

notion that engineering is an objective science applied to specific problems, then authorship is concealed. The contribution of the individual designer is suppressed. In this context engineering has been defined as a profession that designs products that meet the goals and requirements agreed upon by those who commission them and nothing more.

Unlike architects, who tend to expand the scope of their design problems to go beyond the everyday, engineers tend to reduce the scope of their design problems to the narrowest possible empirical criteria. This is to say that engineers and architects have intentionally or unintentionally produced distinct “epistemic communities,” or attitudes toward what can be known or designed.<sup>4</sup> An example of this phenomenon would be the traffic engineer who expertly designs a street intersection to meet the required flows of automobiles but does not consider the consequences of the design for pedestrians, the natural environment, or urban development patterns because these variables were not specified in the design brief. Engineers are encouraged to become designers that loyally and efficiently carry out the tasks they are set by clients, transferring not only the authorship to the client but also, in the eyes of the engineers themselves, the moral responsibility for the existence and use of what is produced for their employers.<sup>5</sup> In contrast, architects would be far more comfortable with expanding the stated design problem to include these other normative variables because they would be rewarded by their professional culture, if not the client, for doing so.

In part because engineers appear to be more in the position of taking orders rather than assuming authorship, philosophers who work on the ethics of engineering have developed a specific literature justifying “whistle blowing” by engineers. In part this literature attempts to justify standards of professional practice by engineers that can supersede obligations to their employers. Philosophers point to examples such as the explosion of the U.S. space shuttle Challenger as a relevant case. There it is argued that NASA engineers overlooked or ignored claims about design flaws in the “O rings,” which sealed the joints between sections of the shuttle’s solid rocket boosters, which caused the shuttle to explode on liftoff. Some argue that these engineers should have exercised a larger professional responsibility to protect human safety over the demands to fulfill a mission goal. Regardless of the merits of this claim, our point is that such arguments are thought to require special justification in part because of the limited understanding of the responsibilities of engineers prior to the development of this literature. This limited sense of professional responsibility in turn may extend from the constrained understanding of authorship in engineering as a whole.

In comparison, finding the political content and assessing responsibility for built space is relatively prosaic. For example, the architects of the early 20<sup>th</sup> century deliberately designed houses for the working class with small kitchens – e.g., Margarete Schütte-Lihotzky’s *Frankfurter Küche* and Piet Zwart’s Bruynzeel

---

<sup>4</sup> Guy and Shove (2000, 35).

<sup>5</sup> Van de Poel (2001).

Kitchen – for separating cooking from living and for redefining it as a rationalized and technological activity of ‘modern housewives.’ Using a similar logic, many historians have argued that Georges Eugène baron Haussmann’s boulevards for the new Paris of Louis Napoleon were designed to prevent its inhabitants from easily blocking off parts of their city during a riot. The same argument is made in reference to the design of new university campuses in the U.S. following the student unrest of the 1960s. As such, philosophers have not felt quite as compelled to articulate a unique claim about how architects should exercise some form of professional, moral, or social responsibility, but have simply pointed out the moral and social consequences of the products of architects.

In sum, this narrative grants expansive authorship and public responsibility to architects and relative anonymity to engineers. Our argument is that such reasoning is as much reflected in the evolution of differing organizational structures as determined by them. This version of the story, however, is deceptively simple. There is another way of looking at the relationship between engineering and architecture that adds satisfying complexity.

## 2.2 *The Counter-Narrative*

That architects take authorship for their projects, and accept responsibility for them, and that conversely engineers are more anonymous can be historically demonstrated. The problem is that history can also demonstrate the opposite. In the early “heroic” years of modern architecture (1920–30), for example, Ludwig Mies van der Rohe (first director of the *Bauhaus*) could argue with enthusiasm that “Architecture is the will of the age conceived in spatial terms.”<sup>6</sup> Only a few years later his successor, Hannes Meyer, was even bolder in arguing that “building is the deliberate organization of the process of life.”<sup>7</sup> There is little ambiguity in these statements, and many more like them by other modern architects that could be cited which, collectively, argue in favor of “architectural determinism,” the claim that some kind of universal well-being and social justice might be achieved through design. Such determinism carried with it a strong sense of responsibility for the profession of architecture. If there was salvation to be achieved through design, then architects, both individually and collectively, were our redeemers.

But after fifty years of dashed modern aspirations, particularly in North America, the political optimism of the *Bauhaus* came under attack and was ultimately rejected by new generations of postmodern architects whose interests were limited to an apolitical vision of artistic practice that left questions of social and environmental responsibility to others.<sup>8</sup> To be clear, the political intentions of architects were never

---

<sup>6</sup> Van der Rohe (1990).

<sup>7</sup> Meyer (1990).

<sup>8</sup> Lang (1980). Also see, Larsen (1993).