

Interactive comment on “Reconstructing the duty of water: a study of emergent norms in socio-hydrology” by J. L. Wescoat Jr.

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This is a very welcome and original approach to thinking about the history of norms relating to water use. It is also very valuable for its comparative, historical approach to the topic, linking together the history of the concept of “duty” in South Asian irrigation with its role in the US. It was really a pleasure to read.

I have only a few suggestions about how the historical material might be made to frame more clearly the discussion of norms and ethical duties at the end, which seem to me a bit disconnected from the earlier historical discussion.

1. The discussion of the history of “duty” as a concept in the first part of the paper is very useful, but it is really not driven by a focus on “socio-hydrology” as the author

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suggests at the beginning (in fact, socio-political elements are really not all that much discussed). The focus is rather on the history of ideas. This is a very important focus (in my view), but if it were made more explicit this would be helpful, as “duty” was only one of a wide range of terms taken from moral/political realms and applied to engineering with technical (meaning, usually, quantifiable) meanings in the 19th century. So, in colonial engineering in India, water not only had a “duty,” but it was made to “command” (measurable quantities of) land, and canals had “regimes” that were linked to the search for long-term stability (sustainability?) in control over water channels. It seems to me that one could look at this in two ways: one would be the notion that in migrating into a technical realm these words developed distinctive new meanings with little connection to old meanings (the view probably taken by most engineers). The other would be to assume that the use of these terms in engineering suggested the importance of values that were embedded (even subconsciously?) in engineering as an intellectual realm. This deserves more discussion. What does it mean to talk about the “duty” of water, in a larger framework in which it is assumed that the “duty” of water to mankind is to be (in a quantifiable sense) as “productive” as possible? Are the “emergent” duties suggested at the end compatible with this, or do they require its rejection?

2. This is related to another critical assumption embedded in the idea of “duty” (with its roots in the efficiency of steam engines), which is that the movement of water (as it supplies the energy for production) can be imagined (and in fact be modeled) as essentially a closed, mechanical system. This underlying assumption is what allowed Beresford and others to look at canals as “machines” (and perhaps has even empowered more recent visions of rivers themselves as “organic machines,” to use Richard White’s title). This also could use more discussion. To what extent can the emergent norms suggested at the end be understood within this same scientific framework, or to what extent are they based on a rejection of this model? And if they are based on a rejection of this model, does it make sense to try to link such notions of “duty” in competing realms (technical and ethical) together, or is it more appropriate to simply

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argue that these are completely different and non-compatible realms that need to be understood independently—and thus need to be negotiated between?

3. Finally, at least for me, the article would be strengthened by more discussion of exactly why the term “duty” went out of favor in irrigation practice sometime around the middle of the 20th century. Wescoat says simply that “the science and technology of crop water use efficiency [became] increasingly sophisticated in technical terms and rationalized in political economic terms.” But what is the larger intellectual shift that this is tracking, if any? This is critical to the final part of the paper, since unless we know why “duty” has gone out of favor in technical discussion, it is hard to frame how the concept might be given new and broader meanings in an ethical sense. Does the history of the term “duty” itself suggest larger shifts in the intellectual framework within which it was first developed in the 19th century?

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