

# The Reflexivity of Geospatial Technology

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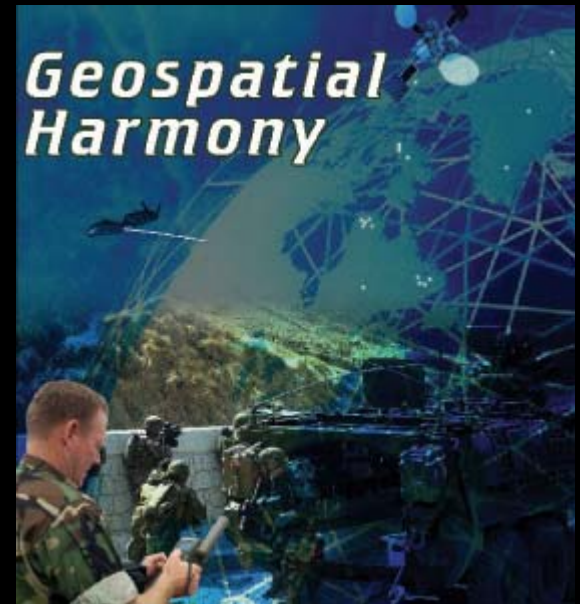
Exploring the Geographies of Hope and  
Fear

Brian Klinkenberg, Geography, UBC

# Reflexivity?

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- A reflexive relationship is bidirectional, with both the cause and effect affecting each other in a situation that renders both functions causes and effects.
- Geospatial technology is both a product of geography and a means of redefining geography



# Good or evil?

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Subscribing to a view that technologies such as computers or GIS are "good or evil" in and of themselves seems naïve, but in the early days of quantitative geography, many commentators did just that, and, more recently, GIS has been targeted with such criticism. (Waters 2004)



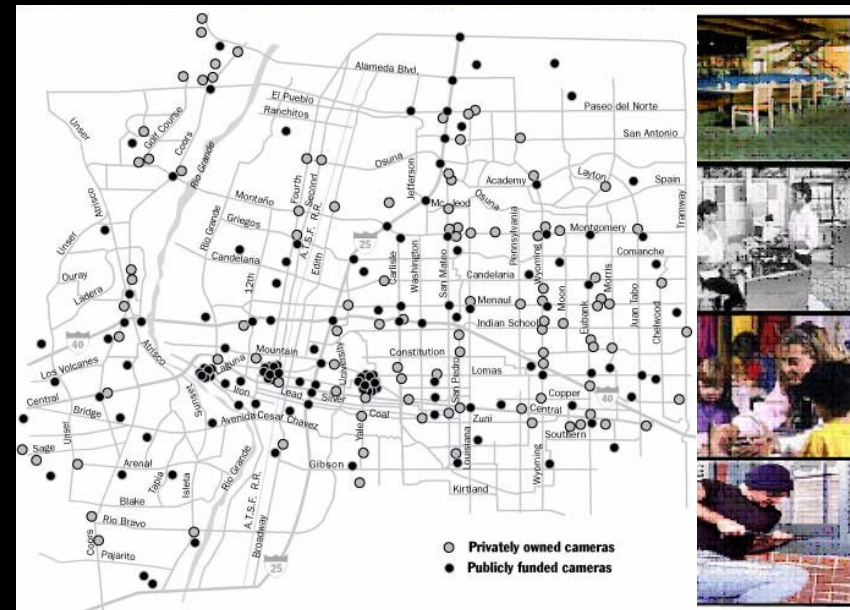
# Evil?

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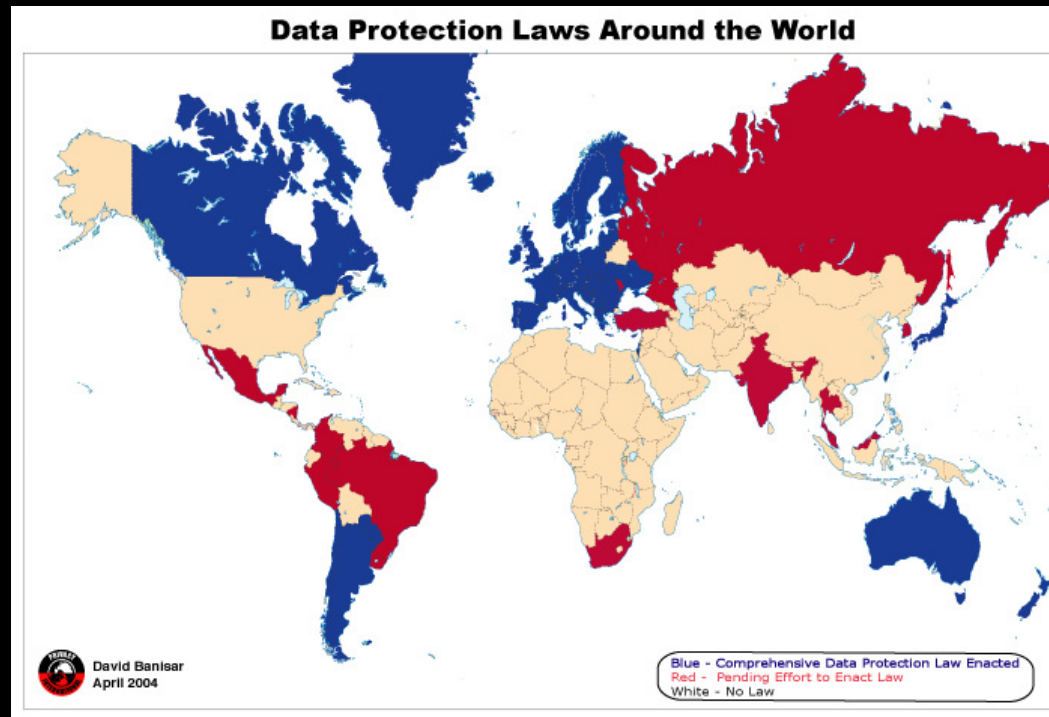
# Why an issue? A sea change occurred.

- 9/11/01—no one doubts that the age of surveillance has begun.
- “The very idea of surveillance evokes curiosity, desire, aggression, guilt, and, above all, fear...” (Tabor, 2001, 135).
- We need to re-examine everything in this new age of the Panopticon.
- We are living in a surveillance society but our data protection laws are not up to the job. (Ed Mayo, National Consumer Council)



Albuquerque

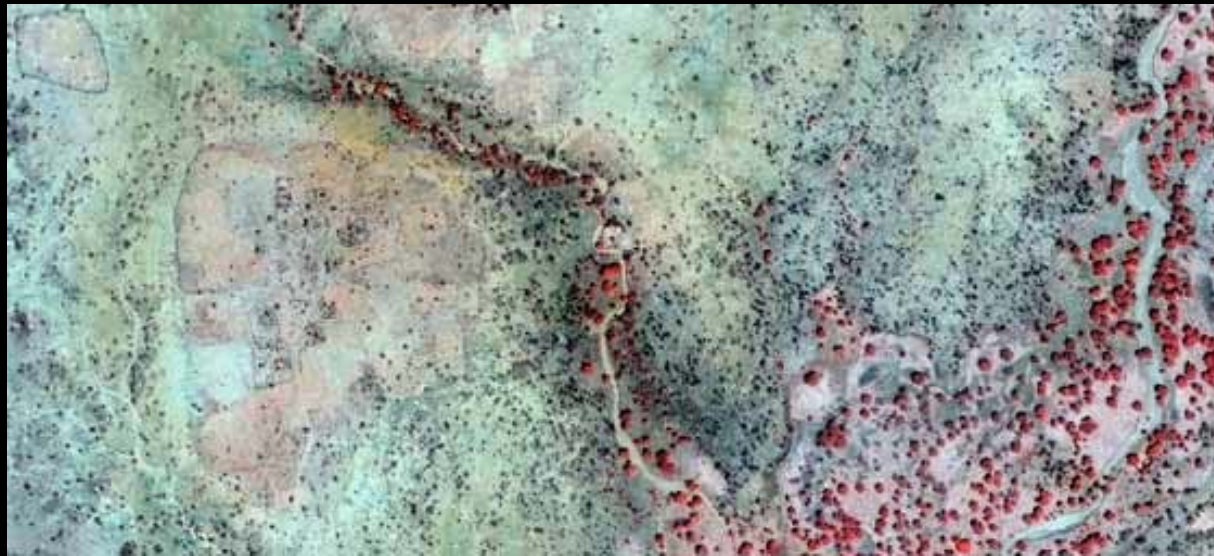
# Spatial data: special considerations?



How well do existing and proposed privacy laws ensure spatial anonymity?

# Spying and Human Rights.

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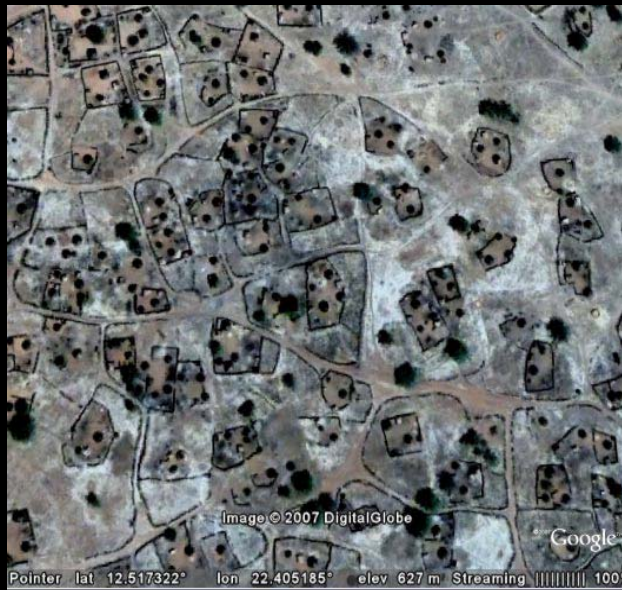


Madoua, Chad.

Geospatial technologies broaden the ability of international organizations, government agencies, and non-governmental organizations to rapidly gather, analyze, and disseminate authoritative information, especially during times of crisis. They can also provide compelling, visual proof to corroborate on-the-ground reporting of conflicts and natural disasters affecting human rights.

# Spying and Human Rights Watch

March  
2006



November  
2006



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Madoua, Chad.



# Breadcrumbs of your life

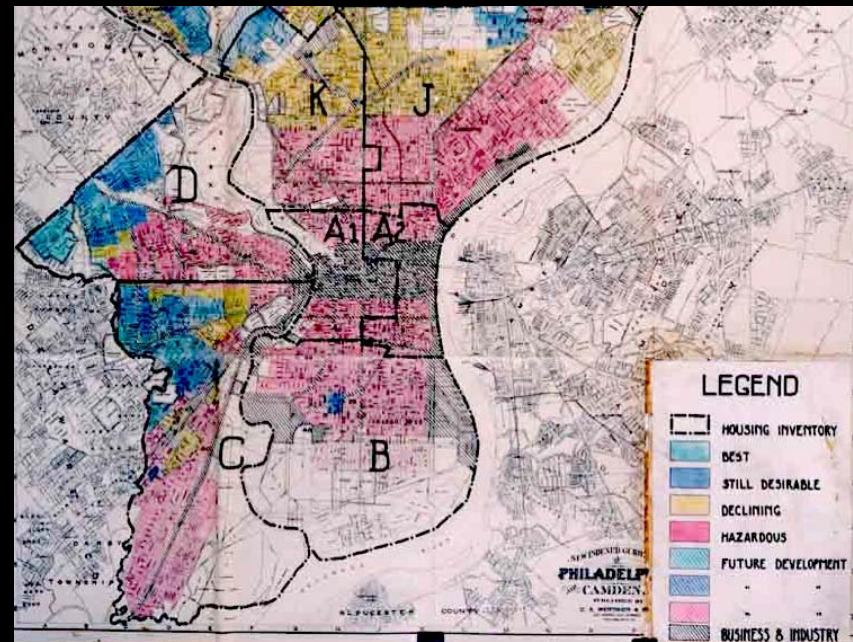
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- Technological advances, which have made data easier to collect, have helped governments make more informed policy decisions.
- Sophisticated information gathering has also enabled companies to customise goods and services, helping them to channel investment more efficiently, tackle fraud and improve competitiveness.
- Location-based services – finally reaching their potential.



# Breadcrumbs of your life

- However, the 'trade' in personal data poses significant threats, not only to individual privacy but to social cohesion.
- Certain social groups could receive inferior products and a poorer service as a result of information held about them, potentially reinforcing existing economic inequalities.
- Using GIS to ensure redlining doesn't occur.



1936 map of Philadelphia showing redlining of minority neighborhoods. People who lived in the red zones could not get mortgages.

# Breadcrumbs of your life

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- The ever-surveillant society (GPS, video cameras and facial recognition systems, RFID, GIS, etc.) will enshrine our daily activities forever—mistakes become permanent.
- Maybe the first time you know you are pregnant is when a targeted piece of advertising comes through on your computer screen offering you some baby clothes because somehow the smart toilet, or some other aspect of your environment, leaked that information.
- Will we create a 'blackmail society'? (Gray 2003 page 324).



# Is RFID the Mark of the Beast?

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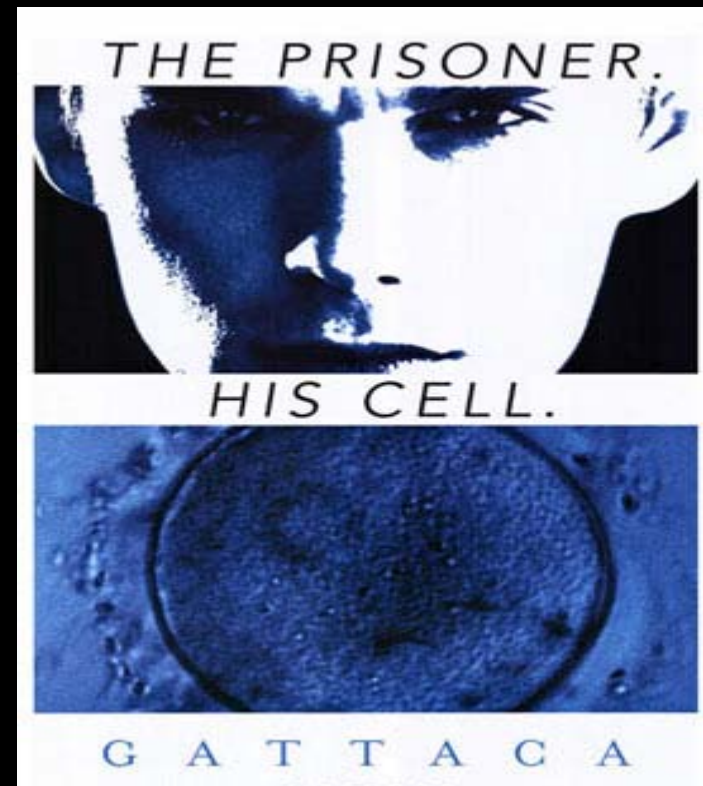
- A person's entire life from birth to death could one day be recorded by a network of intelligent sensors. By 2057 there could be 1 to 20 million sensor devices for every UK resident. (Martin Sadler of Hewlett Packard)
- Advances in technology and a more complete understanding of physics would lead to a new breed of devices that are "too small to see, that permeate your body, permeate the space in which we exist, record everything, know everything about you, transmit your reputation wherever you go."
- We will have access to a micro-level of geography that could open many innovative doors of spatial analysis.



# The tyranny of genetics

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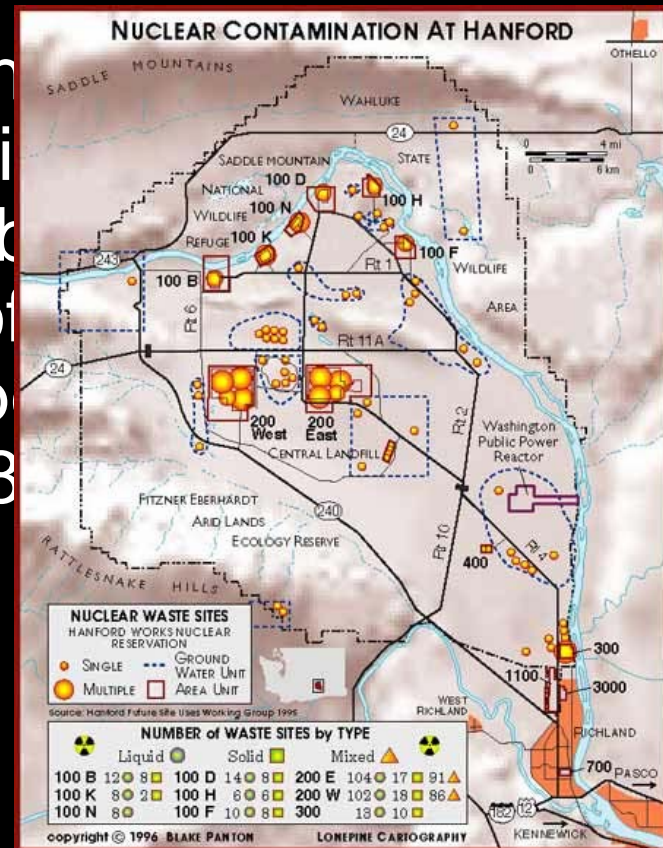
“Until now, a person became ‘sick’ only after symptoms appeared. People would go to the doctor complaining of a few aches and pain. With availability of the data on the genome, future illnesses or risk of illnesses will be revealed.... People will become patients before their time.” (Jacob, 1998, p. 102)



# The tyranny of space?

“Life now depends on knowing the distance between everything that happens and what is more probable. It depends on the restriction of space, not upon their invention and power.” (Vaz and Bruno 2003 page 28)

Will you be denied medical coverage because of the spaces you occupied throughout your life?



# Cartography of fear, of hope

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- Mapmaking fulfills one of our most ancient and deep-seated desires: understanding the world around us and our place in it. But maps need not just show continents and oceans: there are maps to heaven and hell; to happiness and despair; maps of moods, matrimony, and mythological places. (*You Are Here: Personal Geographies and Other Maps of the Imagination* Edited by Katharine Harmon)
- “But...we do not know the beginning of the story, how the fearing was developed—how the *unsafe* came to be associated with place, how the *cartography of real and potential danger*, which informs conscious choices of daily access and movement, was formed” (Epstein 1997 page 134).
- As geospatialists we need to be the authors of positive spaces through our actions, and edit rigorously those cartographies that instill fear in others.

# The Reflexivity of Geospatial Technology

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- I hope I have brought forth some of the emerging areas wherein geospatial technologies can both cause fear but also effect positive change. There are challenging times ahead!

Your response?

