



By Joel Leininger, LS

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GIS Follies

This just in from the You've Got To Be Kidding Department: There has been a serious attempt to develop algorithms to convert vague metes and bounds calls into mathematical data. According to a recent issue of *Transactions in GIS*, researchers in Germany studied dozens of metes and bounds descriptions from Brazil to see whether language like, "turning to the left" or "with the windings of a creek" could somehow translate into a specific angle and distance, without benefit of extrinsic evidence.

When you're finished laughing, read the abstract of the article:

"Brazil is one of the countries of the world where the ownership cadastre is still based on textual descriptions. Until 2001 (and for the urban cadastre still until today), no standards existed concerning obligatory elements or the necessary degree of precision for cadastral deeds. This resulted in documents similar to metes-and-bounds descriptions that often include vague expressions or relative references e.g. to neighbouring real estate. In order to facilitate error- and inconsistency-checks as well as planning and decision-making, the demand arises to visualise the textual information in maps. Existing programs for a transformation of metes-and-bounds descriptions already use additional logic to handle inconsistencies or missing information but are still rather limited in their abilities if too much uncertainty is incorporated in the text, i.e. corresponding maps to such texts are (if at all) only partially generated. Therefore, this article analysed whether or not all (even uncertain) of the spatial information in the descriptions can be transformed into a suitable map representation. This requires among other things a quantification of the qualitative expressions for lengths and directions that are used in the texts."

For instance, here is an example of a metes and bounds description from the study, translated directly from the Portuguese, with names deleted:

"The description starts at a small creek, the boundary between [the real estate of] A and the area that was divided for B; at this point it follows a straight line for 505.0 m bordering [the real estate of] B; at this point it turns left and follows a straight line for 212.0 m bordering [the real estate of] C, at this point it turns left and follows a straight line for 412.0 m, bordering the remaining area of D; at this point it turns left and follows the windings of the small creek downstream for 84.0 m bordering [the real estate of] E; at

deprived of the tools available to planners and tax officials elsewhere. Although there has been recent legislation there requiring property corner positioning to within a half-meter for land transfers (one wonders how that is enforced, but that is a subject for another day), it does not affect the millions of parcels that do not change hands very often. No transaction means no updated cadastral data. Enter the GIS follies. Their mandate? "Give us something that we can use to cut through the forest of words in our deed infrastructure,

Deed descriptions are threads in a larger four-dimensional tapestry.

this point it continues downstream along the windings of the creek for 129.5 m, still bordering [the real estate of] E up to the point where the starting point is located and the current description ends."

This is New?

Every one of us has seen hundreds of similar descriptions in our work, whether our practice lies within the "metes and bounds" states or not. In most cases, although imprecise, the descriptions are legally sufficient, for the test is not whether the description furnishes the exact definition of the boundary, but whether it furnishes the *means* for obtaining that definition. We also know that the descriptions do not float in a vacuum, but are threads in a larger four-dimensional tapestry.

But descriptions like this make life miserable for those whose task it is to aggregate deed information into mosaics and other compilation documents, without visiting the site in question. Note that it is not the surveyors in Brazil who are dissatisfied with the current system, it is the larger land use community, which is

but at very little cost." Hence, the attempt to translate the untranslatable. One has to credit them with audacity, at least.

What's it to Me?

Now, you may ask, "Who cares? First, this is in Brazil. Second, it concerns tax maps, those paragons of dubious reliability, which no competent surveyor trusts anyway. And third, since this effort is doomed to failure because turning sows' ears into silk purses has never been successful, the hoopla will pass presently and business will continue as before." All of those points are correct, but we should still care. The Brazilian effort is an exhibition of the sort of group-think that sometimes ignores its fatal underpinnings and morphs into a flawed *but required* procedure. Remember, the world is run by the people who show up for the meetings. Gather the wrong group of people in the wrong room, vest them with authority, and look out: the results can be shocking.

I've noted before that Officialdom treats the cadastre day-to-day as if it

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were a land registration system, *i.e.*, the ownership on the tax rolls, the shape of the parcels on the official maps, etc., are considered the last word on the subject by many county and state officials. (This isn't true, of course, but the point is that most people in those policy-making meetings assume it to be correct.) Indeed, in most states, tax sales of property amount to new titles from the sovereign, *wiping out all prior claims* (including adverse possession claims and conflicting adjoiner descriptions) on the property. Given that, it is but a small leap from where we are to legislation requiring those tax sale descriptions to conform to the tax map parcel shapes. Thus would begin the inadvertent dismantling of our senior- and junior-rights-based parcel fabric. The advent of the nanny-state, coupled with the meltdown of our financial markets and the resulting no-strings-attached bailout, should make us doubly aware of the threats possible from well-meaning, but out in left field, bureaucrats.

Keep an eye out for similar follies. And show up for the meetings. 