Enriching Architectural Scholarship by Building on Boyer

Written for a conference session titled "How Do We Define Architectural Research Today?" scheduled for the 103rd Annual Meeting of the ACSA, this paper takes a simple position: we do not define architectural research, assuming *we* refers to architects or other designers. Instead, many architecture faculty and other designers are forced to shoehorn their scholarly activities into a system created by and intended for scientists, liberal arts scholars, and other non-designers.

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This paper proposes a broader understanding of scholarship by summarizing Ernest L. Boyer's seminal 1990 report *Scholarship Reconsidered: Priorities of the Professoriate*, examining the reaction to Boyer's report, and proposing an expansion of Boyer's four categories of scholarship by adding three new categories: the scholarship of design, the scholarship of reporting, and the scholarship of speculation. Each of these new categories of scholarship has important implications for architectural scholars. This paper concludes by arguing that having appropriate standards in place at the departmental level is a good first step, but for architectural scholars to reach full recognition, faculty must work to address university-level biases.

BOYER'S FOUR FORMS OF SCHOLARSHIP
Seeing limitations in the basic research model and a lack of diversity in scholarship at various types of colleges and universities, Ernest L. Boyer published his seminal text, *Scholarship Reconsidered: Priorities of the Professoriate*, in 1990. Boyer opened his argument by saying "The challenge….was to define the work of faculty in ways that enrich, rather than restrict, the quality of campus life."[1] Summarizing Boyer's report, Glassick, Huber, and Maeroff say, "The goal of *Scholarship Reconsidered* was, in fact, to move beyond the 'teaching versus research' debate and give scholarship a broader, more efficacious meaning."[2]

To this end, Boyer expanded the concept of scholarship to include the following four categories:

- The scholarship of discovery
- The scholarship of integration
- The scholarship of application
- The scholarship of teaching

The scholarship of discovery is those activities most closely associated with

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traditional research. Examples include basic research on such subjects as genetics, history, linguistics, and physics.[3] As one would expect, the scholarship of discovery often utilizes the scientific method and statistical analysis. This category of scholarship does not represent an innovation on Boyer's part, but rather the categorization of previously understood research activities.

The second of Boyer's categories is the scholarship of integration. Perhaps the least studied of Boyer's four categories,[4] the scholarship of integration involves "making connections across the disciplines."[5] Academics working on the scholarship of integration "seek to interpret, draw together, and bring new insight to original research."[6] For example, an architect researching the potential use of well-understood biological processes in "living buildings" is practicing the scholarship of integration.

The scholarship of application refers to the implementation of knowledge to a particular problem.[7] However, Boyer is careful to distinguish the scholarship of application from "the amorphous category called 'service,'" which does not generate new knowledge.[8] The scholarship of application has also been called the "scholarship of practice" or the "scholarship of engagement" (by Boyer), while "service learning" is considered a subset of the scholarship of application.[9] One commonly cited example of the scholarship of application is a medical faculty member documenting clinical processes for the use of other practitioners. For architectural scholars, the scholarship of application could involve the study of "best practices" for accessible design, among many other possible examples.

As one would expect, the scholarship of teaching is research that is concerned with teaching and learning. A distinct activity beyond basic classroom preparation and reflection, the scholarship of teaching requires a scholar to collect *and* publish results. Perhaps the most accepted of Boyer's three new categories of scholarship, the scholarship of teaching is accessible to anyone who teaches and has a modicum of research skill.

RESPONSE TO BOYER

Scholarship Reconsidered inspired a profound and broad response, including numerous articles, books, and studies. Data collected after the appearance of *Scholarship Reconsidered* showed that it was one of the most referenced educational reports in the decade following its publication.[10]

Boyer's work influenced not only scholars but also university policy, though perhaps not as thoroughly as Boyer hoped. Research performed more than a decade after the publication of *Scholarship Reconsidered* showed that all four categories had received "basic or structural level institutionalization" but only the scholarship of discovery had reached "incorporation-level institutionalization" where "faculty values and assumptions support the activity."[11] More negatively, the Kellogg Commission spoke of "reviving" Boyer's four categories of scholarship just eleven years after the publication of *Scholarship Reconsidered*,[12] an indication that Boyer's ideas were not fully accepted on many campuses.

Researching for *The Disciplines Speak: Rewarding the Scholarly, Professional, and Creative Work of Faculty*, editors Robert M. Diamond and Bronwyn E. Adam sought input on Boyer's ideas from individual academic disciplines. Architecture was included, falling under the umbrella of the "fine, performing, and applied arts."[13] In *The Disciplines Speak*, the familiar tasks of architecture faculty are organized under the categories of teaching, creative work and research, and

Figure 1: Ernest L. Boyer, courtesy of the Ernest L. Boyer Center Archives, Messiah College

service.[14] Although *The Disciplines Speak* opens by referencing Boyer's work, the book's analysis of the organizational structure of architectural faculty work completely ignores Boyer's expanded taxonomy of scholarship, reverting to the common tripartite categories of teaching, research, and service.

Why were Boyer's seemingly innocuous reforms not universally adopted? Some scholars point to university power structures, seeing traditional research as a tool of the elite to maintain the status quo.[15] Perhaps, fear played a part, too, and Diamond and Adam suggest:

> Some faculty, particularly those in the natural and social sciences at research universities, were concerned that any new statement on the work of faculty in the field could pose a threat to the status quo and thus to the resources currently available to them. Members of one group referred to initiatives such as ours as part of "the high schoolization of scholarship."[16]

Donald Schön argues that the university community will not accept Boyer's enlarged framework of scholarship until it accepts an expansion of scholarship beyond "technical rationality," a change that would require a new epistemology—or framework of knowledge—that accommodates both "knowing-in-action" and "reflection-in-action."[17] These skills are common among practitioners, who make adjustments as a problem is more precisely defined or as conditions otherwise change. Such skills, however, are difficult to understand through the lens of technical rationality as they defy the "control and distance" that epistemology demands.[18] Framed another way, scientists are observers, while designers are actors, and, thus, an epistemology designed for observers may not be appropriate for actors.

Some scholars argue that Boyer's expansion of the concept of scholarship misses the bigger issue facing academe—a hierarchical system that favors the few at the expense of the many.[19] These scholars see Boyer's categories as a simple extension of an inherently problematic and unfair system:

> One of the mechanisms used to keep people in line….is a system of rewards and punishments (or fear of punishment). Further it is assumed that the intellectuals—and by extension or in light of this, science—should sit at the top of the hierarchy.[20]

In this view, traditional research is a tool of the elite to maintain the status quo.

Although less politically charged in their view, Glassick, Huber, and Maeroff agreed that the focus of universities was overly constrictive. These critics wrote, "Ironically, the culture of the professoriate grew more restrictive and hierarchical at the very time that America's higher education institutions became more open and inclusive in admitting undergraduates."[21]

The issue of respect is a university-level issue. Departments and disciplines have their unique standards of scholarship, but these standards may not be accepted at the university level, where decisions of reward and promotion are ultimately made. Diamond and Adam argue that discipline-specific criteria should be respected:

> [O]thers, such as the arts, developed unique schema appropriate for their disciplines. Although certainly complicating, the multiple definition and schema **must be honored** in the faculty reward system.[22]
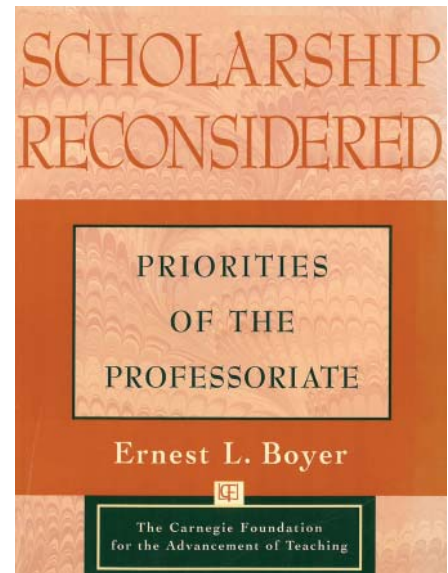
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Figure 2: Boyer's seminal 1990 report, *Scholarship Reconsidered: Priorities of the Professorate*

Boyer, who died in late 1995, saw some of the initial response to his work but did not have the opportunity to engage in the later, broader debate.

ARCHITECTURE AND BOYER

Boyer's *Scholarship Reconsidered* is an important work in the history of university scholarship, valuable to every department on campus. However, Boyer has a special connection to the field of architecture.

Boyer's final work is *Building Community: A New Future for Architecture Education and Practice*, co-authored with Lee Mitgang.[23] Based on thirty months of research, including accreditation visits and other site visits, *Building Community* examined the state of architectural education and made several recommendations for improving schools of architecture, including the recommendation that schools of architecture pursue a more diverse understanding of scholarship.[24]

Building Community is typically optimistic about architectural education, but Boyer and Mitgang cite long-standing concerns about the quality of architectural scholarship and the place of architecture schools in their universities. They reference a 1932 ACSA report that bemoans the lack of "real scholarship" in architecture programs.[25] They also quote W. Cecil Steward, dean of the University of Nebraska's College of Architecture, who said that architecture is lumped with the "'soft,' 'fuzzy,' and undervalued disciplines in a comprehensive university,"[26] and Henry N. Cobb, chairman of Harvard's Department of Architecture, who said that architecture is "a kind of 'Pig-Pen' character in the university family—that is to say disreputable and more or less useless, but to be tolerated with appropriate condescension and frequent expressions of dismay."[27]

Although Boyer found architectural education unique, and he saw the need for a broader understanding of architectural scholarship, Boyer did not propose a corresponding expansion of his four forms of scholarship. Given the stubbornness of academe and the lack of recognition of the unique attributes of architectural scholarship, a more radical approach is needed. This paper proposes the addition of three new forms of scholarship—the first is directly applicable to all designers, including architects, and the other two have wide-ranging implications, not only for designers but also for every department on campus.

AN EXPANSION OF BOYER

As conservative as they were, Boyer's ideas were hard for many academics to accept, which is not surprising given the very narrow focus of many university faculty. About this focus, Glassick, Huber, and Maeroff wrote, "Academics feel relatively confident about their ability to assess specialized research, but they are less certain about what qualities to look for in other kinds of scholarship, and how to document and reward that work."[28]

Looking to address the "fragmented paradigm" of scholarship evaluation, the aforementioned authors offer a set of six qualitative standards that all scholarship should meet:

1. Clear goals
2. Adequate preparation
3. Appropriate methods
4. Significant results
5. Effective presentation
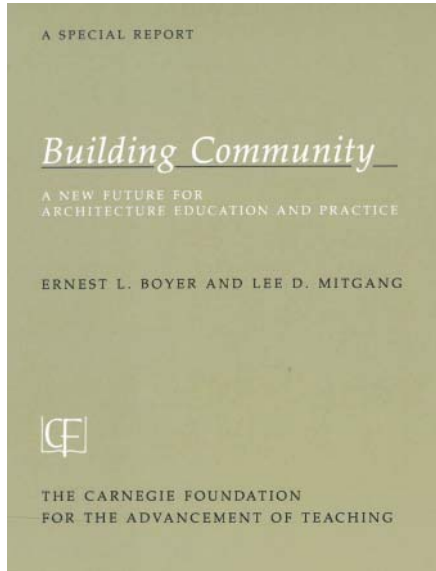
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Figure 3: Detail from the cover of *Building Community: A New Future for Architecture Education and Practice*

6. Reflective critique[29]

With this framework in place, academics across the university community have a method to evaluate new forms of scholarship, whether Boyer's four categories or the three new categories proposed in this paper.

Expanding the concept of scholarship is critically important. As Boyer stated, the goal should be finding a way to "define the work of faculty in ways that enrich, rather than restrict, the quality of campus life." This is particularly important for young, untenured faculty. Discussing these colleagues, Colbeck and Michael note that "[t]he most innovative and vulnerable faculty may be particularly susceptible to the dangers of depicting their work in ways that differ from conventional separate categories [of research, teaching, and service.]"[30] Likewise, these young, innovative scholars are vulnerable to university policies that may or may not recognize their unique scholarly contributions.

There is hope. Resistance to change is often strong in academe, but attitudes can change.[31]

THE SCHOLARSHIP OF DESIGN

Design is a word used so commonly and so casually that it begins to lose meaning. *Design* conveys different meanings for different people, and different meanings in different contexts. Thus, *design* is hard to define, but for the purposes of this paper, Ralph Caplan's oblique definition works well:

> [F]or design at its best is a process of making things right. That is, designers at their best, create things and places that work. But things often do no work. And making things right is not just a generative but a corrective process—a way of righting things, of straightening them out and holding them together coherently.[32]

Design is also difficult to categorize—which is confirmed by education scholars, who place design work in every one of Boyer's categories except the scholarship of teaching. Design can include elements of discovery, but not every design need do so. Design can be integrative, but is not required to be. And, as practiced by scholars, design often involves application, but again, this is not required.

In Caplan's definition, design is not only discovery but also integration *and* application.

Not surprisingly, then, the place of design work in Boyer's taxonomy is confused. Boyer himself lists "creating an architectural design" as one of the potential activities a scholar could explore as part of the scholarship of application.[33] However, Boyer constructs the scholarship of application as "scholarly service"—in other words, service projects with a scholarly component.[34] While this may be appropriate for some design activities, such as the work of Auburn University's Rural Studio or Mississippi State University's Small Town Center, it is not an appropriate model for all design work. For example, how could work for a theoretical design studio reasonably be classified as "application"?

In his study of architectural education, *Building Community*, Boyer reaffirms the importance of the scholarship of application[35] while also specifically mentioning the applicability of the scholarship of integration to architecture faculty.[36]

Schön also views the scholarship of integration as the natural output of architecture faculty, but he goes further by saying such work is design work. Schön

wrote, "If we speak of a scholarship of integration—the synthesis of findings into larger, more comprehensive understandings—then we are inevitably concerned with designing."[37]

Finally, Glassick, Huber, and Maeroff place design in an altogether different category:

> The first and most familiar element in this model—the scholarship of discovery—comes closest to what academics mean when they speak of research, although we intend that his type of scholarship also include the creative work of faculty in the literary, visual, and performing arts.[38]

In *Scholarship Assessed*, the Carnegie Foundation's follow up to Boyer's *Scholarship Reconsidered*, the concept of the scholarship of discovery mutates from traditional research to include "research and creative work."[39] In *The Disciplines Speak*, design is lumped in with a category called "scholarly, professional, and creative work."[40] These subtle but continuous shifts are not reassuring to those who work in creative fields, as they suggest a collective uncertainty of how to address design work.

Given this uncertainty, why should designers not simply follow Glassick, Huber and Maeroff and place design under the scholarship of discovery, which is traditionally considered the pinnacle of scholarship activities?

First, the scholarship of discovery is too closely associated with traditional laboratory research. In the context of lab coats, white mice, and statistically analyzed surveys, the design of a building or a community will always be something of an outlier.

Second, some scholars suggest that the scholarship of discovery, as conventionally conceived, should be de-emphasized at certain institutions in order to prioritize one of Boyer's other categories, typically the scholarship of teaching.[41] The intent of such a decision is to reduce the pressure for all faculty to produce traditional research, specifically at institutions where teaching is the primary focus. However, in such a scenario, design-related activities would be de-emphasized as well, which might not be appropriate.

Given its unique qualities, design is worthy of its own category of scholarship. Just as discovery is what scientists do, design is what architects do. Elevating design to its own category of scholarship is essential if the design disciplines (including but not limited to architecture, furniture design, interior design, landscape architecture, product design, and urban design) are going to achieve an appropriate level of respect in a diverse university environment.

Creating standards for evaluating the scholarship of design should be straightforward, since the scholarship of design is recognized at the department level and policies already exist for evaluation at that level. The issue, then, is achieving validation of the scholarship of design at the university level.

THE SCHOLARSHIP OF REPORTING

Pierre Nora reflects that "Modern memory is, above all, archival."[42] However, the decline of traditional media may lead to huge gaps in our collective, modern memory. In response, the scholarship of reporting would give faculty in any number of departments the incentive to record carefully the world around them.

The goal of the scholarship of reporting is collection—not analysis, not synthesis, which will be left to others. Many research projects rely on original reporting. For example, Audubon's Great Backyard Bird Count employs amateur birders to collect data, which, taken as a whole, allows researchers to provide a snapshot of bird populations around the world.

Why should architects care about the scholarship of reporting? The built environment is subject to immense forces, including physical, political, social, and economic forces. Without diligent reporting, the complex interaction of these forces can be hard to see. Reporters provide eyes and ears in the world, extending the reach of scholars beyond their immediate surroundings (or the limits of their travel grants). Many scholars have generated analytical, reflective works based on the reporting of others. Given the struggling business model of the traditional press, scholars face a potential dearth of quality original reporting. Conversely, many talented academics are searching for a meaningful program of scholarship, which the scholarship of reporting could fulfill.

Of course, such a proposal begs a question—from today's skeptical, Postmodern viewpoint, can reporting be truly unbiased? The answer is probably no—a reporter's background, education, inclinations, and so forth will always influence reporting. However, the scholarship of reporting would be built on a commitment on the part of academic reporters to be as unbiased as possible, assuming they pursue the scholarship of reporting as a serious component of their scholarly activities.

How might the scholarship of reporting actually work? As an example, Susan E. Cutter and her coauthors used "repeat photography" to document changing conditions in post-Katrina Mississippi.[43] Dividing the Mississippi Gulf Coast into a grid, these researches took photographs in each cardinal direction from each established point. Although Cutter et al. had a specific research question in mind (i.e. establishing the extent of storm surge damage), such an exercise could be performed without an end goal in mind.

At times, just documenting evidence is essential—otherwise, a crucial meeting may not be recorded, a person may forget critical details, or a disaster site is changed before data can be collected. Excellent scholarship might be found in preserving this information, without regard to the design of a future analysis, and without the restrictions imposed by the "technical rationality" of the scholarship of discovery.

The evaluation of scholars performing the scholarship of reporting can follow the well-established traditions of print journalism, which emphasize the unbiased, ethical recording of events and data.

THE SCHOLARSHIP OF SPECULATION
The advancement of human knowledge requires the leap from what is to what could be. The scholarship of speculation celebrates that intellectual leap. Academics performing the scholarship of speculation would invent stories of some particular future—work that would be classified as fiction, or, very likely, science fiction.

This category of scholarship has the potential to be controversial—or even ludicrous. Discussing fictionalized accounts she calls "scenarios," Helen Sword says that a "scenario can invite ridicule if it proves too unlikely or outlandish."[44]

ENDNOTES

1. Boyer, Ernest L. *Scholarship Reconsidered: Priorities of the Professoriate*. San Francisco: The Carnegie Foundation, 1990: p. 1.

2. Glassick, Charles E., Mary Taylor Huber, and Gene I. Maeroff. *Scholarship Assessed: Evaluation of the Professoriate*. San Francisco: Jossey-Bass, 1997: p. ix.

3. Boyer (note 1), pp. 17-18.

4. Braxton, John M., William Luckey, and Patricia Helland. *Institutionalizing a Broader View of Scholarship Through Boyer's Four Domains*. Hoboken, NJ: Wiley, 2002: p. 45.

5. Boyer (note 1), p. 18.

6. Braxton *Institutionalizing* (note 4), p. 47.

7. Boyer (note 1), p. 21.

8. Ibid., p. 22.

9. Braxton *Institutionalizing* (note 4), pp. 27-30.

10. Braxton *Institutionalizing* (note 4), p. 19. Braxton, Luckey, and Helland note that many of the references to *Scholarship Reconsidered* simply acknowledge the work, rather than engage it in detail.

11. Braxton, John M., William T. Luckey, Jr., and Patricia A. Helland. "Ideal and Actual Value Patterns Toward Domains of Scholarship in Three Types of Colleges and Universities." In *Analyzing Faculty Work and Rewards: Using Boyer's Four Domains of Scholarship*, edited by John M. Braxton, 67-76. San Francisco: Jossey-Bass, 2006: p. 78.

12. Kellogg Commission. "Returning to Our Roots: Executives Summaries of the Reports of the Kellogg Commission on the Future of State and Land-Grant Universities." 2001.

13. Diamond, Robert M., and Bronwyn E. Adam. "Describing the Work of Faculty: Disciplinary Perspectives." In *The Disciplines Speak: Rewarding the Scholarly, Professional, and Creative Work of Faculty*, edited by Robert M. Diamond and Bronwyn E. Adam, 1-14. Washington, D.C.: The American Association for Higher Education, 1995.

14. National Office for Arts Accreditation in Higher Education. "The Work of Arts Faculties in Higher Education." In *The Disciplines Speak: Rewarding the Scholarly, Professional, and Creative Work of Faculty*, edited by Robert M. Diamond and Bronwyn E. Adam, 68-121. Washington, D.C.: The American Association for Higher Education, 1995: pp. 86-89.

15. Chandler, Timothy J.L., and Walter E. Davis. "Beyond Boyer's 'Scholarship Reconsidered': fundamental change in the university and the socioeconomic systems." *Journal of Higher Education*, 1998: 23+.

16. Diamond and Adam (note 13), p. 5.

17. Schön, Donald A. "The new scholarship requires a new epistemology." *Change*, November 1995: 26-34.

18. Ibid., 34.

19. Chandler and Davis (note 15).

20. Ibid.

21. Glassick (note 2), p. 8.

22. Diamond and Adam (note 13), p. 12. Emphasis added.

23. Boyer, Ernest L., and Lee D. Mitgang. *Building Community: A New Future for Architecture Education and Practice*. Princeton, NJ: The Carnegie Foundation, 1996. Building Community was published after Boyer's death. In a preface (pg. xiv), Mitgang says that the work represents Boyer's intent if not his exact words.

24. Ibid., pp. 49-62.

25. Ibid., p. 20.

26. Ibid., p. 9.

27. Ibid., pp. 9-10.

28. Glassick (note 2), p. ix.

29. Ibid., pp. 23-25.

30. Colbeck, Carol L., and Patty Wharton Michael. "The Public Scholarship: Reintegrating Boyer's Four Domains." *New Directions for Institutional Research*, 2006 (7-19): p. 9.

31. Braxton "Ideal" (note 11), p. 74.

32. Caplan, Ralph. *By Design*. 2nd edition. New York: Fairchild Publishers, 2005: p. 4.

33. Boyer (note 1), p. 23.

34. Ibid., p. 23.

35. Boyer and Mitgang (note 23), p. 58.

36. Ibid., p. 56.

37. Schön (note 17), p. 31.

38. Glassick (note 2), p. 9.

39. Ibid., p. 23.

40. Rice, R. Eugene. "Forward." In *The Disciplines Speak: Rewarding the Scholarly, Professional, and Creative Work of Faculty*, edited by Robert M. Diamond and Bronwyn E. Adam, v-vii. Washington, D.C.: The American Association for Higher Education, 1995: p. vi.

41. Braxton "Ideal" (note 11), p. 68.

42. Nora, Pierre. "Between Memory and History: Les Lieux de Mémoire." *Representations 26*, 1989 (7-24): p. 13.

43. Cutter, Susan L., Christopher T. Emrich, Jerry T. Mitchell, Walter W. Piegorsch, Mark M. Smith, and Lynn Weber. *Hurricane Katrina and the Forgotten Coast of Mississippi*. New York: Cambridge University Press, 2014: pp. 77-78.

44. Sword, Helen. *Stylish Academic Writing*. Cambridge, MA: Harvard University Press, 2012: p. 102.

45. Perry, David M. "Fictionalizing Your Scholarship." *The Chronicle of Higher Education*, October 17, 2014 (A21-A22).

46. O'Meara, KerryAnn. "Encouraging Multiple Forms of Scholarship in Faculty Reward Systems: Have Academic Cultures Really Changed?" In *Analyzing Faculty Work and Rewards: Using Boyer's Four Domains of Scholarship*, edited by John M. Braxton, 77-95. San Francisco: Jossey-Bass, 2006.

47. Glassick (note 2), p. 66.

Potential pitfalls aside, scholars are foolish to ignore the power of fiction. Consider, for example, the speculative works of Jules Verne or H.G. Wells and their influence on various branches of science and engineering. (In architectural education, consider the influence of a work such as Italo Calvino's *Invisible Cities*.) Writing to all scholars, history professor David M. Perry argued that faculty should look for opportunities to fictionalize their scholarship, stating that such work actively engages the public in what otherwise can be arcane fields of study.[45]

Like works of literature, motion pictures can engage the public. Because motion pictures are a visual medium, they are particularly interesting to architects and architectural educators. For example, the work of director Christopher Nolan is extremely engaging. The folding, fracturing cities of *Inception* provide, perhaps, a wry commentary on the limits of digital visualization (one of the key characters in that movie is an architect). The motion picture *Interstellar*—based on hard science and perhaps a dash of artistic license—illustrates such difficult spatial concepts as wormholes and relativity. *Interstellar* also visualizes a potential space-based habitat.

Most academics interested in the scholarship of speculation will likely include fictional works as only part of their research and scholarship agenda, with even book-length speculative narratives serving to illuminate ideas otherwise anchored by established scholarly norms. The evaluation of scholars performing the scholarship of speculation can follow the model of the evaluation of creating writing in English departments, motion pictures in film schools, and other creative exercises as applicable.

NEXT STEPS

Chief academic officers (CAO) and other university leaders have a strong influence over what constitutes scholarship.[46] Thus, an investigation of the academic background of provosts and research deans at ACSA schools may prove helpful, as it would likely show that very few administrators have an academic background which suggests an understanding of or affinity toward the unique aspects of design, reporting, or speculation as scholarly endeavors. This investigation could be enhanced by a questionnaire sent to CAOs.

CONCLUSION

Boyer created his four categories of scholarship to expand the concept of scholarship to include a wider range of legitimate scholarly activities. This paper proposes a further expansion of scholarship to include three new categories: the scholarship of design, the scholarship of reporting, and the scholarship of speculation. Much existing scholarly work already fits these categories, and much of that work is respected by individual departments and professions. The challenge, then, is to elevate the respect of this scholarship on the university level, and hence the need for formal recognition of Boyer's four forms of scholarship and the additional three proposed in this paper.

Referencing the challenges faced by Galileo during the seventeenth century, Glassick, Huber, and Maeroff note that "those who felt threatened by the originality of creative minds lashed at challengers of the status quo."[47] Like Galileo, we should reject the status quo, and like Boyer, we should demand equal respect for all forms of valid scholarship.