Executive Director's Note: The AAG long has been finding off lobbying and litigation activity by some licensed surveying and engineering firms (e.g., MAPPS vs. United States) who claim that only they should be able to conduct most mapping and GIS activity, despite the fact that geographers and others have long led the development of GIS and related geospatial technologies, and have been doing mapping for centuries and GIS for decades. (See my AAG Newsletter columns, “The Plan to Hijack Mapping,” March 2007, and “Mapping Procurement Practices—Best and Wurst,” February 2010, for background on these issues.) So I thought it was refreshing to see a recent frank editorial by Al Butler in the Professional Surveyor Magazine that provides some common sense on the issue. I hope you enjoy Al’s column.

As always, I want to emphasize that the AAG warmly welcomes the participation of surveyors and engineers in the GIS and mapping worlds, as we always have in the past. However, we simply do not agree with their recent efforts to exclude geographers and others from the same mapping and GIS fields that we have for so long practiced and pioneered.

— Doug Richardson

You Won’t Like This
By J. Allison Butler, GISP, AICP

No one is going to like this article, but everyone should read it. After reading many other writers opine on the various ways the surveying profession is under attack—from the average age of licensed surveyors being 57 years old to the need to keep those GIS people out of our business—I want to be the first to tell you: The surveying profession no longer exists.

Yes, there are still state regulatory agencies and licensed practitioners, but the profession of surveying has been absorbed into something much larger: the geospatial profession, which includes boundary surveying, GPS data collection, photogrammetry, mapping, and all the other things that we have spent the last 20 years arguing about in order to define their various boundaries. The fact is we’ve been having such a hard time defining those boundaries because they don’t exist.

Before you put the tar on to boil and start tearing into your feathered pillows, let me also say that the specialized knowledge, skills, and abilities traditionally included in the practice of surveying are still very much needed. Surveyors are not this century’s buggy-whip makers. The problem is that many of the skills that have traditionally defined the surveying profession are no longer uniquely identifiable with that profession, which is why we have the boundary problem.

Define surveying as the profession that makes accurate measurements, and you find that technology now allows almost everyone with a little skill and knowledge to be able to make accurate measurements. Just this month I read several articles in various geospatial magazines covering what used to be the surveying, photogrammetry, and GIS professions where non-surveyors have compiled data with millimeter accuracy, all using essentially the same technology. Each group seemed to do equally well. Just as surveying professionals are beginning to use many tools previously employed only by GIS and photogrammetry professionals, GIS people are having to learn techniques employed by surveyors, such as error detection and remediation.

Raise that tired, old argument about surveyors upholding “public welfare and safety” as the ultimate argument for state licensure, and I will just have to say, “Oh, puhleeze!” GIS providers and users make many more decisions that affect the public than do surveyors. GIS folks create all those maps used by in-car navigation systems, compile the official census, use

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4. On Death and Dying

five stages of grief (Elisabeth Kübler-Ross, 1969). We have been through the first four:

1. Denial (surveying is a long-lived profession the public can’t do without)
2. Anger (those darn GIS people are ruining our business, we need to bring photogrammetry under surveying)
3. Bargaining (if only we could adopt the NCEES Model Law and Rules, raise minimum education requirements, eliminate price-based procurements, or insert your favorite idea here, then things would be great)
4. Depression (average age of licensed surveyors is 57, which makes me average)

This leaves the last stage: Acceptance. Only with acceptance of the fact that the surveying profession is clearly identifiable as a long-lived profession can we move forward to the new future we all must face. Now everyone has to know that GIS people have to understand their data, including the data they get from surveyors and photogrammetrists. And I’m not talking about book knowledge. I’m talking about real, on-the-street knowledge, because the universal truth of the GIS business is that the best data is the data you have. GIS people re-enact MacGyver episodes every day, just like surveyors who deal with all kinds of conflicting information to make “informed judgments.”

We’re all the same.

Acceptance means more than just acknowledging that the surveying profession needs to transform into something else, something bigger. It means embracing as part of the new profession those things that have been seen as less than surveying, like what is often referred to as ‘map-quality’ data collection. It means consolidating all these artificially separated professions—surveying, photogrammetry, and GIS—into a single geospatial profession. It means all of us need to get together right now and decide collectively what this new profession needs to be. We’re all in this together.

It also means moving these professions beyond state licensure regulations and into the realm of interstate commerce. You can strongly disagree with everything else I have said and you will still have to acknowledge that we absolutely do not need more than 50 different definitions of our collective geospatial profession. We cannot trust our livelihood to the whims of the political process. We need to collectively define our entire profession and recognize that most of the products generated by the members of that profession are part of interstate commerce. Our profession is now too big for state regulation. Or would you prefer that the maps stored in your GPS had to meet different requirements in each state?

Of course, the converse is that I must acknowledge all the things we do that relate to the property laws and court precedents of the individual states. These things need to be addressed. But that part of surveying, while representing a majority of the work performed by many of us, also represents only a small part of the broad geospatial field. Everything else is pure science and math. Why the heck should we have state legislatures regulating science and math? Why should we allow state regulatory restrictions to keep us from being able to practice in adjacent jurisdictions?

Let me put it to you another way. Given the level of automation many of these data collection systems provide, which person in the chain needs to be the state-licensed surveyor? The one flying the plane, the people who write the computer programs, the person who runs the data through the software, or the one who compiles the results? I say the answer is, “None of the above,” not because this work doesn’t need to be done properly, but because the science doesn’t vary from state to state.

Consider this example. I am a licensed building contractor in Florida, the poster child (state) for the construction industry with the toughest licensing laws in the country. The licensing test takes 20 hours spread over two days and has a pass rate of less than 40 percent. It covers topics such as how to run a business, handle payroll taxes, get workers’ compensation insurance, deal with banks, create balance sheets, organize an office, draft and follow contracts, and create price proposals. Oh, there are a few questions on how to build things, but you could miss one of those questions and still pass easily.

Why is the test structured this way? Because the state’s biggest fear is that a contractor will take your money and go broke. If a contractor can’t comply with the building code, the inspectors will find it and stop the project before it gets so far as to hurt someone. If the finished work doesn’t look good, they won’t get paid. The state focuses on the things that don’t have checks and balances. Maybe something like that would work for surveying products.

Many of us practice in interstate commerce already by using satellite and aerial
Digitally Mapping the Republic of Letters

Stanford University humanities professors Dan Edelstein and Paula Findlen are currently working with academic technology specialist Nicole Coleman and other colleagues to map the flow of tens of thousands letters across Europe sent by key Enlightenment thinkers during the eighteenth century. By utilizing the power of new digital technologies and geographic imaging, their project seeks to examine the social networks through which ideas traveled and gain new insights into the intricacies of the Enlightenment’s evolving intellectual geography.

What’s significant about the project, says Edelstein, is that mapping the flows of this enormous amount of correspondence allows researchers the opportunity to gain new understandings of “not only how these networks intermingled, but how they evolved over time.”

The project “Mapping the Republic of Letters” is an example of the extent to which geographic technologies and perspectives are being embraced across the humanities in ways that equip scholars to ask new questions about traditional subjects by mining vast datasets in previously unimaginable ways. Voltaire’s correspondence alone numbers more than 18,000 individual pieces and, in print, takes up 15 volumes. One application of this project allows users to see the volume and direction of one writer’s letters and compare it to that of another writer, and to see how the flow of these correspondences changes across time.


More about “Mapping the Republic of Letters” may be found at http://republicofletters.stanford.edu/, including a series of interactive maps.

“Geography and the Humanities” will be a featured topic at the Association of American Geographer’s (AAG) upcoming Annual Meeting, to be held in Seattle, April 12-16, 2011. For more on the 2011 AAG Annual Meeting see www.aag.org/annualmeeting.