackling the relevant questions that exist today. I'm thinking especially of Oreskes's recent "Why I am a Presentist." The author has a real chance of using a history of extreme physiology to show why history is important, and how history can help answer some of the troubling questions medicine finds itself in today (Richard Holton, editor of *Lancet*, thinks that perhaps half of published medical literature is false!). I am suggesting that the author should expand on the modern relevance of her topic. Historians of medicine are beginning to tackle big questions, having to do with Big Pharma, human test subjects, etc. If the novel aspect of this study is to introduce history of medicine into exploration science, there is a real chance also to engage some of these fascinating questions in the history of modern medicine that are so relevant to us today.

Question 3: The book is ambitious, and from what I can tell from the tentative description of chapters, and the one chapter that was included, the author is in a good position to accomplish the stated goals. It seems to be at a stage where too much reorganization could hurt more than it could help. So, please take this with a grain of salt: First, from the chapter that was included, which covers a lot of ground, both through space and time, it's not entirely clear to me how the first three chapters will fit together chronologically, as the author suggests. Second, I've never been a big fan of texts that attempt to be half chronological and half thematic. I imagine the author has struggled with this a bit. From reading the chapter descriptions, she seems to have come up with a workable solution. I merely sound a note of caution here, as my experience is that such books are both harder to write (owing to integration and flow) and can be harder to read (owing to the same reasons).

Question 4: I think the potential audience for this project is one of its great strengths. Exploration, mountaineering, arctic and Antarctic exploration (not to mention the search for Yeti):-- all these things are hot topics, fun to read, and imminently sellable. Indeed, I think the

author is overly cautious in how she describes her intended readership. I applaud the author for not attempting to write merely a popular book, but rather a learned, scholarly production aimed at “graduates and academics interested in the history of science and medicine.” Yet, such a focus does not necessarily mean it can’t be of broad and popular interest. The Press can help with this. Media outlets for this type of book could include Science Friday, and all the relevant science podcasts and such that popularize science for a learned audience. For the history of mountaineering, it could be publicized in *Alpinist Magazine*, the *Alpine Journal*, and even more popular climbing magazines such as *Rock and Ice* and *Climbing*. The author will know all the sports medicine publications, where it should have a prominent place. All of this, of course, in addition to societies and journals in the history of science, environmental history, and the history of medicine.

The author is correct about the type of upper division undergraduate and graduate courses in which it might be assigned. There are very few history of exploration courses offered in the United States or Britain. But, it should be relevant to courses in the history of science, environmental history, and the history of medicine.

The author is correct that this text will stand alone as a good history of extreme climate physiology. But, it also does come at a time of escalating interest in mountaineering and exploration literature. Sarah Tracy is writing a biography of Ancel Keys, Maurice Isserman is writing a history of American climbing in the 20th century. Both Kerwin Klein and I are beginning to finish our books on the nineteenth century. All these texts will be complementary to this study. None except Tracy’s focus on the history of medicine or physiology. The recent spate of academic books, including those by Peter Hansen, Isserman and Weaver, and Joseph Taylor have built a good foundation for an expanded audience for this type of project.

I hope that the tenor of this review already answers questions five and six. I think Chicago should jump at the chance to publish this book. The author already has a previous book; she has already published material on high altitude physiology; and she seems to know exactly what she wants to do with this book. The proposal is indeed exciting and was a fun read. If the five other chapters are like the one included, it will be an award-winning book.

Any further questions, we can talk in San Francisco.

Best
Michael.