

Science vs. History: A Reply to MacDonald*

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Abstract

The disagreement between MacDonald and me recapitulates a recurrent debate in sociology about what sociology should be. I believe it should be science; MacDonald believes it should be history. We are therefore talking past each other, because one cannot be judged by the standards of the other. Science is not history. History is not science.

I agree with a lot of what MacDonald (2001) states in his comment. I agree that “there are a variety of different interests at play in the development of mating systems and that the actual outcome is a complex, historically conditioned outcome of these differing interests” (343). I agree that “the only way we can find out how [monogamy] happened is to examine the detailed historical record for each documented case — by seeing which group or groups have successfully wielded their power to shape the mating landscape” (344). I agree that “Kanazawa and Still attempt to find one mechanism that works for all eras and all cultures where monogamy has developed” (346).

Yet MacDonald’s comment does not provide a valid criticism of our original article (Kanazawa & Still 1999). This is because he and I are talking past each other. In the original article, we present a *scientific theory* of the institution of marriage. MacDonald points out that our article does not provide sufficiently accurate *historical accounts* of various societies and their institutions of marriage. I agree, but that was never our purpose. MacDonald claims that we were doing bad history. I wholeheartedly agree. We were doing science. Science is not history. History is not science.

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The purpose of science is to construct general theories that explain empirical phenomena. General theories apply to a wide range of empirical cases, and are not specific to one or a few. General theories abstract what is common across a variety of cases, and by necessity leave out much that is true in specific ones. *Ceteris paribus*, the simpler (the more parsimonious) the scientific theory, the better. (One of the criteria that is more important than parsimony, of course, is empirical accuracy or truthfulness; the less parsimonious but truer theory is better than the more parsimonious but less true one (Kanazawa 1998:197, n6)). One may therefore not criticize a scientific theory if what it does not say is true because there is always so much a theory does not say that is true; one may criticize it only if what it says is not true.

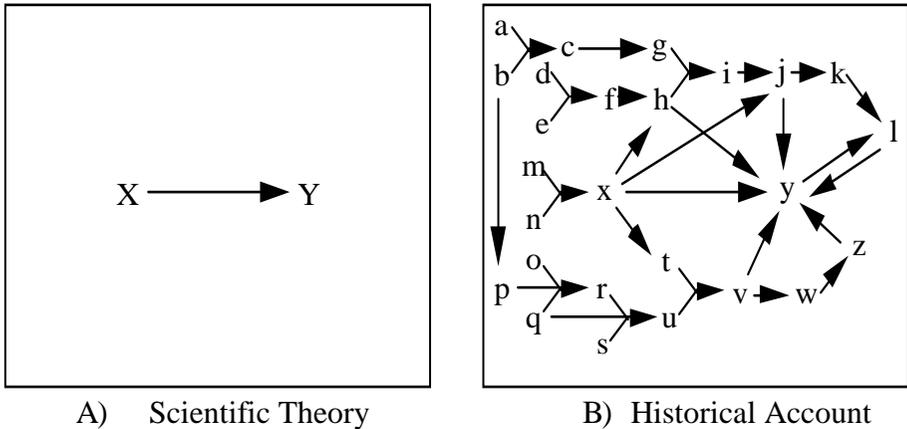
In contrast, history is a comprehensive account of a single case (society); the more comprehensive, the better. A microlevel counterpart of history is biography. Biography, like history, is a comprehensive account of a single case (person); once again, the more comprehensive, the better. In fact, comprehensiveness is the purpose of history and biography. One wants to describe everything that possibly contributed to the eventual outcome of the society or the person.

Figure 1 presents the schematic representations of a scientific theory and a historical account (or biography) of the same phenomenon (Y or y). A scientific theory (Figure 1A) purports to explain the phenomenon Y as a function of X , *across all applicable cases*. A historical account (Figure 1B) attempts to describe all potential factors that contributed to y *in a single case*. (The uppercase letters denote variables or dimensions that apply to a wide variety of cases [like “the degree of polygyny”]; the lowercase letters denote actual values of the variables that a specific case manifests [like “strictly monogamous”].) The constellation of factors that contribute to y in one case may not necessarily be the same as the constellation of factors that contribute to the same outcome in another case.

Any modern history of Germany that neglects to include its involvement in the two World Wars is not serious scholarship, because its involvement (and defeat) in them contributed significantly to what Germany is today. Similarly, any biography of Franklin Delano Roosevelt that fails to mention his battle with polio and subsequent disability is deeply flawed, because these events were important in his life and shaped the man and the President that he later became. However, that does not mean that any scientific theory of society that does not include involvement in wars as a variable is *ipso facto* false, just because it was important for Germany. Similarly, it does not mean that any scientific theory of human behavior that does not include disability as a variable is *ipso facto* false, just because it was important for FDR.

If I propose a scientific theory that looks like Figure 1A, and if MacDonald demonstrates that what happens in many historical cases looks like Figure 1B, it does not mean that my theory is false. To the contrary, it actually means that it is true, because, as Figure 1B shows, X does cause Y (as my theory claims), even though

FIGURE 1: Scientific Theory vs. Historical Account



a lot of other variables also contribute to Y. MacDonald can criticize my theory only if the direct arrow from x to y in Figure 1 b) is missing, but it is not. So what the theory says is true, even though there is a lot the theory does not say that is also true.

In fact, MacDonald repeatedly asserts in his comment that this is indeed the case in our debate. He states "On the basis of historical investigation, there are several mechanisms that have resulted in monogamy, and egalitarian striving among males is only one" (344). He states that his 1990 article "does indeed argue that monogamy was an important aspect of the extreme economic, political and social egalitarianism characteristic of Sparta, but in the case of Rome [he argues] that the historical record is too obscure to come to any firm conclusion on the origin of monogamy, although it is indeed possible that egalitarianism among males played an important role in the early Republic" (344). He states that in his 1995 article he again makes it clear "that egalitarian strivings among men are only one mechanism" (345). Well, that's what we say in the original article.

The disagreement between MacDonald and me echoes a recurrent debate among sociologists on the exact nature of sociology, what sociology should be. The most recent reincarnation of this debate was played out on the pages of the *American Journal of Sociology* during the 1990s, concerning the role of rational choice theory in historical sociology (Gould 2000; Kiser & Hechter 1991, 1998; Somers 1998). Like MacDonald, Somers (1998) believes that sociology should be history and one general theory cannot explain histories of all societies; each society requires its own particularistic, historical explanation. Like me, Kiser and Hechter (1991, 1998) believe that sociology should be science and the purpose of science is to construct general theories of empirical phenomena that are applicable to many cases.

I doubt Kiser and Hechter have convinced Somers, and I doubt I have convinced MacDonald. The debate, like that surrounding abortion, is unresolvable because it is entirely definitional. Pro-life and pro-choice people agree on everything except for the definition of human life and when it begins. Kiser and Hechter and Somers, or MacDonald and I, agree on everything, except for the definition of sociology and what it should be. We therefore have to agree to disagree forever. I have nothing against history, just like I have nothing against religion or politics. For what it's worth, I've always thought that MacDonald writes excellent histories (MacDonald 1994). The danger to science emerges when people confuse history (or religion or politics) with science, and believe that science should be judged by the standards of history (or religion or politics), as exemplified by MacDonald's comment.

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