

Addressing: The Revenge of Geography

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Pondering a future for location intelligence is a speculative journey through geographic permanence and human transience that ends with proving location intelligence to be evermore crucial to businesses and governments.

The Canadian postal context

The post office has a natural connection to location and an unbeatable advantage over geo-matics, spatial mapping and so on: postal carriers go regularly to all locations.

Opened in 1755, the first Canadian post office facilitated commerce and nation-building at a time when locating people and places among the buffalo and beaver was a real challenge. By 2005, [Canada Post](#) was delivering 11.1-billion letters and packages - about 37-million pieces every day - to over 31-million individual Canadians *plus over 1-million businesses and institutions* at some 14-million points-of-call.

Canada Post has established an electronic pedigree as well. epostTM serves about 4-million subscribed Canadians, delivering electronic bills for over 90-percent of Canadian large volume mailers. Canada Post also provides both an electronic courier service to securely transmit large electronic documents and an Electronic PostMark.

To Canada Post, location intelligence has always been critical for moving things between people and institutions effectively and efficiently.

In the early 1970s, Canada Post introduced the world to the postal code, which remains the *de facto* addressing standard today. The postal code solved challenges faced by post offices in getting correspondence from sender to receiver in a heroically short time. But thirty-five years later, addressing precision is getting finer and more important all the time.

Defining the discussion

Oxford defines *location* as "a particular place or position." That can mean a home or business or postal box in the traditional communications context. Online, it probably means something less than a permanent position and more like status relative to a communications transaction (i.e., current position for this communication). *Address* has several relevant definitions, the most applicable of which is "the details of the place where someone lives or an organization is situated." So address is a *proxy* for location. An address is pointless without a location. But a location can exist without - or in the absence of - an address. That's an important distinction.

One more quick clarification: a letter - anything written, really - is the *residue* of communication: an artifact. Residue is what's left over; an artifact is something left over that is important to somebody. Anything that confirms or records a communication or transaction, providing assurance of meaning and detail, has typically ended up rendered physically. But these physical renderings are not and are never the actual communication itself: a condition that applies even more to electronic communications. That's another critical nuance.

The promise of the Internet

One original promise of the Internet was to render irrelevant geo-location addresses as *communications targets*. The underlying logic runs like this:

1. Ideally we want to communicate *with the person not to a place*.
2. With email accessible effectively anywhere, electronic communication is freed from geographic location as a proxy for the person.

3. Thus it is an archaism to reach a person at a fixed physical location (i.e., via geographic address). This theoretical decoupling of person from geography renders location and corresponding address as holdovers of a dying age.

It's a little facile. While the technology may be available, social mores and many business and social infrastructures are not ready for geo-location independence.

Admittedly, the premise of person-to-person direct contact is the bedrock upon which relationships are built. In the absence of the face-to-face knowledge, awareness, and history typically referred to as social capital or trust, [a substitute is required](#). Without the lubricating balm of trust, relationships *must* be mediated, [typically through legal apparatus](#), irrespective of the technical feasibility of direct communication. And that takes us back to residue and artifact, to physicality, and ultimately to geo-location.

The electronic world creates trust challenges as a function of its very nature. The more-obvious challenges would have to be overcome with structural remedies for a geography-free location environment to persist.

- **Anonymity.** The New Yorker captured it best some years ago in a cartoon caption that read, "On the Internet, nobody knows you're a dog." Anonymity reduces personal knowledge, making SPAM and scams easy. That's the magic of the Internet.
- **Churn.** In the context of location, churn means the movement of people among associated addresses. Consider this: on average about 14-percent of Canadian households [change residence each year](#). In the electronic world, churn - the rate at which email addresses are abandoned or otherwise changed - [runs about 40-percent](#). There is an obvious structural bias toward increased stability and permanence in the physical world.
- **Proximity.** Ironically - as academics and researchers such as Pankaj Ghemawat [are consistently and continuously proving](#) - on average 90-percent of business (and non-search, online) activity is local at any given time. That supports the [work of Goldsmith and Wu](#), who argue that, "What we once called a global network is becoming a collection of nation-state networks."
- **Multiplicity.** While I can associate to an infinite number of electronic locations because it's essentially cost free and available everywhere, I will have only a few physical location associations. The cost and trouble of establishing relationships to multiple physical addresses limits their number to: home, business, cottage, a post office box somewhere. By any accounting that's a lot less than infinite, reflecting the "oneness" of my entity.

Not only is location in an abstract sense important, but geographic location is a critical locational element to people, communications and relationships. Even in the expanding electronic world.

The revenge of geography

Once written off beneath the Internet's jackboot, geography has shown a resilience that few anticipated.

Earlier we noted that humans need to know "where" to connect with things - including people. Think of your own experience. When you're on the phone, don't you ask, "Where are you?" We all impose the real, tangible world upon our thoughts. And that real, tangible world is one in which geographic location and position count.

Our most fundamental understanding is based in physical description and location. Music is ideally suited to virtuality, yet remains typically understood as being *somewhere*. Maybe my eleven-year-old, whose music comes exclusively out of an iPod, doesn't think much about it. But most adults still think about music as a possession and on the basis of *where* it is. Some of my MP3s are on my iPod while others are on the backup hard drive. We *think* in the tangible terms of location. (Consider that most people have no real appreciation that software is not the CDs or files they have "purchased" and possess. Rather, it is an intangible, the use of which is rented (by license) and that the tangible form - CD and other media - is mere residue. It's consistent with the thesis presented here but is for another day.)

If that weren't enough: businesses and governments use geographic location as a primary, if not *the* primary, recordkeeping attribute/identifier. Why *geographic* location? I think it comes back to the human bias for consistency and stability. Because we are all in perpetual, constantly expanding motion, we seek ways to anchor the objects moving around us.

Moreover, there is one immutable obstacle to the alleged irrelevance of geography - at least until we are one world undivided. Nation-states define groups of people culturally, spatially and *legally*. And you don't have to leave a country to see it in action. Location awareness is critical for state or provincially-regulated businesses, such as insurers or credit unions. The *location* of citizens determines applicable jurisdictions, and communicating online does not relieve one of those legal obligations ([Yahoo Has Tough Day in French Court - Computerworld](#)). So, the Internet does not cross *all* borders *all* that well *all* the time ([Goldsmith and Wu](#)).

Finally, of course, tangibles are not reducible to data. As long as they have to be moved, geophysical location is material.

Our changing relationship to "location"

Of course, geography's revenge is not the last word. That would be as misguided as the original Internet promise of geographic independence. New conditions will undoubtedly evolve a new hybrid digital-tangible world.

Over time, people reasonably and organically isolated geo-physical location addresses as the primary means for establishing at least communication connections to others. Now, however, the relatively recent wrinkle of electronic addresses associating people to various cyber-locations also for the sake of written communication has risen to the fore.

This expansion of address associations *has* to force a change to our understanding of intelligence about location, and even to what "location" is itself. A shift from understanding location as a static position in a real or even virtual world to the idea of fluid movement is one way location intelligence could evolve. For example, in the patterns of both electronic and physical address activity, location may become a fixed, yet fluid, system. Triangulation of connections could be a way we become intelligent about location in its fullest future sense. Look only to MSN Messenger Live or to any mobile phone-based traffic tracking system for indications that this movement is afoot. ([IntelliOne](#) is just one example of a business that provides real-time traffic data by tracking and triangulating mobile phone signals. Microsoft's MSN Messenger Live will, for subscribers, keep them online as they move between computer and mobile phone.)

This is nothing special or new. I've merely applied [Heisenberg's Uncertainty Principle](#), from quantum mechanics, to this environment where precise location and movement are entwined. The uncertainty principle states that the more precisely the position of a thing is known, the less certain is knowledge of momentum or movement. And, of course, the reverse is also true. With regard to location, we are conditioned and satisfied to focus on the precision of the position and it's served us well. But our coming challenge will be to evolve toward the movement side of Heisenberg's balance.

This, obviously, is a challenge for a business like Canada Post with a long history and core dependence on geographic address knowledge and location intelligence. *If*this is the future of location, however, it should be apparent why we *now* have to master the intricacies of, and extract maximum value from, geographic location intelligence.

A postal response

Canada Post is moving along that path, actively systematizing an increasingly specific and discrete address knowledge. Using existing and available geographic information, the organization is systematizing the tacit knowledge it has in the 25,000 people on Canadian streets every day. The expanding location intelligence includes, among other things, the ability to determine geographic traits such as delivery zone and location risks. Commercial mailers appreciate knowing about riskier target zones, to opt for extra security features on more valuable communications. Location intelligence is also being applied to, and derived from, delivery patterns that validate addresses and map mail flows for density, velocity and so forth. This facilitates effective restructuring of operating networks and routing to better serve Canadian mail senders and receivers. Consistent with some of the challenges and evolutions I've just described, Canada Post's location intelligence capacity is further developing to encompass electronic attributions and individual associations to addresses. This, however, is a much more dynamically evolving environment.

Canada Post is, as well, working to orchestrate national meta directories of location and address: collaboratively managed and infinitely expandable datasets that contain geography, address and postal

information. On top of this foundation could be protected and proprietary layers of attribute data such as elector lists, household information and so forth.

And these are only the first steps into the possibilities of the future.

The cusp of opportunity

Imprecise location information in a crowded, mobile and fast world is no longer enough. The railroad, automobile and airplane had a substantial impact on creating these conditions, but recent technology has supplied further complications. Fortunately, addressing to reach people is evolving to accommodate the virtual, while remaining rooted in the tangible. If these are developed in tandem, challenges to physical delivery precision could be resolved and tied to the fluid position of individuals and to electronic multiplicity, binding the real to the digital in a meaningful and valuable way for society.

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