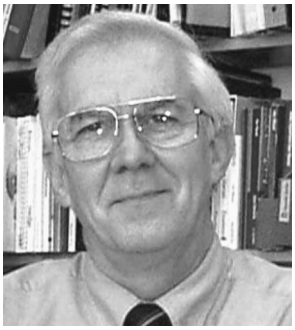

The Hassle Factor

Suppose SuperEdit, a new word processor just offered for sale, simplified a number of editing operations, had an attractive interface, and had fewer bugs than Microsoft Word. Would you buy it? The first reaction might be: ''You bet! Anything's better than what I have now.'' But after the 30-day demonstration period is over and the time arrives to purchase this new marvel, what do you do? Unless you are incredibly adventurous, you will probably put it by, if you hadn't already, and return to MS Word. Why would you do that?

You might call it the Hassle Factor. Although there may be some real benefits to adopting SuperEdit, the time and trouble it would take to learn the differences between the two programs and the difficulty in forgetting habits built up over a number of years might make it not worth the effort. Microsoft Word maintains its place on computer desktops not by superiority, but by familiarity.

Some years ago I consulted for an industrial design team charged with designing an optical system intended to assay enzyme tests inside a reaction cell. For a month we worked long days and nights to complete a prototype. There were weekends in machine shops and labs, false trails and small successes. Many of you know the drill. Finally, we achieved our goals; in some cases, exceeded them. We made several devices, packed up our stuff, and went to see the client. We demonstrated the glories of the gadget. The client's engineers were impressed. They promptly paid us, and our client said, in effect, ''That's nice, we have another problem we would like you to take a look at.''

At the time I was puzzled and frustrated by the response to all our efforts. How could they dismiss so quickly the product of all our valiant efforts? It simplified a procedure considerably. This was better than anything on the market! For a number of years, I chalked it up to the ''not invented here'' syndrome. Later, I thought it might be that the client was just checking to see if their current technology was threatened by any innovations that we could devise. Now, I attribute it to a corporate version of the Hassle Factor.

Everyone connected with the project believed our design was an advance over what was currently available. But the question that arises is: ''How much better does it have to be?'' 10% improvement? 25%? 50%? A factor of two better? At what point does one adopt a new device with all the development, design, qualification, and marketing that is required to establish a successful instrument? Especially in the medical field, where there are additional considerations. Usually improvements that follow incrementally from current practice are accepted as a matter of course, but innovations based on new concepts or radically different designs have a good chance of being rejected. Although there is improvement, it is not enough to justify the hassle. A 100% improvement may not cut it.

But what about research in optical engineering? What constitutes progress in a field that warrants publication in a journal such as this one? Because I assign the Associate Editors for papers submitted to *Optical Engineering*, I look at every paper that we get. Although it is not my job to pass on the worth of these papers—that's for the reviewers and editor to do—I am curious as to who is writing the papers and where the field is going based on these submissions. I also do my own evaluation of the importance of these papers. And sometimes, to be honest, it is difficult to find.

This involves another manifestation of the Hassle Factor. Is the result sufficiently important that it will change the way others will have to think or work in the field? If not, is it worth publishing? If it were up to me, some papers wouldn't make it. They report experiments consisting of modifications to a technique or to a sample that arrive at the expected answer. My wife, who is an editor for a nursing journal, refers to these studies as PLIOs (Penetrating Looks Into the Obvious).

Research papers should have some novelty in them, otherwise they serve no purpose; they do not advance the practice of the art. Some of my colleagues contend that the only persons who look at most papers published today are the authors and their promotion committees. I am not that cynical. I think that even some of the more modest papers contribute to the overall advancement of the field. Still, it is expected that what is published in this journal is correct and has value. That's why the Board of Editors consists of professionals from a wide range of fields within optical engineering. These are people who understand their field and evaluate what is important.

All of us in the optical engineering community have our obligation. The author must publish meaningful work and explain it in a way that establishes its importance. The editor and reviewers have to determine if the work is novel enough for publication. And you readers must determine if the paper tells you anything you don't know. And further, whether it would be worth the hassle to put this new insight to use.

Donald C. O'Shea
Editor

Rudolf Kingslake Medal and Prize

The Rudolf Kingslake Medal and Prize is awarded annually in recognition of the most noteworthy original paper to appear in *Optical Engineering* on theoretical or experimental aspects of optical engineering. The 2000 Rudolf Kingslake Medal and Prize is awarded to **Aden B.** and **Marjorie P. Meinel** for their paper entitled **"Inflatable membrane mirrors for optical passband imagery,"** which appeared in the February 2000 issue. This paper was selected by the Kingslake Award Committee as an outstanding contribution to the analysis and design of ultralightweight space optics, enabling the large space-based telescopes of the future.

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