Chapter 2
Spatial Humanities GIS: The City As a Literary, Historical, and Cultural STEAM Lifeworld Laboratory

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Behavior in space and time [is like] the surface movements of icebergs, whose depths we can sense only vaguely. Anne Buttimer, Grasping the Dynamism of Lifeworld (1976)

Abstract Cities envisioned through the phenomenological lenses of literature and history cannot necessarily be parsed by algorithms, sensors and Smart City techno-rhetoric, but may suggest STEAM framed avenues of engagement between literary, historical and cultural scholars and computer scientists and urban engineers. As a STEAM cognate discipline, the Spatial Humanities is a new interdisciplinary field which finds scholars in literature, history, philosophy, linguistics, film, culture and media studies engaged with colleagues from scientific and quantitatively-oriented disciplines to explore questions on geographical and conceptual space. The field exploits various geospatial and digital data technologies, guided in their use by the history and philosophy of spatial thought, literary criticism, linguistics, digital media and geographic information science (GIS). By focusing questions concerning place and space through the lens of the humanities, the field has been exploring methodologies in geo-data mining, the geo-semantic Web, and the visualization, analysis and spatial applications of cultural and historical data, among other topics. The agenda of the Spatial Humanities includes the pursuit of theory, methods, case studies, experiments, applied technology, broad narratives, and more persuasive strategies. Its aims are commensurate with STEAM initiatives in its goal to bridge research fields in arts, humanities and (natural, life and social) sciences.

Keywords GIScience · Smart cities · Literature · Public history · Social media

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13

Introduction

Cities envisioned through the phenomenological lenses of literature and history cannot necessarily be parsed by algorithms, sensors, and smart city techno-rhetoric, but may suggest STEAM-framed avenues of engagement between literary, historical, and cultural scholars and computer scientists and urban engineers. As a STEAM cognate discipline, the Spatial Humanities is a new interdisciplinary field which finds scholars in literature, history, philosophy, linguistics, film, culture, and media studies engaged with colleagues from scientific and quantitatively oriented disciplines to explore questions on geographical and conceptual space. The field exploits various geospatial and digital data technologies, guided in their use by the history and philosophy of spatial thought, literary criticism, linguistics, digital media, and geographic information science (GIS). By focusing questions concerning place and space through the lens of the humanities, the field has been exploring methodologies in geo-data mining, the geo-semantic Web, and the visualization, analysis, and spatial applications of cultural and historical data, among other topics. The agenda of the Spatial Humanities includes the pursuit of theory, methods, case studies, experiments, applied technology, broad narratives, and more persuasive strategies. Its aims are commensurate with STEAM initiatives in its goal to bridge research fields in arts, humanities, and (natural, life, and social) sciences.

This chapter will discuss Spatial Humanities GIS deep mapping methodologies, as they relate to smart cities, "sense of place," and distant and close reading techniques. These theoretical approaches with be applied to two STEAM case sketches. The first sketch will discuss deep mapping the "Dirty Realism" of Los Angeles "Skid Row" poet, Charles Bukowski, focusing on the places of his literary production, by drawing on his poetry, prose, and biography as data sources. The second sketch will discuss STEAM approaches to a public history Spatial Humanities deep mapping of civilian deaths in Dublin that occurred during the 1916 Easter Rising, contextualized by its 2016 Commemoration reflected in digital and social media data. Both sketches will engage Spatial Humanities *distant* and *close* reading techniques.

Deep Mapping, Spatial Humanities GIS, and the Smart City

GIS deep mapping is one emerging technique and holds considerable potential for integrating both Spatial Humanities and STEAM research into smart city computing and engineering approaches. The Native American writer William Least Heat-Moon (a.k.a. William Lewis Trogdon) first employed deep mapping as a discursive, stratigraphic literary method to explore the "sense of place" of a single county on the plains of Kansas in *PrairyErth: A Deep Map* (1991). Deep mapping has been employed as a heuristic by Spatial Humanities GIS practitioners to design mixed method (qualitative and quantitative) data structures and models to map the dynamic stratigraphies of period and place. Deep mapping weaves oral testimony, anthology, memoir, and biography into a "vertical form" of travel writing to reveal the grain
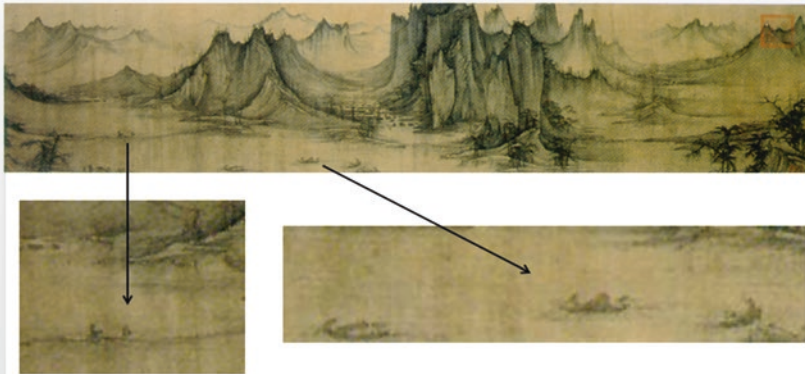
Xu Daoning, *Fishing in a Mountain Stream.*
Northern Song Dynasty, mid-11th CE (ink on silk)

- **Lack of Fixed Point of View;** wandering eye.
- **Cinematographic Effect:** all-seeing and in flux, unfolding movement.

Fig. 2.1 Mid-eleventh-century Chinese landscape painting and the "Drifting Cinematographic Eye"

and patina of place by intersecting the historical with the present, the political with the poetic, and the discursive with the sensual.[1] Least Heat-Moon can be considered a topographical travel writer, and his works include *Blue Highways: A Journey Into America* (1982) and *River Horse: The Logbook of a Boat Across America* (1999). He also translated and edited *An Osage Journey to Europe 1827–1813* (2013) symbolizing the confluence of two aesthetic and intellectual traditions. The first concerns occidental perspectives on space and place described previously in this chapter, and the second is reflecting subtly the imprint of the oriental, as his Native American ancestral footprints arguably include forbearers who migrated a millennium ago across the now submerged Siberian land bridge. In this sense, his works impart cinematographic, oriental, and phenomenological perspectives which can inform the development of GIS deep mapping sensibilities. The cinematographic eye offers a "way of seeing," similar to the ocular technologies, techniques, and discursive tropes such as "landscape" that have preoccupied the practices of geography, cartography, and GIScience (Fig. 2.1).

According to geographers Marcus Doel and David Clarke (2007), cinematic perspectives possess the "ability to abstract, manipulate and reengineer the spatial and temporal registration of events."[2] This phenomenological ability, according to Siegfried Kracauer, allows the cinematographic eye to "drift"

[1] Pearson, M. and Shanks, M. 2001. *Theatre/Archaeology - the (re)articulation of fragments of the past as real-time event*. London, Routledge.

[2] Doel, M.A. and Clarke, D.B., 2007. Afterimages. *Environment and Planning D: Society and Space*, 25:5. Pp. 890–910.

[…] towards and into the objects -so much like the legendary Chinese Painter who, longing for the peace of landscape he had created, moved into it, walked towards the faraway mountains suggested by his brush strokes, and disappeared into them never to be seen again.[3]

Conceiving and incorporating phenomenology and cinematographic and oriental aesthetics into geospatial technology models to represent past and present "senses of place" raises significant representational challenges. However, currently GIScience urban "Platial" models are beginning to integrate social media data with Big Data streams to facilitate a significant conceptual shift from the classical "layer-cake view of the world" to a digital "networked cupcakes view of the world."[4] Relevant to the evolution to Spatial Humanities GIS deep mapping practices, such "Platial" models illuminate Jaime Lerner's theory of "urban acupuncture" in which a city is viewed as a living organism possessing specific "neural" target points that can be targeted and engaged to re-energize its corpus.[5] Connecting the "dots" of these target points reveals what Seamus Deane, parsing the work of Walter Benjamin, defines as a "constellation":

[…] a previously unrecognized structure or network of relations that was always there, like the unconscious, and appears to us, like it, in articulated images, laden with the weight of the past and yet haloed in the light of discovery and recognition.[6]

Such a constellation was revealed by a Spatial Humanities GIS social media survey of a recent Bloomsday celebration in Dublin. This deep mapping experiment employed James Joyce's novel *Ulysses* (1922) as a discursive structure to plot a narrative set by Joyce in 1904 upon the constelled "senses of place" generated by Joycean pilgrims in the Irish capital on 16 June 2014 (Fig. 2.2).[7]

In the zeitgeist of the early twenty-first century, such Spatial Humanities approaches and deep mapping experiments are useful in offering a different perspective on the relationship between cities, human agency, and the "wicked problems" of the twenty-first century such as global warming and political polarization. Indeed, the majority of the world's population will be residing in urban areas by 2050; as such, cities have become primary sites of social experimentation and problem-solving, and the smart city heuristic has been promoted as "a somewhat nebulous idea that seeks to apply massive amounts of digital data collected about society as a means to rationalize the planning and management of cities."[8] The smart city, being

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[3] Kracauer, S., 1960. *Theory of film: The redemption of physical reality*. Princeton University Press. 165

[4] Roche, S. 2015. 'Geographic information science II: Less space, more places in smart cities' *Progress in Human Geography*. 1–10. Accessed 1 June 2015 at: <http://phg.sagepub.com/content/early/2015/05/19/0309132515586296.full.pdf+html>.

[5] Lerner. J. 2014. *Urban Acupuncture*. Washington, DC: Island Press.

[6] Deane, S. (2007). Walter Benjamin: The Construction of Hell. *Field Day Review*. 3:2–27. Pg. 10.

[7] Travis. C. 2015. Visual Geo-Literary and Historical Analysis, *Tweetflickrtubing*, and James Joyce's *Ulysses* (1922). *Annals of the Association of American Geographers*<https://doi.org/10.1080/00045608.2015.1054252

[8] Shelton, T., Zook, M., & Wiig, A. (2014). The 'actually existing smart city'. *Cambridge Journal of Regions, Economy and Society*, rsu026.
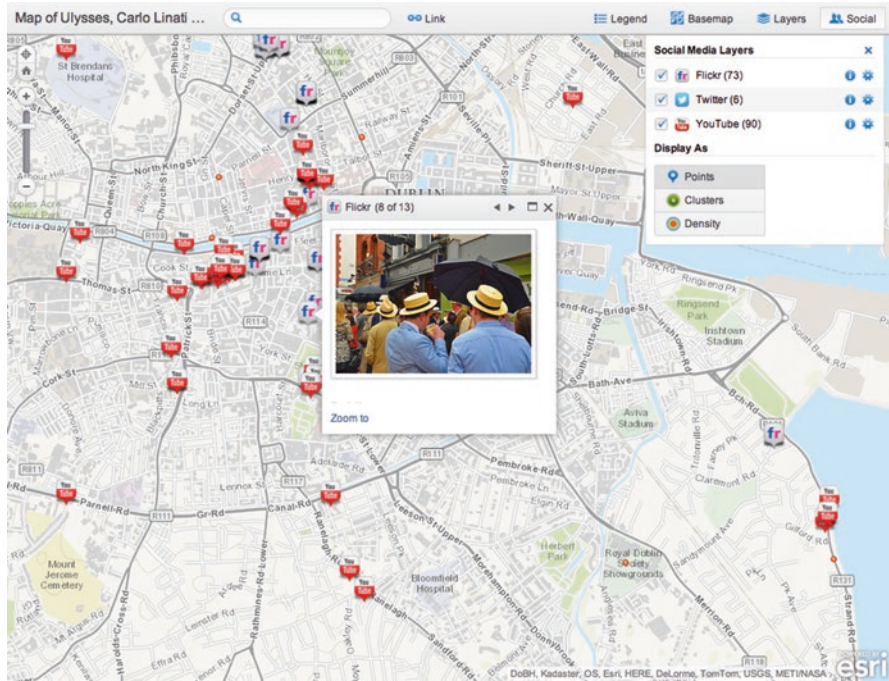
Fig. 2.2 Bloomsday "sense of place," Dublin 2014 (Charles Travis)

the latest iteration of an "urban science" discourse (similarly promulgated by the "quantitative revolution" in geography and planning in the 1950s), frames the city in a cybernetic webwork of information communication technology (ICT) global positioning satellites (GPS) and GIS. By harvesting digitized social and environmental data and the coding and algorithmic programing of various activities, urbanity and the human condition are conflated as a "complex network of interconnected systems," to be designed and regulated for the common social and environmental good.[9]

Anticipating these emerging forms of technically mediated urbanity, Henri Lefebvre warned of the *cyberanthrope* whom "disqualifies humanism in thinking and action" by purging the "illusions of subjectivity: creativity, happiness, passion" and severely treating "the dramatic, the historic, the dialectic, the imaginary, the possible-impossible" by living "in close proximity with the machine."[10] Subsequently, transdisciplinary dialogue, reflecting STEAM approaches, between human geographers and scholars with spatial and urban interests, has made gains in theorizing the human condition and its wider relationship between GIS, ICT, digital data, transportation and mobility, and smart cities.

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[9] IBM Smarter Cities. 2012. *Smarter, More Competitive Cities Forward-thinking Cities Are Investing in Insight Today*. Somers, NY: IBM.

[10] Lefebvre, H. 1971 *Vers le cybernanthrope: contre les technocrats*. Denoël: Paris. Pp. 194–198.

GIS and Sense of Place

Donald J. Janelle (2001) states that underlying complexities in the human organization of urban space present methodological problems for GIS in linking empirical research questions with alternative theoretical frameworks.[11] However, GIS and humanities collaborations have been facilitated by the digital revolution of the last quarter century. In the 1950s, Claude Lévi-Strauss outlined the "three humanisms" of Western history; in the twenty-first century, a "fourth humanism," coined by Milad Doueihi (2011) as "digital humanism," describes a "type of society," multiple types of media and texts (books, maps, multimedia, augmented reality), that cannot be fixed in space or stabilized over time."[12] "Digital humanism" coincides with the dissolution of epistemological boundaries between science and technology studies, the arts, and humanities. Additionally, the rise of social media has contributed to the evolution of digital humanities theory and practice. The digitization of historical, literary, and artistic texts and emergence of online research methods and teaching have dovetailed with humanities computing quantification projects and digital parsing, analysis, and visualization applications. Human geographers have long held that literary texts are the product of human perception and consider discursive tools such as imagery, narrative, and setting as means to access the subjective dimensions of a particular location's "sense of place."[13] In *Humanistic Geography* (1976) Yi-Fu Tuan considered five elements constituting a "sense of place": the nature of geographical knowledge, the role of territory in human behavior, the creation of place identities, the role of knowledge as an influence on livelihood, and the influence of religion on human activity. Ideology, culture, affect, and as Tuan observed "sense of time" affect a location's sense of place.[14] In contrast, the Irish poet and Nobel laureate Seamus Heaney defines a "sense of place" from a purely literary perspective:

> […] it is this feeling, assenting, equable marriage between the geographical country and the country of the mind, whether that country of the mind takes its tone unconsciously from a shared oral inherited culture, or from a consciously savoured literary culture, or from both, it is this marriage that constitutes the sense of place in its richest possible manifestation.[15]

However, such nuanced, affective, and subjective perspectives on the human experience of place have been elided in most GIS research and study. Daniel Sui and Michael Goodchild note: "until recently, place has been off the intellectual radar screen of GIScientists, many of whom appear to use the two terms place and space

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[11] Janelle, D.G. 2001. Time-space. In Geography. *In*: N.J. Smelser and P.B. Baltes, eds. *International Encyclopedia of the Social and Behavioral Sciences*. Amsterdam: Pergamon-Elsevier Science, 15746–15749.

[12] Doueihi, M. 2011. *Pour un humanisme nume'rique*. Paris: Seuil.

[13] Travis. C. 2006. *Lifeworlds: Literary Geographies in 1930s Ireland*. PhD thesis, Trinity College Dublin; Tuan, Y-F. 1977. *Space and Place: The Perspective of Experience.* London: Arnold.

[14] Tuan, Y-F. 1976. 'Humanistic Geography.' *Annals of the Association of American Geographers*, 66:2. Pp. 186; 266–276.

[15] Heaney.S. 1980. *Preoccupations, Selected Prose 1968–1978*. N.Y. Farrar, Straus, Giroux. pg. 132.

somewhat interchangeably."[16] In contrast, the objective of GIS deep mapping to quote Trevor M. Harris "is to shift from a view of humans as entities or data points to an examination of behavior, the material and imaginary worlds, and the relationships that compose notions of a nuanced, non-reductionist, deeply contingent, and scaled conception(s) of place."[17] Recently, commensurate GIS applications have engaged the study of urbanity as perceived in literary, historical, and cinematic texts, in addition to the perception and the remediation of place diffracted by social media platforms and mobile computing devices.[18]

As Shannon Mattern (2016) observes, the creation of texts and urbanities has been intertwined for at least a millennium:

> Some of the first writing surfaces, clay and stone, were the same materials used to construct ancient city walls and buildings, whose facades also frequently served as substrates for written texts. The formal properties of those scripts—the shapes they took on their clay or, eventually, parchment and paper foundations—were also in some cases reflected in urban form: how the city molded itself from the materials of the landscape. And those written documents have always been central to our cities' operation: their trade, accountancy, governance, and culture.[19]

One of the key concerns underpinning Spatial Humanities, and deep mapping approaches, is how geospatial technologies can be used to mine, manage, manipulate, chart, visualize, and analyze the subjective geographies embedded within such documents and literary, historical, and cultural texts.[20] Paul Ricoeur observes that literature, born from the life of writers, provides "an unstable mixture of fabulation and actual experience" and thus "an immense laboratory for thought experiments."[21] In *Berlin Chronicle* (1927–1934) Walter Benjamin's study of the city, the literary critic

> […] played with the idea of setting out the sphere of life-bios-graphically on a map. First I envisaged an ordinary map, but now I would incline to a general staff's map of a city center, if such a thing existed.[22]

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[16] Sui, D. and Goodchild, M. 2011. 'The convergence of GIS and social media: challenges for GIScience' *International Journal of Geographical Information Science*. 25(1): 1737–1748.

[17] Harris, T.M. 2015. Deep Geography-Deep Mapping: Spatial Storytelling and a Sense of Place in *Deep Maps and Spatial Narratives*. Ed. David J. Bodenhamer, John Corrigan, and Trevor M. Harris. Bloomington & Indianapolis: Indiana University Press. Pg. 42.

[18] Travis, C., 2015. *Abstract machine: humanities GIS*. Esri Press.; Cooper, D., Donaldson, C. and Murrieta-Flores, P. eds., 2016. *Literary mapping in the digital age*. Routledge.; Stadler, J., Mitchell, P. and Carleton, S., 2015. *Imagined landscapes: geovisualizing Australian spatial narratives*. Indiana University Press.

[19] Mattern,S. 2016. "Of Mud, Media, and the Metropolis: Aggregating Histories of Writing and Urbanization," *Cultural Politics* 12:3 (November 2016): 310–31. Pg. 310.

[20] Gregory, I., Bushell, S. and Cooper, D., 2013. *Mapping the Lakes: Towards a Literary GIS*.

[21] Ricoeur, P. 1992. *Oneself as Another*, trans. Kathleen Blarney. Chicago, IL: University of Chicago Press. pg.159.

[22] Benjamin, W. 1999. 'A Berlin Chronicle.' *Walter Benjamin: Selected Writings*, Volume 2: 1927–1934. Ed. Michael Jennings, Howard Eiland and Gary Smith. Trans. Edmund Jephcott. Cambridge. Harvard UP. Pp. 595–637.

Dan McQuillan (2017) echoes this perspective, stating that smart cities are "more clearly revealed by the idea of the map as narrative, rather than as a spatial construction; that is, the map is something constructed out of movements and histories rather than something that precedes them."[23] Doueihi's (2013) perception of digital humanism asks "what is the situation with the anthropology of this new inhabited earth, these new digital territories that are flexible, fluid and constantly moving? How should we think about them, analyse them, especially since geolocation and smart cities cannot be dissociated from our daily lives?"[24]

Such a perspective, anticipated by Henri Lefebvre in *The Production of Space* (1991), considered the "hyper-complexity of space" in which "fixed points, movements and flows and waves—some interpenetrating, others in conflict," coalesce to compose the human fabric of a city.[25] Stephen Roche's (2015) smart city schema sharpens Lefebvre's perspective in four ways: firstly as an intelligent city (social infrastructure); secondly, as a digital city (informational infrastructure); thirdly, as an open city (open governance); and fourthly, as a live city (a continuously adaptive urban living fabric). Consequently, smart cities can be perceived as a human web of *places* rather than an abstract network of *spaces*. Urban areas can now be surveyed and mapped textually, visually, and aurally through geospatial lenses to identify and analyze "the digital (spatial) activity generated by social media users."[26] While GIS is a digital tool, the humanities are still overwhelmingly conceived and practiced as analogue disciplines and have yet to reap fully from the benefits of the twenty-first digital revolution. Digitization, the first steps to new procedures of inquiry in the "Age of Big Data," has enabled scholars to collate and parse geo-data sets and ask questions that would have been considered impossible at more than a speculative level only a decade ago. Indeed, analogue archives hold seas of human knowledge, which have yet to be digitally trawled to their true depths. Locked in parchment, paper, pieces of photography, cartographical documents, paintings, and microfilm, such academic artifacts have become attribute sources for Spatial Humanities GIS deep mapping expeditions.

GIS and Distant and Close Readings

The deep mapping of Bukowski's Los Angeles and Dublin 1916/2016 by GIS in this chapter is guided by contrapuntal *distant* and *close* readings of contrasting literary and historical perceptions of urban space. Historical, literary, and biographical texts

[23] McQuillan, D. 2017. Countermapping the SmartCity, *Navigations* (Spring).

[24] Doueihi, M. 2013. 'About Digital Humanism.' *Ideas.* Accessed August, 15 2015. <http://www.inaglobal.fr/en/ideas/article/about-digital-humanism>.

[25] Henri Lefebvre in *The production of space* (1991) (2007, 88).

[26] Roche, S. 2015. 'Geographic information science II: Less space, more places in smart cities' *Progress in Human Geography*. 1–10. Pg. 6. Accessed 1 June 2015. <http://phg.sagepub.com/content/early/2015/05/19/0309132515586296.full.pdf+html>.

can be visually juxtaposed, parsed, plotted, and contextualized by GIS with an analysis of the historical and cultural landscapes composing the city. *Distant reading*, coined by literary scholar Franco Moretti, approaches literature "not by studying particular texts, but by aggregating and analyzing massive amounts of data," and employing "statistical, quantitative methods to 'read' large volumes of text at a distance, using 'graphs, maps, and trees' as forms of abstract representation that enable the study of patterns over time."[27] In contrast, *close reading*, a fruit of New Criticism theory, undertakes careful, sustained, deconstructive interpretations on brief passages of text. Translating these two critical types of reading techniques into GIS deep mapping creates differing scales from which to map the works and life spheres of writers, their personas, and characters. By employing Benjamin and Lefebvre's cartographical aspirations and spatial sensibilities, the works of Bukowski and the 1916 Easter Rising/2016 Commemoration digital narratives will plot deep mappings of Los Angeles and Dublin, respectively, to consider how the milieus and paths of fictive and active *lifeworlds* intersect and interpenetrate to compose the human fabric of the city.

Los Angeles, United States of America: Charles Bukowski's "Dirty Realism"

This urban deep mapping sketch considers a similar urban biographical study of the writer Charles Bukowski's (1920–1994) poetic production. Los Angeles has been acknowledged as "Buk" territory, and he distilled the personas and places in his poetry and prose from his various guises as a skid row bum, wage slave in dead-end jobs, post-office employee, and charity case suffering from liver malfunction.[28] Born in Andernach, Germany, Charles "Hank" Bukowski and his family moved to South-Central Los Angeles when he was 3. Growing up, Bukowski suffered an extreme case of acne and was bullied by his father and his classmates. An old brownstone near 21st Street and La Brea Avenue housed the local library of his childhood and provided him a safe haven in his early teens where he discovered and learned to admire the writers Sinclair Lewis, D. H. Lawrence, and Ernest Hemingway. After Bukowski's first taste of alcohol as a teenager (provided by his friend William "Baldy" Mullinax who appears in the semiautobiographical novel *Ham and Rye* (1982) as "Eli LaCrosse"), Bukowski realized that drinking was "going to help me for a very long time."[29] He graduated from Los Angeles High School and attended Los Angeles City College for 2 years, taking courses in art, journalism, and litera-

[27] Moretti. F. 2000. Conjectures on World Literature. *New Left Review* 1: 54–68; Franco Moretti. 2013. Operationalizing: Or, the Function of Measurement in Modern Literary Theory.' *Pamphlets of the Stanford Literary Lab* 6:1–13 <http://litlab.stanford.edu/LiteraryLabPamphlet6.pdf.>.

[28] Madigan, A. 1996. What Fame Is: Bukowski's Exploration of Self. *Journal of American Studies, 30*(3), 447–461.

[29] Bukowski, C., 2009. *The Roominghouse Madrigals: Early Selected Poems 1946–1966*. Harper Collins.
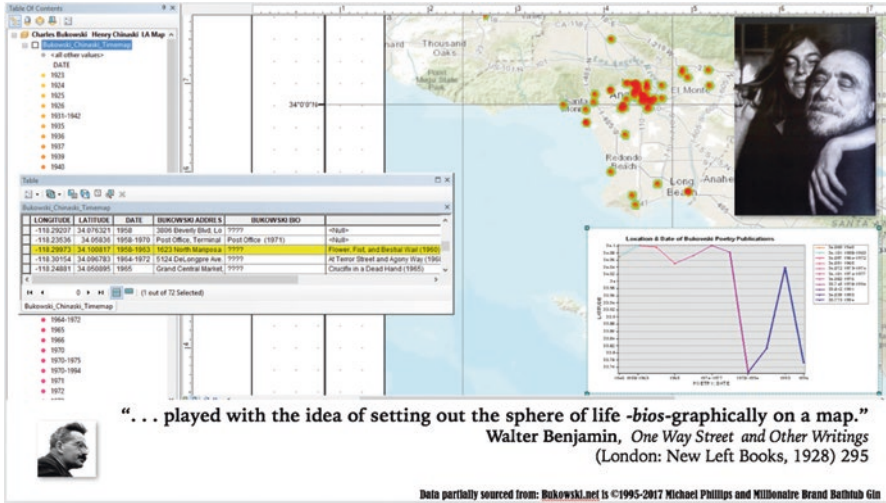
"... played with the idea of setting out the sphere of life *-bios-*graphically on a map."
Walter Benjamin, *One Way Street and Other Writings*
(London: New Left Books, 1928) 295

Data partially sourced from: Bukowski.net is ©1995-2017 Michael Phillips and Millionaire Brand Bathtub Gin

Fig. 2.3 Charles Bukowski's "Skid Row Latitude" of 34°0′0′ (Charles Travis)

ture, before dropping out at the break of the Second World War. In the 1940s and 1950s, he traveled around the United States working as an itinerant laborer, depicted in his novel *Factotum* (1975) before returning to California. Bukowski's restlessness is captured in his poem *Consummation of Grief*:

> *I was born to hustle*
> *Roses down the avenue*
> *Of the dead.*[30]

In 1967, Bukowski began writing for the alternative Los Angeles paper *Open City*. Bukowski's poetry, autobiographical stories, essays, and other musings were published alongside "coverage of student unrest, the New Left, black power, civic and police corruption, the draft resistance, drug information, and adverts for sexual contacts and services," and he garnered minor cult fame because of his raw, screaming, profane, and provocative poetry and prose in the mimeograph press.[31]

Bukowski, known as the "Skid Row Poet" because of his depiction of seedy urban landscapes, populated by the unemployed, by drunks, and by prostitutes, produced much of his poetry along 34°0′0′ (DMS) latitude as it runs through East Hollywood and the other grittier parts of Central Los Angeles (Fig. 2.3). In *My Kind of Place* (1978), Bukowski describes what it is like to be marginalized under the famous hillside sign that signifies to the world the illusory dreamland of the American experience:

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[30] Bukowski, C., 2009. *The Roominghouse Madrigals: Early Selected Poems 1946–1966*. Harper Collins.

[31] Debritto, A., 2013. *Charles Bukowski, King of the Underground: From Obscurity to Literary Icon*. Springer.
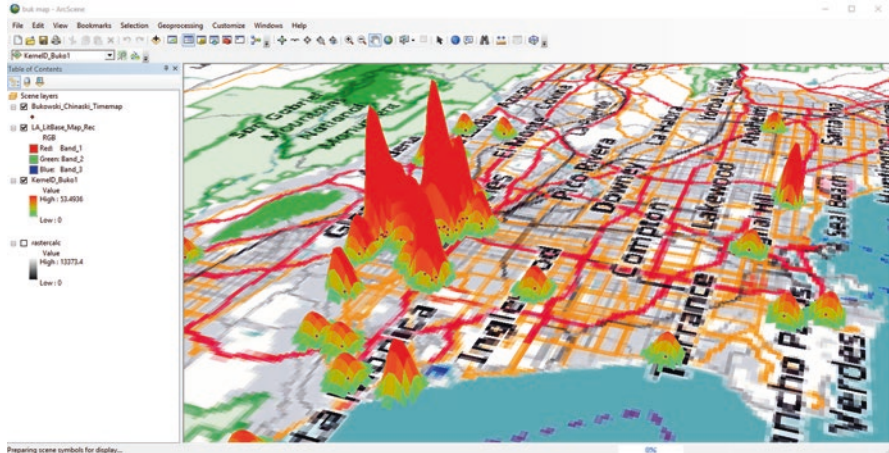
Fig. 2.4 Charles Bukowski's "Peaks and Canyons of Experience" (Charles Travis)

> *I can see the 'Hollywood' sign on the mountain*
> *and I walk the streets in the late afternoons*
> *dressed in bluejeans and a*
> *black t-shirt.*
> *it's warm and easy and there's not much to do.*
> *the black whores take up most of the tables at the STAR BURGER*
> *and I walk past ZODY'S*
> *carrying a 6 inch switchblade in my pocket.*[32]

Bukowski moved to the seaside suburb of San Pedro in 1978 (illustrated by the dip in the graph above) but lived for most of his 73 years alongside the "Skid Row Latitude" of 34°0′0′ as it bifurcated the sweltering, smog-filled belly of Los Angeles. His piece, *Nut Ward East of Hollywood*, describes navigating the milieu:

> We finished the wine and then walked down to Shakey's and drank the deep brown beer by the pitcherful and watched the old-time fights – we saw Louis get dumped by the Dutchman; the third Zale–Rocky G. fight; Braddock–Baer; Dempsey–Firpo, all of them, and then they put on some old Laurel and Hardy flicks.[33]

Bukowski stated his writing reflected literally what had happened in his life and his experience living on the bottom rung of American society. The following lines from his poem *The New Place* illustrate the "sense of place" of the lowest rung (Fig. 2.4):

> *the manager wears all white*
> *has a 52 inch color tv*
> *and sits in the garden with her*

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[32] Bukowski, C., 1978. My Kind of Place. *Wormwood Review*, 18:3. Pp. 96–97.

[33] Bukowski, C., 2008. *Tales of ordinary madness*. Random House. Pg. 31.

x-alcoholic husband and speaks
of the price of red rose potatoes.[34]

The visual topography in Fig. 2.4 illustrates the predominant locations of Bukowski's life experiences and poetic production. The highest and lowest "Peaks and Canyons" of his life was lived along the "Skid Row Latitude" of 34°0′0′ (DMS). From *Flower, Fist and Bestial Wail* (1960), his first full-length collection of poetry, to *Pulp* (1994) published after his death, Bukowski employed the lens of "Dirty Realism" to depict "the humorous, lyric, impoverished lives of prostitutes, drinkers, bums, writers, and miscreants of every description."[35] Dirty Realism explores the "belly side of contemporary life" focusing on "local details, the nuances, the little disturbances in language, and gesture" which draws our attention to the

> … unadorned, unfurnished, low-rent tragedies about people who watch day-time television, read cheap romances … drink a lot and are often in trouble: for stealing a car, breaking a window, pickpocketing a wallet.[36]

Bukowski claims that when he started reading literature, almost nothing he found "related to me or the streets or to the people around me" and as a result disavowed the "senses of place" espoused by the American literary schools of his generation: "Those Black Mountain School snobs, let them smell their own turds! The Kenyon boys, let them write their celluloid senseless inoffensive poems." Bukowski concluded "to me, the entire poetic scene seems dominated by obvious and soulless and ridiculous and lonely jackasses … from the university group at the one end to the beat mob at the other … they go from creators to being entertainers."[37] Described as the "only major post-War American writer who has denied the efficacy of the American dream," Bukowski's work is viewed as "typically individualist, anti-formal, anarchistic" in its critique of the "Protestant work ethic, American market capitalism, and how these things affect the individual and society."[38] Despite Bukowski's conviction that academics are "parasites on the cerebral who rung texts out to dry to satisfy moribund preconceptions,"[39] this sketch's deep mapping was guided by contrapuntal *distant* and *close* readings of his texts and the places of their production (typically where he happened to be living) to plot the locations of his literary experience and perceptions of Los Angeles. Engaging literary critic Walter Benjamin's cartographical aspirations and spatial sensibilities to explore the locations of Bukowski's work and life sets the stage for deeper mapping of Los Angeles in order to consider how the milieus and paths of his and LA writers like Raymond Chandler,

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[34] Bukowski, C., 1976. The New Place. *Wormwood Review*, 16:1. Pp. 36–39.

[35] Madigan, *What Fame Is*. Ibid.

[36] Buford, B. 1983. Editorial, in Buford, B. (Ed.). *Granta 8: Dirty Realism: New Writing From America*. Granta, Cambridge. Pg. 4.

[37] Debritto, A., 2012. Writing into a Void: Charles Bukowski and the Little Magazines. *European journal of American studies*, 7:7–1.

[38] Madigan, *What Fame Is*. Ibid.

[39] Malone, A. 2003. *The Hunchback of East Hollywood: A Biography of Charles Bukowski*. Headpress/Critical Vision, Manchester. Pg. 43.

Walter Mosley, T.C. Boyle, and other writers' actual and fictive *lifeworld* paths intersect and interpenetrate to tell the stories of the city.

Dublin, Ireland: 1916 Easter Rising/2016 Commemoration

On Easter Monday, 24 April 1916, the occupation of the General Post Office (GPO) in Dublin, Ireland, signaled the intentions of a small group of republican and socialist militants to deliver a final proclamation against British rule in Ireland. The occupation led to an urban military conflict between the Irish rebels and British Army forces which left the city center of Dublin in ruins. The "Rising" was put down by April 30th and, though unpopular among the majority of Dubliners, only achieved totemic status in the Irish political imagination after the rebel leaders were summarily executed by the British. This led to a cascade of political events that inaugurated the Anglo-Irish War of 1919–1921 and the formation of the southern 29 county Irish Free State in 1922 (the Republic of Ireland was declared in 1949). The military parade past the General Post Office on O'Connell Street Dublin to commemorate the 1916 Easter Rising was reinstated in April 2006 after a hiatus of over three decades. The parade was halted in 1972 after being viewed as an incendiary act in light of the sustained political and sectarian violence of the 'Troubles' in Northern Ireland. On the ninetieth anniversary of the 1916 Rising in 2006, it was felt that a grace period of eight years from the 1998 Northern Ireland Peace Process Agreement had passed. As the national mood in the Republic of Ireland was cautious and reconciliatory, the parade was resumed (Fig. 2.5).[40]

As illustrated by the following lines from William Butler Yeats' poem *Easter 1916*, Rising commemorations during the twentieth century typically valorized the male protagonists who were executed and transformed in martyrs for Irish nationhood.

> *To know they dreamed and are dead;*
> *And what if excess of love*
> *Bewildered them till they died?*
> *I write it out in a verse-*
> *MacDonagh and MacBride*
> *And Connolly and Pearse*
> *Now and in time to be,*
> *Wherever green is worn,*
> *Are changed, changed utterly:*
> *A terrible beauty is born.*[41]

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[40] Smyth, H. 2015. *Commemoration from Below: Mapping the Civilian Fatalities of the 1916 Rising*. Master of Philosophy Public History and Cultural Heritage Thesis (Unpublished) Trinity College, The University of Dublin.

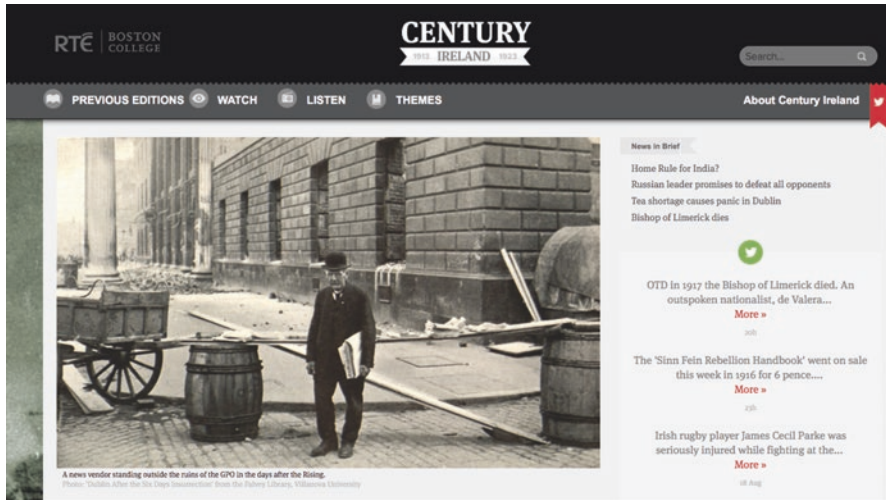[41] Poetry Foundation, accessed August 2017 <https://www.poetryfoundation.org/poems/43289/easter-1916>.

Fig. 2.5 Image of GPO. After Easter 1916 Rising from *Century Ireland* Twitter Narrative

Such sentiments contributed to official state narratives that elided the participation of other historic voices and actors. Additionally, and perhaps most troubling, such narratives contributed to the myth of blood sacrifice as a means to achieve a free Ireland and the rationale for political violence in Northern Ireland. At the behest of the Irish Dáil (parliament) commemoration committee, a minute silence was held explicitly in remembrance of all those who died during Easter Week 1916 whether they were a rebel, in the British Army, a Dublin Police, or a civilian. Accordingly, for the first time, civilian deaths caused by the Rising were publicly and politically acknowledged. However, civilians remain a footnote in the history of the revolutionary period and of the 1916 commemorative agenda (Fig. 2.6).[42]

Deep mapping the 1916 Rising/2016 Commemoration can help us understand how the absences of innocent civilians still linger in Irish historiography and provide an instructive example of how contentious public history commemorations and remembrances are mapped. The visualization in Fig. 2.6 represents the locations of where the lives of innocent civilians caught up in the urban conflict of the 1916 Rising in Dublin, Ireland, tragically ended. One of the main representational issues is to recognize that these locations are just a starting point from which to work backward and plot out the individual *lifepaths* of the deceased and gather the impressions of their *lifeworlds* (Fig. 2.7).

We could imagine the collective *lifepaths* reaching into the depths of history and in places intersecting under the three-dimensional schema of the city displayed by the 1903 *Thom's Map of Dublin* (Fig. 2.7) like the roots or branches of a tree or like the dendritic tendrils of the human brain which carry our memories, hopes, and

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[42] Travis, C and Smyth, H. 2016. Tell the Story of Irish Public History, *Learn ArcGIS*. Esri Press. <https://learn.arcgis.com/en/projects/tell-the-story-of-irish-public-history/>.
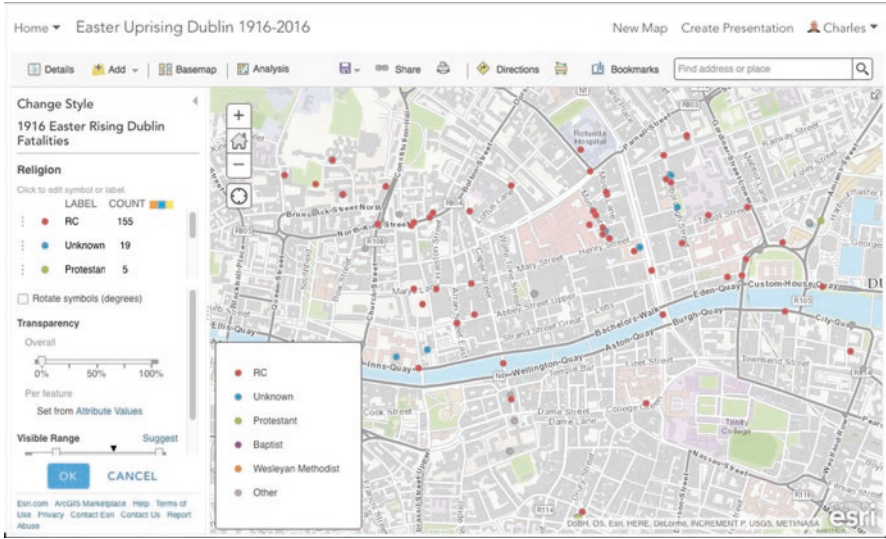
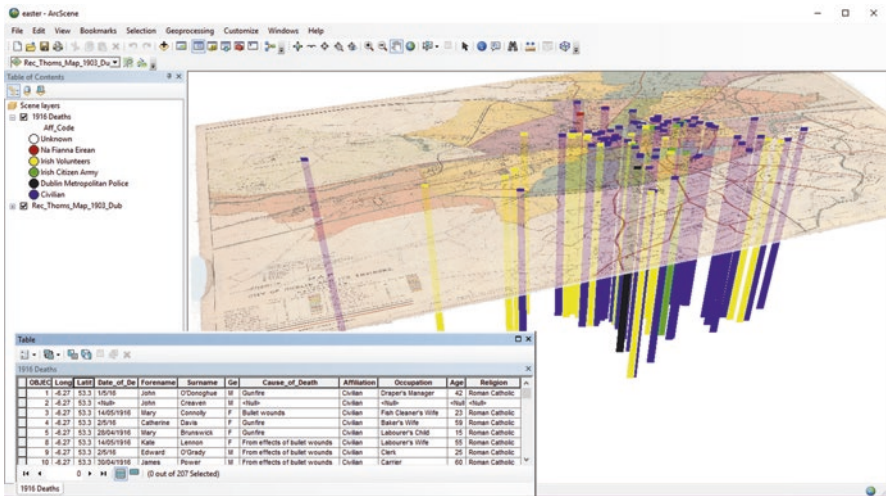**Fig. 2.6** Deaths from 1916 Rising by religious denomination (Charles Travis, courtesy of Hanna Smyth, the Glasnevin Trust and Esri)

Fig. 2.7 Easter Uprising 1916 deaths (civilians in blue), deep map tendrils (Charles Travis)

fears.[43] For instance, we could link the locations of these civilian deaths—contextu-alized by the 1916 Rising locations and a 2016 *Twitter* narrative of the occupation of the General Post Office by the rebels and subsequent events generated by *Century*

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[43] 1903 Thom's Map of Dublin image courtesy of Glucksman memorial map library, Trinity College Dublin.

Fig. 2.8 Historical commemoration social media post from the Dublin GPO (Charles Travis)

Ireland (Fig. 2.2) to social media posts (which cluster around the 2016 Dublin Commemoration Parade route) by individuals and groups observing the centenary (Figs. 2.5, 2.6, and 2.8).

Advances in cloud computing now allow the fruits of the Internet of Things, such as social media-generated "Big Data," to be processed remotely on desktop and tablet computers, and for HumGIS practitioners, such data streams can now supply the "deep content" required to analyze patterns and trends about the "many."[44] The Rising collapsed civic life in Dublin and began the cascade which removed the city from the British Cartesian Pale, but the fate of the innocent lives caught between the forces of empire and rebellion has only recently been explored due to the political turbulence in twentieth-century Irish history and the partition of the island. But with political violence receding and the presence of a Northern Peace Process, the mapping of human experience, agency, and identity, rather than the hagiographic mapping of battles, monuments, and iconography, is now emerging as one of the themes of Irish public history (Fig. 2.9).

The 1916 Rising/2016 Commemoration deep mapping exercise illustrates that emerging human-centric GIS "knowledge systems"[45] both embrace and transcend

[44] Sui, D. and Goodchild, M.F. 2011. The convergence of GIS and social media: challenges for GIScience. *International Journal of Geographical Information Science*. 25:11, 1737–1748.

[45] Bodenhamer, D., Corrigan, J. and Harris, T.M., 2010. *The Spatial Humanities: GIS and the Future of Humanities Scholarship.* Bloomington: Indiana University Press; Dear et al. 2011. *Geohumanities: Arts History, Text at the Edge of Place* (Routledge); Travis, C. 2015 *Abstract Machine: Humanities GIS* (Esri).
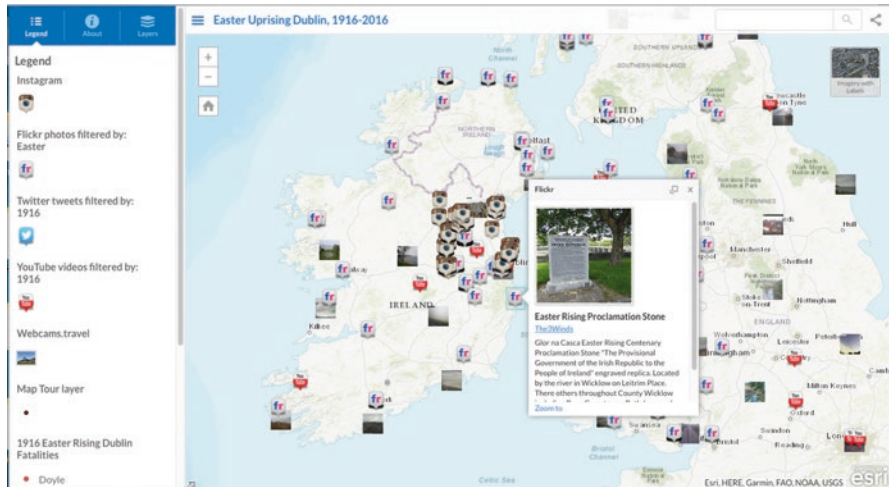
Fig. 2.9 2016 Commemoration social media post

Cartesian-based geospatial technology perspectives which frame the relation between "place" and historical events as a skeletal "geometry with names."[46] By harnessing nontraditional geo-data sources and employing a palette of affect and subjective perception, Spatial Humanities GIS can paint the colors and plot the vagaries of human experience and behavior, introducing a STEAM bridge between urban planners and engineers, public historians, and literary, digital, cultural, and media scholars.

Conclusion

> To educate the image-making medium within us, raising it to a stereoscopic and dimensional seeing into the depths of historical shadows. The words are from Rudolf Borchardt's *Epilegomena zu Dante*, v. 1. [Berlin 1923] pp. 56–7. (Walter Benjamin, *The Arcades Project* (N 1, 8), 458)

In *De Antiquissima Italorum Sapientia* (1710), the Italian eighteenth-century political philosopher and historian Giambattista Vico critiqued his contemporary René Descartes' methods for studying "civic life," stating that trying "to import the geometric method into practical life" was like "going mad by means of reason" and one "would march straight ahead through the infractuous course of life as though desire, temerity, occasion, fortune did not rule in human affairs."[47] In contrast to

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[46] Olsson. G. 2007. *Abysmal*: *A Critique of Cartographic Reason*. Chicago: The University of Chicago Press. Pp. 137–138.

[47] Vico, G. 2010 [1710]. *De Antiquissima Italorum Sapientia* (On the Most Ancient Wisdom of the Italians) Trans. J. Taylor. New Haven and London: Yale University Press. p. 11.

traditional Cartesian perspectives and approaches to studying cities and civic life, declaimed by Vico, the Spatial Humanities GIS urban case sketches in this chapter show how "three key referencing systems -space, time and language-might be engineered in such a way that changes in one ripple into the others."[48] GIScientist Michael Goodchild notes that over the past two decades, GIS has gradually transformed into a type of media in which "place" perspectives have gained ascendancy.[49] The confluence of the Internet of Things, humanities Big Data archives, and contemporary social media activity presents scholars who adopt HumGIS approaches with incomprehensibly large seas of information to navigate, explore, harvest, and survey. The social theorist Bruno Latour informs us: if you "change the instruments … you will change the entire social theory that goes with them."[50] The traditional Cartesian perspective of many contemporary geospatial technology platforms adopts an "objective" separation between the perceiver (subject) and the perceived (object). In contrast (to borrow from the Czech author Milan Kundera) in phenomenological deep mapping perspectives: "man and the world are bound together like the snail to its shell: the world is part of man, it is his dimension, and as the world changes, existence (*in-der-Welt-sein*) changes as well."[51] Humanistic geographer Anne Buttimer explains: "world to a phenomenologist is the context within which consciousness is revealed. It is not -a mere world of facts and affairs, but … a world of values, a world of goods, a practical world. It is anchored in a past and directed towards a future; it is a shared horizon, though each individual may construe it in a uniquely personal way."[52] In many ways, language and perceptions "bracketed" by literature, historical, and cultural documents in addition to discursive and visual forms of social media reveal multiple slices of idiosyncratic *lifeworlds* constellating across time and space, forming and reforming into unique and contingent "senses of place." Buttimer suggests: "if people were to grow more attuned to the dynamics and poetics of space and time, and the meaning of milieu in life experience, one could literally speak of the […] personality of place which would emerge from shared human experience and the time-space rhythms deliberately chosen to facilitate such experiences."[53] Phenomenological and cinematographic perspectives applied to Spatial Humanities GIS deep mapping intimate Gunnar Olsson's observation on GIS and remote sensing:

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[48] Corrigan, J. 2010. Qualitative GIS and Emergent Semantics. *In*: D. J. Bodenhamer, J. Corrigan, T.M. Harris, eds. *The Spatial Humanities: GIS and the Future of Humanities Scholarship*, Bloomington & Indianapolis: Indiana University Press, 76–88. Pg. 85.

[49] Goodchild, M. F. 2011. Formalizing place in geographic information systems. In L. M. Burton, S. 540 P. Kemp, M.-C. Leung, S. A. Matthews, & D. T. Takeuchi (Eds.), *Communities, neighborhoods,* 541 *and health: Expanding the boundaries of place.* New York: Springer. Pp. 21–35.

[50] B. Latour. 2009. Tarde's idea of quantification. *The Social after Gabriel Tarde: Debates and Assessments*, ed. M. Candea, Routledge, London, 145–162. Pg. 9.

[51] Kundera, M. 1988. *The Art of the Novel*. London: Faber and Faber. Pg. 35.

[52] Buttimer. *Grasping the Dynamism of Lifeworld*. Pg. 246.

[53] Ibid., 290.

> […] for what is that type of mapping at a distance if not a human activity located in the interface between poetry and painting? What is a satellite picture if not a peephole show, a constellation of signs waiting to be transformed from meaningless indices into meaningful symbols?[54]

Spatial Humanities GIS approaches proscribe certain types of hermeneutic, cultural, and affective deep mapping representations and analyses, in contrast to traditional GIScience "paint by numbers" dataset framings and methodologies. In conclusion, as Buttimer notes in this chapter's epigraph, "behavior in space and time [is like] the surface movements of icebergs, whose depths we can sense only vaguely."[55] Spatial Humanities GIS deep mappings of the city holds the potential to illuminate and represent past and present "senses of place" rooted in our human condition's "latent substratum of experience."[56] In the future, an "engaged pluralism" born from the cross-pollination of STEAM-framed urban, planning, engineering, literary, historical, cultural, geographical, and digital humanities research methods "can become the norm," offering a counterpoint to the "abstract vision for the future" framed contemporarily by positivistic and quantitative approaches.[57]

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[54] Olsson, *Abysmal*: *A Critique of Cartographic Reason*. Ibid., 137–138.

[55] Buttimer, *Grasping the Dynamism of Lifeworld*. 287.

[56] Ibid.

[57] Kwan, M.P. and Schwanen, T., 2016. *Geographies of mobility*.