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A Note on Lena

During my term as Editor-in-Chief, I was approached a number of times with the suggestion that the IEEE TRANSACTIONS ON IMAGE PROCESSING should consider banning the use of the image of Lena. For those of you who are uninitiated in this brouhaha, let me provide a few facts. The original Lena image was a photograph of a Swedish woman named Lena Sjöblom, which appeared in the November 1972 issue of Playboy Magazine. (In English, Lena is sometimes spelled Lenna, to encourage proper pronunciation.) The image was later digitized at the University of Southern California as one of many possible images for use by the research community. I think it is safe to assume that the Lena image became a standard in our "industry" for two reasons. First, the image contains a nice mixture of detail, flat regions, shading, and texture that do a good job of testing various image processing algorithms. It is a good test image! Second, the Lena image is a picture of an attractive woman. It is not surprising that the (mostly male) image processing research community gravitated toward an image that they found attractive. The Woody Allen buffs among you may be interested to know that the Lena image appeared in the movie *Sleeper*. Tom Huang pointed this out to me. In the scene where Allen awakes in the year 2173, he is asked to identify a number of artifacts from the past, including photographs of Joseph Stalin and Charles de Gaulle, and the issue of Playboy Magazine containing Lena. The view to the movie watcher is fleeting and somewhat unclear, but this is the closest I have come to viewing the original image. From second-hand reports from Sweden, I am told that Lena is living in a small town south of Stockholm. She is said to be quite amazed that her image has become a standard in the research community. In recent years, Playboy Enterprises was giving thought

to enforcing their copyright on the Lena image (see Brian Thompson's editorial in the January 1992 issue of *Optical Engineering*). It appears, though, that this is no longer the case. So what is the problem? Well, quite understandably, some members of our community are unhappy with the source of the Lena image. I am sympathetic to their argument, which states that we should not use material from any publication that is seen (by some) as being degrading to women. I must tell you, though, that within any single segment of our community (e.g., men, women, feminists), there is a complete diversity of opinion on the Lena issue. You may be surprised to know that most persons who have approached me on this issue are male. On the other hand, some informal polling on my part suggests that most males are not even aware of the origin of the Lena image! I have heard feminists argue that the image should be retired. However, I just recently corresponded with a feminist who had a different point of view. She was familiar with the Lena image, but she had not imagined that there could be any controversy. When I offered an explanation of why some persons are offended by the use of the image, she responded tartly. A watered-down version of her reply is, "There isn't much of Lena showing in the Lena image. This political correctness stuff infuriates me!"

So there you have it. Much of our community is blind to the fact (until now!) that there is a controversy. Among those who are "tuned in," there is vigorous disagreement. As Editor-in-Chief, I did not feel that this issue warranted the imposition of censorship, which, in my view, should be applied in only the most extreme circumstances. In addition, in establishing the precedent, I was not sure where this might lead. Should we ban the Cheerleader video sequence? Should we establish an oversight panel to rule on acceptable imagery? Instead, I opted to wait and see how the situation might develop. I suspected that the use of Lena would decline naturally, as diverse imagery became more widely available and as the field of image processing broadened in scope. Although the use of Lena has declined (witness our January, 1992 issue!), this image still appears so frequently that I imagine it must be grating on those who oppose its use. What to do? I favor a compromise of sorts. I suggest that the IP authorship be more sensitive to the feelings of those who are offended by the Lena image. In cases where another image will serve your purpose equally well, why not use that other image? After all, why needlessly upset colleagues? And who knows? We may even devise image compression schemes that work well across a broader class of images, instead of being tuned to Lena!

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