

This preprint copy is an accepted manuscript of the paper published in *Science Education* in 2015. Please cite as:

Archer, L., Dawson, E., Seakins, A., DeWitt, J. and Wong, B. (2015). Author Response. *Science Education*, 99 (6), 1147-1149. doi:10.1002/sce.21209

<http://onlinelibrary.wiley.com/doi/10.1002/sce.21209/epdf>

Author Response

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RESPONSE TO “CRITICAL RESPONSE TO ARCHER ET AL”

We hoped that our paper might prompt further thought and discussion and we welcome dialogue around the idea of science capital.¹ As we discuss, the paper sets out “our initial attempts” at developing the concept and “a first iteration” of a quantitative instrument to “measure” science capital—we do not claim to have yet worked through all the intricacies and implications (or potential!) of the concept.

We found the response a mixed bag. We were somewhat disappointed and frustrated by some basic misunderstanding of our arguments—notably the “straw doll” accusation that we are espousing a “push toward science capital as distinct from cultural capital” and a supposed “reification of science” (allegations that we strongly refute, below). However, there were some potentially interesting ideas around field that we are exploring in our ongoing research.

Misunderstandings?

We do not—as the response suggests—propose science capital as a “separate concept,” i.e., as an extra sort of capital that is “distinct” from cultural capital. Indeed, we go to pains in this paper and elsewhere (e.g., Archer et al., 2012) to explain that

. . . “science capital” is *not* a separate “type” of capital but rather a conceptual device for collating various types of [. . .] capital that specifically relate to science [emphasis added]

For example, see <https://www.youtube.com/playlist?list=PLun2jODy9M2cvE3bgJ-UCC0dotvrSf>

We are thus confused by the accusation of our supposed “push toward science capital as distinct from cultural capital.” As explained in the paper, we propose the concept as an *organizing device* to refer to *science-related forms of cultural and social capital*.

We are also surprised by the accusation that we reify science and leave scientific institutions “unchallenged” and focus only on changing young people. This profoundly misrepresents our position in this paper and indeed across the body of our collective and individual work. Indeed, it is hard to square this accusation with the text in our discussion:

. . . the task of science education interventions may *not* be to provide students with “more” or “better” science capital, but may instead need to focus on shifting relations within/across particular fields to better enable activation of facilitating forms of capital and/or changing which components of science capital are symbolically valued within particular fields. The latter clearly calls for a more radical shifting of power relations, calling into question, for instance, what is/counts as “science?” Whose science counts? (emphasis added)

Don’t Throw The Baby Out With The Bathwater?

The response argues that the concept of science capital “may undermine a focus on the ways in which inequalities and injustice in science education are coterminous with other forms of systemic inequality” and “could detract” from looking at similarities in patterns of exclusion across different contexts. But what is the basis of this view? Why would employing the concept preclude a concurrent analysis of the role of wider inequalities? We never claim that processes of inequality operate “just in one domain such as science”—that would be absurd (and would contradict much of our previous work).

The responders argue that “nothing in Bourdieu’s account of cultural capital excludes scientific aspects of culture”—we agree, but also we would suggest that in its original form, Bourdieu’s sociology does seriously neglect the scientific-related dimension of cultural capital and provides no useful framework for addressing it.

The response argues that “we should be cautious about adding to the volume of forms of capital” —but why? Why would this “risk obscuring the similar underpinnings of cultural exclusion in artistic, scientific, and other domains?” This is fundamentally a disagreement over the value of different analytic grain sizes. We utilize science capital as a lens to illuminate issues around science participation in greater detail. What is there a problem in working at different grain sizes across and between domains? Why must there be a “one size fits all” approach to analysis?

The response asserts that “the phenomena described . . . should remain within the bounds of cultural capital” because “science . . . is already part of the institutionalized form of cultural capital.” We would not deny that science capital is a dimension of cultural capital (indeed, we propose it a way to highlight science-related aspects of cultural and social capital)—but why preclude science educators from ever looking at the workings of science-related aspects of cultural and social capital in a more focused way?

We challenge the response's position that we should not focus on science, only the "larger unjust sociocultural system." Science is indeed just one domain but we believe that the way that inequalities play out specifically in relation to science participation is not yet fully understood or elaborated. We consider that it is *equally* useful to adjust the metaphorical analytic microscope to a greater magnification and to zoom in on the case of science (which has been broadly neglected within Bourdieusian theory)—but this does not preclude a wider perspective on the issues. We are not proposing some totalitarian theory—just a new lens, to add to a wider toolkit, for looking at particular issues.

Field

The response asserts that we "undertheorize the role of field." On the one hand, this is intriguing given our stated position in the paper on how the value and meaning of capital is determined by field. But, as indicated in the paper, we do see more scope for pushing our conceptualization further in relation to the role of field and our current work is exploring the conditions within which some use-value capital gets translated (or not) into exchange-value (science) capital and how, and why, the highest exchange value (symbolic) aspects of science capital are struggled over and get solidified or transformed within and across different fields.

A Question of Praxis?

We found the response curiously conservative in its irritation with our proposal of science capital. Admittedly, some people are quite doctrinal in their approach to Bourdieu, being reluctant to move beyond the original texts. However, we take the view, espoused by Bourdieu himself, that his concepts are "tools for putting into practice," which we see as these tools being open to interpretation and development (not least given the sociohistorical construction of social theory).

Finally, we differ from the response in our belief that there is a need to balance "big," longer term political projects with pragmatic action in the present. For us, just "understanding" inequality is not good enough—while sociology has an important role to play as a "critical commentator" of society, we do not see this as sufficient. We are committed to producing work that also tries to improve the here and now in practical terms. And in this respect, we believe that the concept does offer some useful ways forward.²

²Indeed, many science education policy makers and practitioners report finding the concept, and our findings and recommendations around it, useful for precisely this reason.