A Discussion with Michael Goodchild
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A surprise when the FAX machine proved popular, because it transmits text as a picture, without recognising the characters. Essentially everything that can be communicated can be communicated digitally. The question is how structured it has to become before it is communicated.

NS What is lost in that structure?

MG At some levels, nothing. If you digitize the human voice, in principle you lose nothing. In practice, of course, you lose all aspects of human communication that are not expressed in sound, like gesture.

NS What GIS abstractions lend themselves to being viewed as having an epistemology other than positivism?

MG A lot of areas that the cognitive people have become interested in recently are of that nature. There are questions about qualitative spatial reasoning—defining north, for example. The positivist attitude to that is: "Well, once you define north the problem goes away. It is a problem of definition, just be clear about what you mean". A local example is: "Is Santa Barbara north of LA?" Most people would say yes, but the answer would be no under most precise definitions. What David Mark talks about as naive geography tends to fall into that category. It is still science in the sense that it is attempting to deal systematically with phenomena which are clearly real: people's use of words. Yet a scientific traditionalist might feel that the entire enterprise was idle; why not simply demand that people be precise? The work that has been done on fuzzy classification(1) of soils fall into that category too; a scientific traditionalist would argue that if a classification cannot be precise and reproducible then it has no place in science.

NS Fuzzy somehow supercedes that...

MG I think it's bogus. Fuzzy methods are very appealing; they are intuitive and simple, and that may account for their popularity. But suppose I tell you that the membership of a certain soil in a certain category is 0.45. The category itself is fuzzy, so there's no agreement between us on what the category consists of. But more than that, we haven't established what the 0.45 measures, and there's no reason to believe that 0.45 to me is 0.45 to you. So what have we established? I can't see any real alternative to the original scientific reaction, which was that there is no point in trying to build data around something which has not been well defined.

NS But the use of fuzzy in GIS is still postpositivist?

MG Yes.

NS Do you think there is a real and knowable world?

MG Yes, I am an unabashed Newtonian. I think that the Earth's surface is the best example we have of a space which is framed by spatial and temporal dimensions.

NS Would you agree that there are simply various ways to know that world? That it exists and there are a number of lenses through which to view it?

MG Personally?

NS Yes.

MG Personally, I would tolerate an academic community that takes that view and I would encourage activities of people in that community. Personally, my own view is that there is a truth, that individual alternative ways of knowing are not of value if they cannot be communicated. Communication implies a shared understanding of meaning, which is at the core of science. Science is about the ability of two people to communicate in an unambiguous way. If communication has to be ambiguous, then it doesn't exist.

NS But the way that scientists communicate is influenced by culture?

MG Yes, but my view of science is that there are islands of superb objectivity, that are surrounded by a miasma. The miasma will always be there. Our job is to expand the islands as much as possible, to link them as much as possible and to preserve what we know to be true. I don't have any problem saying that pi is an objective value. The Sokal paper(4) about pi being a social construction was a very clever spoof. Yes, I think there are different lenses, disciplinary lenses for example, and cross-fertilization is one of the best things that science has discovered for moving itself forward.

NS Is GIS an island?

MG Some of its basic principles are, yes, but as a whole, no.

NS But it does encourage communication between disciplines?

MG Yes.

Ethics

NS Is concern with ethical use necessarily the domain of the scientist?

MG So much of science is done on a team basis, with the individual scientist often submerging in a team. I wonder what kind of ethics an individual member of the Manhattan Project might have been able to sustain, or to what extent the ethics of global warming research can be individual. Science has to have collective responsibility, because there is so little that one can do at an individual level. I guess one can ask the question collectively; that makes a lot more sense because the collective of GIS researchers ought to be concerned with the uses of the technology. Whether that means that every individual hammering one particular rivet into the body necessarily inherits the whole responsibility...no, that is obviously a very difficult case to make. I think Oppenheimer as the leader of the Manhattan Project had a responsibility that he wouldn't have had as an individual. Perhaps what we need is a much more active collective discussion.

NS Can you think of implementations of GIS which have escaped the control of its developers?

MG And that have had serious ethical implications?

NS Yes, potentially.

MG I can think of databases that should never have been built. For example, some years ago a CD was developed and marketed that contained a large amount of information

(1) Fuzzy logic is a system of categorization and calculation which does not depend on absolute categories. When using fuzzy logic, critical limits in classification are eschewed in favor of percentage of fit. For example, a soil sample might be classified as 0.45 clay rather than clay or not-clay.

(4) In 1996 Alan Sokal, a physicist at New York University, published an article in Social Text. In it, he purported to be making a claim for the absolute discursive and contingent nature of scientific knowledge. On the day of publication, however, he published a disclaimer in Lingua Franca in which he claimed the entire article was a hoax designed to demonstrate the gullibility and lack of scientific expertise of the editors of Social Text who were identified, in this instance, with a postmodern approach to science.
on improving the efficiency and effectiveness of the G2S organization.

An interview with Michael Goddard.

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Opportunities for further reduction of the G2S organization.

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So what the scientific conclusion and a result

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An interview with Mladen Gojnović

NS: Thank you for the interview. I appreciate it. The two kinds of speakers that I interviewed, one of which is a doctor, talk a lot about how they have different ways of understanding the world. The doctor is interested in disease and its medical treatment, while the philosopher is more interested in the human condition and the role of values and ethics in society. This means that their perspectives on the world are different. I would like to ask you about your views on this topic.

MG: I agree. For me, the most interesting aspect of understanding the world is the intersection between the human condition and disease. It is crucial to understand how our values and ethics shape our perception of the world and how they influence our decisions.

NS: I see. So, you believe that disease is not just a physical condition, but also a reflection of our values and ethics. Can you provide an example?

MG: Absolutely. Take the case of drug addiction. On one hand, it is a disease that affects the brain and body. On the other hand, it is also a choice made by the person who decides to use drugs. The decision is influenced by a variety of factors, including personal values, cultural norms, and social pressure. Understanding this intersection is crucial to developing effective treatment strategies.

NS: That makes sense. How do you think we can approach this intersection more effectively?

MG: It is important to recognize that disease and values are interconnected. To do this, we need to address the underlying causes of disease and values simultaneously. This requires a multidisciplinary approach that involves medical professionals, philosophers, and other experts. By working together, we can develop a more comprehensive understanding of the world and create more effective solutions to health problems.

NS: Thank you for sharing your insights. I think we have a lot to learn from each other's perspectives. It is fascinating to see how our different ways of understanding the world can inform our approach to health and disease. Thank you for your time.

MG: You're welcome. It was a pleasure speaking with you.