

Design Innovation

In the posted description of the scope and purpose of the *Journal of Mechanical Design* (JMD), we have included our interest in “design innovation papers.” I was curious to see what we have actually classified under this term over the past years, so I quickly searched the term “design innovation” using the online ASME Digital Library. I found no entries when looking into paper abstracts, titles, or keywords. When looking into the “full bibliographical record,” I found 34 entries out of 26,111 for all ASME journals and all conference proceedings, with six of them listed in JMD. I am not sure what this search result really means or if I did it right, but I am quite sure that the widely used term design innovation is not much used in our published work.

A quick search in Wikipedia gives the expected definition of innovation: “the introduction of something new;” “a new idea, method or device;” “the successful exploitation of new ideas.” We also find the usual juxtaposition of innovation versus invention: “Invention is the first occurrence of an idea for a new product or process, while innovation is the first attempt to carry it out into practice.” Furthermore, “Innovation typically involves creativity, but is not identical to it: innovation involves acting on the creative ideas to make some specific and tangible difference in the domain in which the innovation occurs.... For innovation to occur, something more than the generation of a creative idea or insight is required: the insight must be put into action to make a genuine difference, resulting, for example, in new or altered business processes within the organisation, or changes in the products and services provided.”

Closer to home, the ASME Design Engineering Division has created the prestigious Leonardo da Vinci Award, “awarded for eminent achievement in the design or invention of a product which is universally recognized as an important advance in machine design.” The distinction between “design” and “invention” here is interesting. Thinking as practical engineers, we can get an idea of what the definitions may mean by reviewing the accom-

plishments of distinguished colleagues who have been recognized with this award since 1978. They are quite diverse.

In the broader community, design and innovation have become tightly coupled in the business world, a good example being BusinessWeek’s online “Innovation & Design” page, which includes topics such as innovation strategies, product design, service innovation, cutting-edge designers, design awards, and green design. Much of that perspective on innovation is then tied to industrial or product design, often with an artistic or marketing flair.

So, what does all this mean for an archival, scientific journal like JMD? First, I think it means that papers on design innovation are hard to find because we have difficulty defining what we mean by that. Second, such papers are hard to write using a narrow definition of “archival,” which may imply communication of repeatable results grounded on solid analysis. Third, many of us are perhaps too modest to present ourselves and our work as “innovators” and “innovations,” and we prefer to let others decide that. Still, I strongly believe that such papers would add significant value to JMD. For example, papers describing the birth of an exciting new design concept could certainly have archival value, in that people will read that article for years to come. I would be delighted to see papers where colleagues, such as the recipients of the da Vinci awards, share with our community the processes they lived through developing their ideas. Such papers could still fit into our regular peer review process.

Papers on design innovation, invention, creativity—whatever term we want to use—would be very welcome in JMD. One way to emphasize that is to have some Associate Editors specifically engaged to serving such paper submissions. I welcome your comments and suggestions, as I will be working on this task in the near future.

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