

James J. Bono (ed), “Focus: History of Science and Literature and Science: Convergences and Divergences.” *Isis* 101.3 (2010): 555-598

This timely focus section from *Isis* explores the shared interests between the fields of the history of science (the home discipline of *Isis* itself) and literature and science. James J. Bono’s introduction to the issue provides an interesting historical context to discussions of literature and science in *Isis*, explaining that in some respects this is a (long-overdue) response to an *Isis* article written in 1978 by G.S. Rousseau, who glumly predicted the death of science and literature studies. As the rumours of that demise have been greatly exaggerated, Bono responds, it is time that historians of science sit up and take notice of the many grounds on which their work connects to that of literary scholars. In particular, Bono argues that the history of science and science itself can be seen to be ‘making’ knowledge in a way that is similar to literary forms of ‘making’, or *poiesis*, bringing it back to the Greek etymology of poet as ‘maker’. For Bono, scientific making is “the making of the different forms of knowledge of things and events in nature”, which puts it in a realm where there is little distinction between “discourse and (material) practice or, to put it differently, between text and action” (557-558). This is the framework, then, of the four essays that make up the special issue.

Colin Milburn’s article “Modifiable Futures: Science Fiction at the Bench” opens the discussion with a suggestion for conceptualising the ways that science fiction can be said to “influence” science, which directly addresses the question of what literary studies might do for histories of science. For Milburn, if we consider scientists themselves as a kind of fan culture (even indirectly; he is not suggesting that all scientists read science fiction), we can imagine science fiction impacting on scientific communities and therefore on the history of science. Milburn asks us to change our perspective – and our language – regarding the assumption that science fiction can ‘influence’ or ‘infect’ science, which tends to imagine an active and invasive literary authority (often figured as an author who is credited with agency or ‘influence’). Scientists themselves, Milburn suggests, should be attributed with their own authority in relation to science fiction – similar to fan-based creative work called ‘modding’, wherein the primary texts of a genre are re-imagined and rewritten by their cultural consumers. He provides a very helpful template of three primary effects that this kind of modding can produce in the professional work of science: blueprint mods (scientist using basic ideas and concepts taken from sci-fi), supplementary mods (scientists substituting viable ideas for impossible ones in sci-fi) and speculative mods (scientists discussing future applications of current science in a speculative or imaginative way, especially in discussion sections of research papers or in popular books and other media). The place where we end up in this approach, with speculation and even fiction-making in regard to the future, resembles the previous model of ‘influence’, but with the key difference in that the scientists are the actors, not the acted upon, in relation to the genre of science fiction.

In the next essay, “Science Surveys and Histories of Literature: Reflections on an Uneasy Kinship”, Laura Otis begins her article by exploring the common grounds between two subcategories of the history of science and literary studies identified in her title. Both approaches, she suggests, share an interest in origins, a “longing for

truth”, and both construct and interpret narrative to find that truth, with the somewhat circular result that stories “are actively made” in the course of the history of science. She modifies what might appear to be a radically relativistic approach, noting that “knowledge about the past [that] can be accessed only through fictions does not exclude the possibility that truth exists or that valuable knowledge can be secured” (573). However, the nature of that truth may be very different, Otis warns, chiefly in the way that literary studies seem to “celebrate” interpretative differences, and historical studies are uncomfortable with those differences – much like the sciences themselves. Towards the end of her analysis, Otis’s view takes an interesting and important turn towards the cautious in a way that leads to her conclusion, reflected in her subtitle, that the “kinship” between historical and literary approaches to science will always be somewhat “uneasy”. Still, as a discussion of the relationship between the two professions, Otis does a good job of sketching the grounds of commonality without presenting a reductive view of our professional kinships; her observation that each discipline has a contested authority due to “a troubled relationship with the people practicing or creating its objects of study” is an important point (575). Indeed, overall her article respectfully warns against over-casual assumptions of merging the perspectives of the two fields.

Otis suggests that literature is somehow not as historically determined as science (in that a piece of literature, even if produced in a historical past, is experienced in the present by contemporary readers), which is largely a valid observation, but I think she rather overstates the case; she comes close to suggesting that it is no longer methodologically acceptable amongst literary scholars to think about (or teach) histories of literature; scores of undergraduate courses say otherwise.

Curiously, there seems to be a subtle conflict between Otis’s position and that of Laura Dassow Walls’s essay, “Of Atoms, Oaks and Cannibals; or, More Things that Talk”, which comes at the end of the Focus section. Whether this is by design or accident is hard to tell – Bono makes no reference to it in his introduction. While Otis suggests that literary scholars are uncomfortable with historical lineages of literature, Walls begins her article by suggesting that the *Norton Anthology of English Literature* – a historical survey if there ever was one – is the archetypal engagement of academia with literature, and that it is an unsatisfactory one. This “curatorial model of literary scholarship”, she suggests, only see texts as decontextualised, silent objects “detached from the human experience”: “literary scholars”, she goes on to assert, “are still uneasy with natural things, the nonhumans whose lives and processes exist outside language and culture” (590, 593). Walls’s intention is to promote a literary methodology that posits texts as “performances that weave together discursive and material elements” (590). She argues for a more “entangled” approach that recognises the text as a “thing that talks” or, a cultural or natural artefact as well as literary artefact, in the way of the historian of science. Walls is quite right about recognising texts as “things that talk”, but literary scholars, especially scholars of early texts, already have a long tradition of recognising texts as “talking” objects. The evocation of the *Norton Anthology* is a bit disingenuous: yes, it is historically constructed with all the individualised texts decontextualised for the purposes of establishing the literary history. But the *Norton* and its sister anthologies are not intended to be the definitive, primary, or dominant means of literary engagement in the entire field: they are a tool, and undergraduate teaching tool, and really no more. They serve a (very important) purpose in providing a sampling of the kinds of literature available for study, intended to tempt the new reader in the field. From there, scholarly approaches to literature are expected to move on to editions that *do* work to contextualise

literature within its social, cultural and natural provenances: that is the work of the more advanced, and then professional, literary scholar, who cannot be said to “kill” and “stuff” the “earth’s multifarious and imperilled beings” with metaphor in order to erect them into dioramas of human life”, as Walls puts it (594). (Walls seems to occasionally conflate or confuse writers of literature with scholars of literature: it’s hard to say who she is accusing of literary taxidermy in the following passage – the poets or the critics.) In the end, Walls’s conclusion also seems to contradict that of Otis, who cautions against reducing the history of science and literature and science to the same scholarly gestures. “Nothing but habit”, asserts Walls, “sustains the ‘two cultures’ divide . . . historians of science and literary critics who work in view of each other need now to join forces, to multiply our relations, and thereby join the task of building a Cosmos together” (598). Leaning somewhat more towards Otis’s perspective here, I am inclined to think that the differences between the two disciplines are a bit more than habitual, but I take Walls’s point that we should check our herd instincts wherever possible, and work to narrow the divide.

Henry S. Turner’s analysis of literary form is just the sort of work that might accomplish that goal. This article “Lessons from Literature for the Historian of Science (and Vice Versa): Reflections on ‘Form’”, is a clear-headed and courteous introduction to a helpful literary tool – the analysis of literary form. Turner demonstrates that formal analysis is an example of literary methodology that might assuage the anxieties of both Otis and Walls; form is an important dynamic force in texts that engages with historical context and also makes the text live, or talk, as Walls might say. Turner’s attempt to bring it to the attention of historians is important in its own right, but just as important is the very fact that he has taken on the challenge of defining literary form – a project that many literary scholars tend to be skittish about doing, even while acknowledging the importance of the subject. The reason for this is that form actually manifests itself in several different ways, many of which overlap with each other, as well as with the non-formal aspects of literature. Like anything important, form resists standing and being counted, yet Turner’s brave attempt at a taxonomy of form is quite successful.

The four categories of form that Turner comes up with are of necessity a bit arbitrary, but they cover a lot of ground. They range from micro to macro levels of form: stylistic form, structural form, material form, and social notions of form. The boundaries are blurriest at either end of the range; stylistic form, including “various kinds of verbal patterning” and “poetic” language is difficult to detach from “style”, which surely deserves its own methodological identity (580). But Turner is correct in pointing out that stylistic elements *do* involve form: the zeugma and chiasmus provide simple examples; they are stylistic devices that have specific formal requirements (the structure of their constructions), so they have a foot in both worlds. Similarly, at the “macro” level of form Turner describes forms that are “not textual in the narrow sense of the term” but are usages that come from “outside of literary criticism properly speaking and [are] especially typical of certain strands in philosophy, history, anthropology and sociology” (581). This category is most unstable, although it is a useful attempt to impose some sort of tangible existence on what is usually an intangible and fluid relationship between text and society. In many respects, I think this is the category that would most interest historians, although I would advise using it as a point to work back from into the more traditional understandings of form – what Turner calls the structural and material forms of texts. Structural forms are things like plot, poetic form and dramatic scenes; material forms are things related to material book culture (and now, digital culture), such as codicological information,

paratexts, publication history and other physical design aspects of the textual presentation. All of these forms of text are potentially important to historians of science, as is the general principle of form being perceived “as a verb rather than a noun . . . an active relation among significant parts that are apprehended through a transaction between the artefact and its readers, viewer, listeners, or speakers” (582).

Turner’s article addresses most directly an underlying direction of the Focus section as a whole; because *Isis* speaks to the history of science community, there is a “sales pitch” subtext to the special issue. Presumably, at least some of the core readership is imagined to be requiring an explanation as to what literature and science research has to offer their history-based discipline. It is important that disciplines ask these questions of each other, and this issue provides some good answers. Yet the pressure of the challenge to justify the work of the literary critic seems to produce a certain tendency towards hyperbole in some of the opening sentences. Otis begins with the somewhat strange (and arguable) observation that “A survey course on American Literature from 1865 to 1945 is rarely called a “History of Literature”. (570) True, but the national and temporal designation is surely more a matter of clarity than ideology. Walls’s somewhat overly dramatic entry into her argument reads: “To troll the pages of the Norton Anthologies of Literature is to be invited to think of stories, essays and poems, displayed as they are in like paintings in a museum, as separate and single works”. “Trolling” a series of texts would surely invite the kinds of shallow and disconnected interpretations that she then goes on to accuse some literary scholars of – what if we actually *read* them? And finally Milburn oversteps the mark a little with his sonorous “Science Fiction: the very concept appears as a monstrous violation of categories”. Still, enthusiasm should not be faulted too much in this laudable attempt to encourage interdisciplinary engagement between historians of science and literature and science scholars.

Overall, the issue reads well: Turner’s articulation of form as “a verb rather than a noun” – an activity or even energy – encapsulates a common message between all the essays in the focus section – the idea that historical and literary research in science must recognise and represent the vitality of their subject, science, as well as their own work – ‘vitality’ literally, as in a living thing. This draws us back to Bono’s framing statements on the shared interest of historians and literary critics in the “poetics of science”; the recognition and even the celebration of the work of “making” or *poiesis* in the scientific process, and in the historical and literary engagements with that process (559).

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