semantic combination or differing segments of the same spectrum is also a true "consortium." The finished product is far greater than the mere summation of individual components.

Integral to the living manifestations of Amateur Radio, then, is experimentation. There are adequate outlets, now, for circuits, projects that—only purportedly I have found—work and do a specific task. I love to build these and experiment with their make-up. And the least fun is not having a fellow amateur sharing expertise. I like to think that sharing promotes *fun* in the hobby to a higher level. Implicit in this proffering of circuit or salvation is the siren's wail to experiment; risk piling up upon the rocky shores of an unknown coast.

If we have a separate pub, a haven if you will, for experimenting, let's leave it at that. A forum in which to generate new ideas or stimulate old ones or push a struggling novel approach over the threshold into the "Aha!" experience, in a friendly arena is a most powerful resource. We could be off and running into who knows what virgin territory?

That largest of all domains of Sir Isaac, the universe, is one of the few disciplines open to laypersons. Amateur astronomy is rich and vital and fraught with backyard observers making all kinds of discoveries. Ham radio *is* in the same category. Laypeople, nonprofessionals, the untitled, the undegreed can do good work in electronics. I challenge you—and myself—to aid Amateur Radio. Be there, on that cutting edge *now*, because it *should* be. We should be developing the new, the unthought of, the "you're crazy-that'll-never-work." Hamdom's own minions should be headed straight into print and help update science and technology.

I wish I were competent, now, to lead the parade. Alas. I am selfish enough to follow others, vacuuming in ideas and knowledge. But that's the beauty of hamming—and science—and helping each other: seeing further than anyone before because we stand on the shoulders of giants. And we have had our giants; magaliths of ham radio enabling us, today, to be the bastions of the future of our incredible passion, past time and service.—*Phil Isard, WF3W, 567 Hoyt Road, Bethayres, PA 19006*

Corrigendum

In my recent article, "Measuring the Mass of the Earth: The Ultimate Moonbounce Experiment," (*QEX*, September 1991, pp 8-10) I demonstrated my remarkable ignorance of not only ancient Greek natural philosophy, but geography as well. In describing a classical experiment to measure the size of the Earth, I mentioned shadows cast by sticks in the ground at Athens and Alexandria; the two cities were, of course, actually Alexandria and Syene. The experiment was performed more than 2200 years ago by Eratosthenes, director of the legendary Alexandria library. Trigonometry told him that the two cities were separated by 1/150th of the Earth's circumference. He actually hired a man to pace off the distance, which was approximately 800 kilometers. Multiplying that distance by 50, we find the Earth to be about 40,000 km around. Had I but contemplated Eratosthenes' surveyor pacing his way to Athens, across the Mediterranean Sea, I doubtless would have seen sooner the error of my ways.

One minor mathematical error crept into the published paper. In calculating the percentage of error (under "Evaluating Our Result," p 10) the observed value for M, 6.037 × 10^{24} kg, should have been in the numerator within the brackets.

Dr. Chuck MacCluer, W8MQW, a Mathematics professor at Michigan State University, raises a few other valid questions about my paper. He correctly notes that my orbital calculations hold only for circular orbits (that is, ones with eccentricity approaching zero). He also identifies as a source of computational error, my assumption that the orbital period of the moon is one month. In fact the actual period is slightly less than one month, due to the influence of the Earth's orbital path around the sun.

Finally, my students' analysis was dependent on knowing G, Newton's Universal Gravitational Constant. Chuck poses an interesting challenge: How can we derive an independent estimate of G? History tells us that Newton determined G in the first place by observing the lunar orbit, and working backwards through the very equations we used to compute M (don't ask me how he knew the Earth's mass!). Given only that which we can observe directly, how then can we find G? Chuck and I (and our respective students) would be most anxious to hear from anybody who can design an appropriate experiment.