ACTS OF PERCEPTION: SAMUEL BECKET, TIME, SPACE AND THE *DIGITAL LITERARY ATLAS OF IRELAND, 1922–1949*

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Abstract *Situated in the wake of the first and second waves of the* Digital Humanities, the Digital Literary Atlas of Ireland, 1922–1949 *website provides interactive mapping and timeline features for academics and members of the public who are interested in the intersection of Irish literary culture, history, and environment. The site hosts Google Earth software produced interfaces with the EXHIBIT Timeline functions made available by the Semantic Interoperability of Metadata and Information in unLike Environments (SIMILE) project, developed and hosted by the Massachusetts Institute of Technology's (MIT) Computer Science and Artificial Intelligence Laboratory (CSAIL) and Library. This paper's case study maps the biographical lifepath of the writer Samuel Beckett using digital humanities techniques such as* ergodicity*, and* deformance*. The geo-digital-timeline mapping of his biography allows us to visualize the shift in Beckett's literary perspective from a latent Cartesian verisimilitude to more phenomenological and fragmented, existential impressions of time and place. The atlas's visualizations of his Wanderjahre years in various European metropoles chart the intellectual and aesthetic influences shaping the Beckettian literary landscapes of his later and better-known works, such as* En Attendant Godot *(1953). Beckett's thought, works, and shifts in perception provide insight into how digital cultural mapping practices and third wave digital humanities methodologies and tools can be conceptualized and operationalized.*

Keywords: Irish literature, Samuel Beckett, digital literary cartography, interactive mapping, geo-digital-timeline

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A third wave in the digital humanities is building and will soon crest, as disciplinary tropes in the arts and sciences are beginning to shape—rather than be shaped by—the digital tools we use. In the first wave the digitization of collections and movement of disciplinary activity surged online; the second wave witnessed quantification exercises and investigations considering the parsing, analysis and visualization potential of digital tools. With the third wave, cross-pollination between the arts, humanities, computing science, social media and Big-Data will facilitate the birth of truly hybrid digital methodologies and technologies borne by the fruit of research, experimentation, innovation, and development over the past few decades. Despite persistent Jeremiads against technological incursions into its perceived fallow fields, as Andrew Prescott notes, the use of tools has been part and parcel of humanities practices for centuries:

> The alphabetization of biblical extracts in Peter of Capua's eleventh century *Distinctiones Theologicae*, paved the way for the first concordance to the scriptures, compiled under the supervision of the Dominican Hugh of St Cher between 1235 and 1249 [...] with these new alphabetical tools, the cultivation of memory became less important and it was the ability to manipulate these new knowledge systems which counted [...] the *distinctiones* and concordances altered the way in which man explored his relationship with God changed; they changed conceptions of what it meant to be human.[1]

The *Digital Literary Atlas of Ireland, 1922–1949* project provides an example of a tool and resource that encompasses the first two waves of the digital humanities and utilizes interactive post-structuralist cartography to explore the relationship between early twentieth century Irish writing and landscape, identity, and a sense of place. The atlas features fourteen Irish writers, but this paper will focus on its cultural mapping capabilities by contrapuntally plotting a visual narrative of Irish Nobel laureate Samuel Beckett's (1902–1989) biographical trek against affective, comedic, and existential renderings of environment, time, and place found in digitized versions of his early works (see Figure 1). The shift in Beckett's literary perception over the course of time, provides an analogy for the cultural transformation from analogue to digital modes of scholarship, and can help us think about how to conceptualize new methodologies and tools from a humanities perspective, rather than adopting computer science techniques *fait accompli*. The atlas also helps to illuminate the salience of Beckett's thought and works as the long crest of this 'third wave' in the digital humanities begins to break around us.

Beckett's depiction of the cities of Dublin, London, and Saint-Lô in post-war France during his European travels in 1930s and 1940s were visualized

Figure 1. Digital Atlas Samuel Beckett Page.

through the prism of a biographical geo-digital-timeline. The atlas's interactive platform allows us to map the shift in his literary perceptions from a latent Cartesian verisimilitude to a more phenomenological, fragmented, and existential impression of environment, time and place. Mapping and visualizing Beckett's biographical trek contextualizes his early pieces of poetry and fiction during the period in which David Weisberg observes:

> [T]here was a formative relationship between literary innovation and the cross-cultural status of many modernist and avant-garde artists, those who during the first half of the century came to London, Paris or Berlin from 'colonized or capitalized regions [within Europe] … linguistic borderlands … [or] as exiles … from rejecting or rejected political regimes.'[2]

The visualizations of Beckett's *Wanderjahre* years in various European metropoles from Dublin in the 1930s provide virtualized geographical and historical contexts to chart the intellectual and aesthetic influences that shaped what would later become known as the Beckettian literary landscape. Viewed on a smartphone or tablet as a social media App, the atlas translates and communicates digital arts and humanities practices for wider academic and public engagement and use as a literary resource and navigational aid.

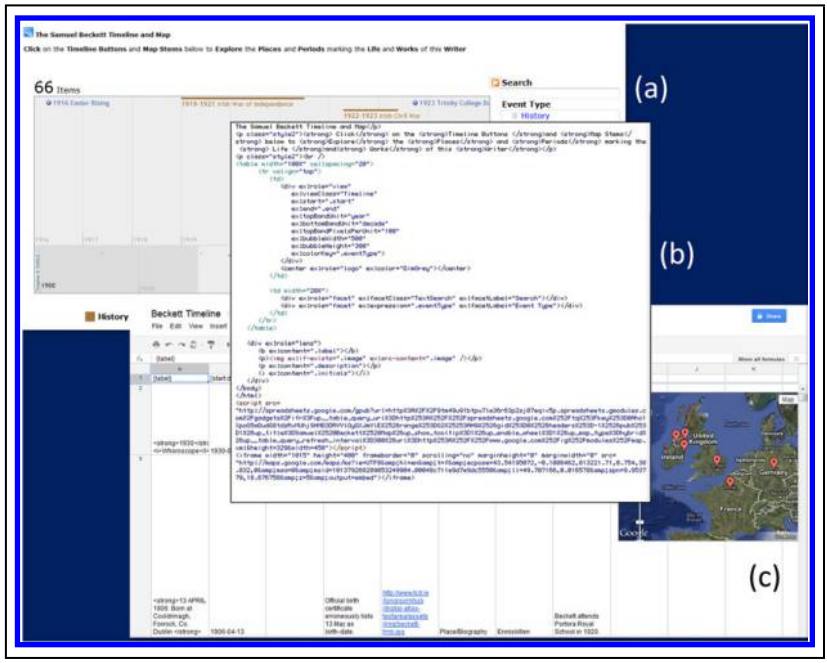

Figure 2. Atlas Digital Architecture.

DIGITAL ARCHITECTURE

The *Digital Literary Atlas of Ireland, 1922–1949* exists as collection of 16 separate digital eco-systems coalescing to present a virtualized cultural landscape of early twentieth century Ireland. It provides an example of how tropes in the humanities and computing science are cross-pollinating to visualize the relationship between literature and environment with timeliness, speed and precision.[3] The atlas web site integrates Google Earth mapping interfaces, with the EXHIBIT Timeline widget made available by the Semantic Interoperability of Metadata and Information in unLike Environments (SIMILE) project developed by the Massachusetts Institute of Technology's (MIT) Computer Science and Artificial Intelligence Laboratory (CSAIL) and Library. For example, as illustrated in Figure 2, the digital architecture of the interactive Samuel Beckett Timeline and Google Earth web platform is composed of:

(A) MIT's EXHIBIT application which,
(B) Visualizes an HTML code from the digital atlas hyperlinked to,
(C) A Google Docs spreadsheet containing data on places, times and themes.

Atlas timelines are coded with four main data types to contextualize and visualize the lives and works of each Irish writer:

1. History
2. Place / Biography
3. Place / Literary
4. Publication / Composition.

For instance, Beckett's timeline was populated and coded to visualize snippets of historical, literary and biographical text, as well as period photographs from the streetscapes of Dublin, London, Paris, and St. Lô. Depending on how timelines are coded, the digital architecture of the atlas offers an example of the potential to create unique visual fusions of literary, scientific, ecological and philosophical perspectives.[4] Visually, the atlas provides a cinematic mobility, through which Beckett's biographical sites can be identified, mapped, rendered into Keyhole Markup Language (KML) files, and imported into other geospatial technology programs (such as ArcGIS allowing the user, through the use of this geospatial software's animation feature to create further scales of knowledge and insight). Stuart Aitken and James Craine argue that digital visualizations involving geospatial technologies must refuse to take vision at face value and should insist on problematizing, theorizing, critiquing, and historicalizing the visual process,[5] and the atlas's interactive capability reiterates that geographic visualization is a cultural process of creating knowledge rather than merely revealing it.[6] By employing cinematic and video-gaming techniques, such as zooming in and out at different scales, the user can make the pixels of their computer screen change hue to form digital images of dynamic landscapes and aerial photograph views.[7] By illustrating how geospatial technologies and open-source platforms may be used in humanities and arts computing to develop layered and multi-perspectival navigations of literary, cultural, and historical spaces, the atlas exemplifies the first two developmental waves of the digital humanities (collections, quantification, visualization and analysis). Furthermore, the atlas's capability to interactively visualize Beckett's biography and works suggests how tools emerging from the first two waves of the digital humanities coalesce with literary, biographical, and historical tropes to aid in conceptualizing cultural mapping practices to navigate the third wave of the digital humanities.

BECKETT, *ERGODICITY*, AND *DEFORMANCE*

Beckett, accentuating the developments in early twentieth century avant-garde visual art, once asked: 'must literature alone be forever left behind on worn out paths abandoned long ago by music and painting?'[8] The same can be asked of the reluctance to engage literary scholarship and commensurate cultural mapping

practices with GPS enabled iPads, tablets, and smartphones enhanced by the augmented realities of social media networks and Big Data feeds. Such platforms can enhance our abilities to visualize, parse, plot, analyze and deconstruct or reconstruct textual narratives. As Prescott notes:

> [T]he interaction between carver and stone is important in understanding the conventions and structure of different types of inscription. The craft of the scribe affected the structure and content of the manuscript. The film director is shaped by the equipment at his disposal. I write differently when I tweet to when I send an e-mail. Text technologies have a complex interaction with textuality and thus with the whole of human understanding.[9]

The atlas promotes post-structuralist types of cultural analysis allowing viewers/users to engage in digital bricolage by interactively juxtaposing different scales of time, space, text and image to create *ergodic* and *deformative* mappings and readings. Scholars have long recognized that Beckett's work 'is strikingly similar to a non-Euclidian geometry,'[10] and David Staley observes similarly that far from reinforcing the classic Aristotelian linear narratives, digital mapping techniques *ergodically* combine words and images facilitate the means to plot, create and analyze multi-dimensional cultural spaces. *Ergodic* readings are typically parsed by the combined labors of both the digital map coder and active reader/viewers and provide multiple possibilities in which narratives paths on platforms such as the atlas can be charted, and navigated.[11] *Ergodic* approaches provides the means to digitally 'reconnect the representational spaces of literary texts not only to material spaces they depict, but also reverse the moment,'[12] to consider the influence of the environment in shaping a writer's perspective and work. The integration of geo-spatially enabled readings of text, within a digital timeline allows the author/coder to serve simultaneously as a 'narrative architect' and consumer of a spatial story. In contrast, *deformance* is a key methodology developed in the digital humanities for textual analysis and data mining.[13] Deriving its etymology from the words 'deform' and 'performance,' *deformance* is an interpretative concept premised upon the conscious and deliberate misreading of a text, such as reading a poem backwards line-by-line.[14] In *Reading Machines* (2011), Stephen Ramsay states that computing technologies enable scholars to practice *deformance* quite easily—to take apart and reconfigure an epic poem.[15] Jerome McGann and Lisa Samuels argue that this interpretative technique applies *scientia* to *poeisis* for the purpose of elucidating the relationship between one discourse form and another. Furthermore, they argue, this method seeks to explain a unitary and unique phenomenon such as the idiosyncratic nature of a biographical lifepath, the spatial etymology of a poem, the palimpsest of a painting, or the unexpected and

intangible confluences of time and place shaping a historical event, rather than establish a set of general rules or laws, as a nomothetic methodology would.[16] Here too, Beckett's thought becomes salient in teasing out tensions between empirical and interpretive modes of perception:

> An impression is for the writer what an experiment is for the scientist with this difference, that in the case of the scientist the action of the intelligence precedes the event and in the case of the writer follows it.[17]

The atlas' platform allows scholars to plot, measure and parse time and space in both Cartesian and postmodern modes and thereby engage in a type of visual *bricolage.* Described by Claude Lévi-Strauss as a technique of improvisational collage, the digital analyst can crop, edit, geocode, and hyperlink Euclidian framings, photographs, textual extracts, and 'Wordle' snippets to create a non-Euclidian geovisual-temporal narrative which respectively contextualizes and mimics Beckett's biographical lifepath and literary works. Stuart Aitken and James Craine observe that by engaging geo-spatial technology in such a manner:

> . . . anyone can visually construct—or deconstruct—a spatial reality, and the result is a profound experiential and epistemological shift undergone by an increasingly digital culture. Referentially and legitimation are finished with construction of space: there is no longer an unproblematic and empirically verifiable 'real' to refer *to.* What is left is esthetic and affective.[18]

Commenting on James Joyce's writing, Beckett observed, 'It is to be looked and listened to. His writing is not about something; it is that something itself.'[19] Presaging McLuhan's phrase 'the medium is the message,' Beckett also acknowledged that 'it is the act and not the object of perception that matters.'[20] Anticipating the current 'Selfie' referential dislocations of identity and place, Beckett's literary solipsism also helps us to think about how to map the new techo-cultural digital territories proliferated by the ubiquity of iPad, tablet, and smartphones uses infused with social media and Big Data feeds. Interactive digital visualization and timeline soundings of Beckett's biography and works allow iterative navigations and movements through what Stephen Graham describes as software-sorted geographies and landscapes shaped, formed and mediated by invisible lines of code.[21] The resulting digital cultural mapping analysis of his early works and experience of Dublin, London, Paris, and St. Lô in Normandy can—depending on choices made by the user—aid in uncovering meaningful patterns and re-interpretations of the relations between his literary landscapes, lifepath, and period. The following sections illustrate one (of many possible) *ergodically* mapped and *deformatively* structured geo-digital-timeline analysis-narrations-navigations of Beckett's biographical trek through Europe in the early twentieth century.

Figure 3. Trinity College Dublin.

SCHOLAR: TRINITY COLLEGE DUBLIN / L'ECOLE NORMALE SUPÉRIEURE (1916–1930)

As a son of the Anglo Irish *fin de siècle* bourgeoisie, Beckett witnessed at the age of fourteen the uprising in Ireland, a conflict symptomatic of wider historical and cultural conflagrations sweeping across the landscapes of Europe in the second decade of the twentieth century. Indeed for most of his lifetime, the sight of Dublin blazing during the Easter 1916 Rising, which he and his father witnessed from the hills above the city, remained deeply impressed in his mind.[22] Consequently, images of cities in ruins and denuded existential landscapes would come to serve as backdrops for his later works of fiction and drama. The 1920s served as an incubation period for Beckett as a writer, and the atlas timeline visualizes significant early pieces of his work that start popping up towards the end of the decade. In 1923 he matriculated to Trinity College Dublin where he read French and Italian and immersed himself deeply in Dante Alighieri's (1266–1321) *Divine Comedy* trilogy (see Figure 3).

As the timeline illustrates with a long colored bar, Beckett was appointed in 1928 on a fellowship as *lectuer d' anglais* for two years at l'Ecole Normale Supérieure. Between 1928 and 1929 Paris witnessed a proliferation of small private presses and alternative journals that benefited Beckett's early

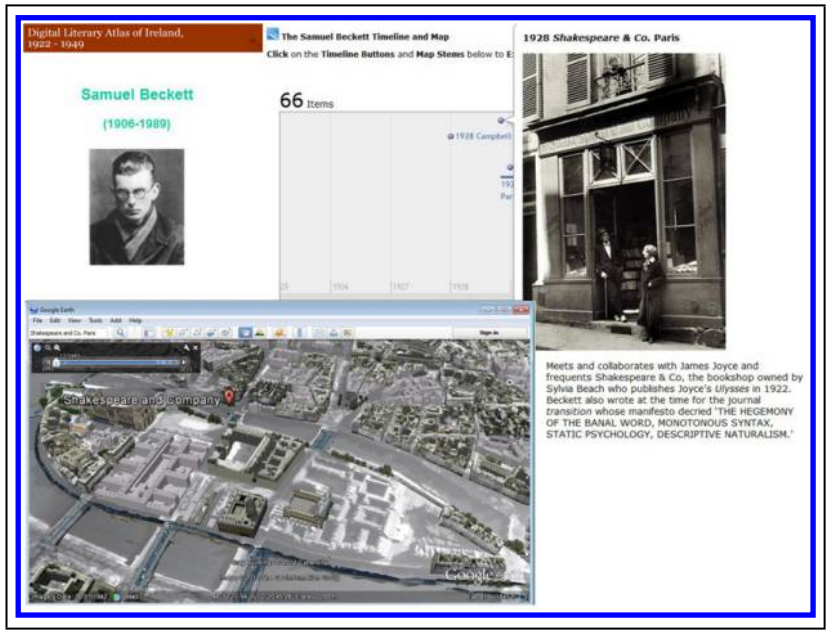

Figure 4. Shakespeare & Co., Paris.

literary efforts. The geo-digital-timeline (see Figure 4) shows the contemporary location of Shakespeare & Co., a bookshop, once owned by Sylvia Beach (originally located at 12 rue l'Odéon, 6e, where it was frequented by Beckett the shop was closed by the Nazis in 1941.)

Beckett wrote for the journal *Transition*, and the Parisian coffee shop and bar milieu inhabited by post-war writers and artists of the interwar 'lost generation' exposed him to the philosophical ideologies espoused by Friedrich Nietzsche, Sigmund Freud, and the phenomenologists Edmund Husserl and Martin Heidegger.[23] His writing at the time was marked by a vertiginous mixture of the Left and Right, and schools of art such as Futurism, Dadaism, Surrealism, residual Cubism and early Abstract Expressionism.[24] In 1930 Beckett won a first prize for a poem on the subject of time. Entitled 'Whoroscope' the piece centred on the life of Descartes, and led to a commission for a study entitled *Proust*, in which Beckett would dissect the modern concept of time, and by consequence, influence the increasingly fragmented representations of space in subsequent works.

BOTTLED CLIMATES: DUBLIN (1934)

After returning to a Trinity College Dublin lectureship in French in 1930, Beckett concluded at the end of Michaelmass Term that his teaching position was a

'grotesque comedy.'[25] Living in a city centre room at college he felt socially alienated from the Dublin *literati* and the cultural nationalism infusing the *zeitgeist* of the Free State. He found comfort only in his long walks, writing that during them 'the mind has a most pleasant and melancholy limpness, is a carrefour of memories, memories of childhood mostly, *moulin a larmes* [mill of tears].'[26] As Debra Bair notes, 'he would use these long frustrating walks—from one end of Dublin to the other, through the Wicklow Hills, along country lanes and past deserted railway stations—in his writing, in descriptions of the countryside or of his thoughts while pacing.'[27] The snatches of poetry and prose arising from his walks act as discursive and phenomenological maps, featuring distinct and affective renderings of place. Both Proust and Joyce were influential in shaping the visual and impressionary dimensions of his writing, and Beckett described the short stories comprising *More Pricks Than Kicks* (1934) as a collection of 'bottled climates.'[28] The stories convey vivid impressions of Dublin, perceived through the eyes of the marginalized Belacqua Shuah, a character based upon the Florentine lute maker from Canto IX of Dante's *Purgatorio,* whose sloth and indolence in life have condemned him to spend time on Mountain of Purgatory. Beckett's Belacqua is a slothful student of Dante at Trinity College, who maintains that 'the reality of the individual … is an incoherent reality and must be expressed incoherently.'[29] Although the character Belacqua was conceived during a period when Beckett was rootless both geographically and professionally,[30] as Michael Robinson comments, his native city and the Joycean influence anchor the impressions within the collection:

> The Dublin background of *More Pricks Than Kicks* is carefully documented after the manner of *Ulysses*: the street names, the Liffey, Trinity College and the statue of Thomas Moore, combined to present the busy city landscape against which Belacqua is drawn.[31]

Beckett's depiction of his native city illustrates that Modernist tropes emerge from a specifically urban phenomenal world, one markedly quicker, more chaotic, fragmented, and disorienting than in previous phases of human culture.[32] His portrayals also convey Nigel Thrift's idea that cities may be seen as roiling maelstroms of affect. Particular affects are continually on the boil and these affects continually manifest themselves in events that can take place either at a grand scale or as simply as a part of everyday life.[33]

Dublin sites in *More Pricks Than Kicks* and the collection of poems *Echoes Bones* can be visualized through the geo-digital-timeline to convey and incorporate current perspectives on which Beckett's work can be transposed. His physical and mental discomfort can be felt in his 1931 piece *Enueg II*, as he gazes upon the River Liffey from the vantage point of Dublin's O'Connell Bridge (see Figure 5).

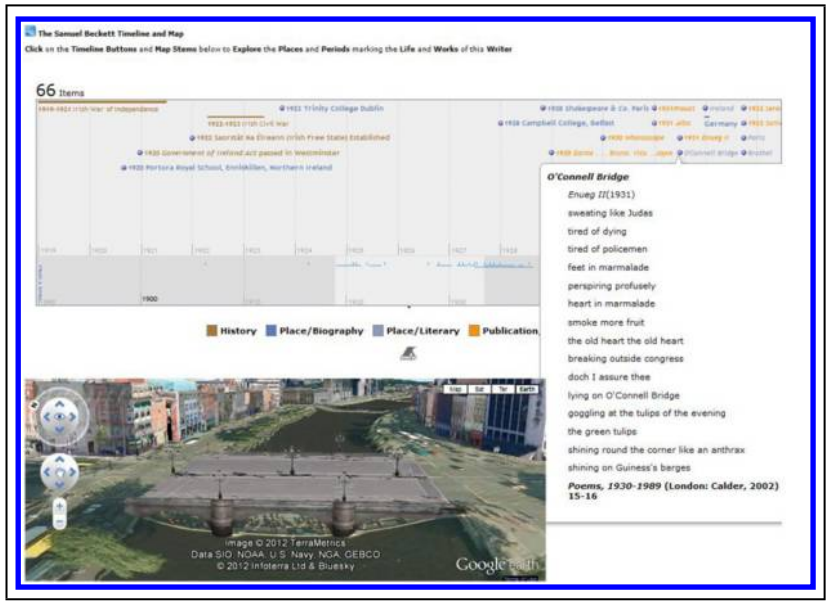

Figure 5. O'Connell Bridge.

The poem's alienated and anxious speaker stands alone, *angst*-ridden, in the heart of the city:

> . . . lying on O'Connell Bridge
> goggling at the tulips of the evening
> the green tulips
> shining around the corner like an anthrax
> shining on Guinness's barges.[34]

The poem provides an existential and dislocated shading of Heidegger's 'being-in-place' and the atlas's visualization of the site in Figure 5 orients smartphone and tablet-equipped individuals with an enhanced literary experience of place as they visit O'Connell Bridge other sites that inspired Beckett's writing.

Returning to the short story *A Wet Night*, the geo-digital-timeline visualization seen in Figure 6 offers a current bird's eye view of the bus clogged entrance to 'Long straight Pearse Street,' where civil offices, places of commerce and traffic imprint themselves upon Belacqua's consciousness as he makes his way along 'its footway peopled with the tranquil and detached in fatigue, its highway dehumanised in a tumult of buses. Trams were monsters, moaning along beneath the wild gesture of the trolley. But buses were pleasant, tires and glass and clash and no more.'[35] Beckett often sketched Belacqua's peregrinations through

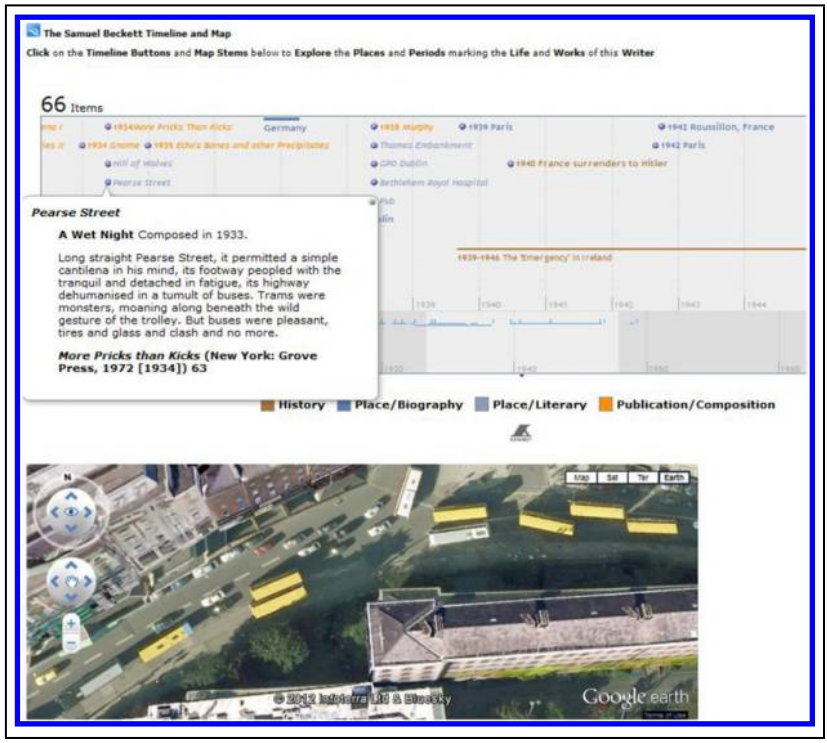

Figure 6. Pearse Street-College Green intersection, Dublin.

the streets of Dublin commencing near the Thomas Moore Statue and the 'hot bowels of McLouglin's'[36] pub that adjoin the front gates of Trinity College whose motto '*Perpetuis futuris temporibus duraturum*' (It will last into endless future times),[37] underscored Beckett's sense of the cyclical nature of time.

In *Serena III* the direction that Beckett's poem takes from Dublin describes a walk from Ringsend along the strand of the Sandymount coast, to the salt marshes of Booterstown, with the Dublin Mountains looming in the background. As illustrated in Figure 7, *Serena III* begins with the speaker crossing the hunch-backed stone bridge that spans the Dodder River:

> . . . Whereas dart away through the cavorting scapes
> bucket o'er Victoria Bridge that's the idea
> slow down slink down the Ringsend Road
> Irishtown Sandymount puzzle find the Hell fire.[38]

The preceding locations of pieces of Beckett's early prose and poetry and the atlas's visualizations help us plot his idiosyncratic and shifting perceptions in

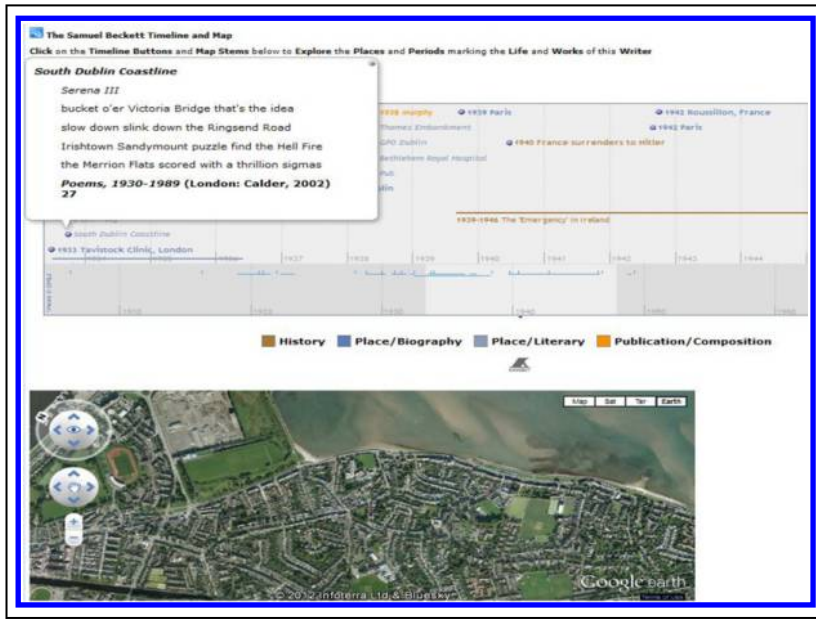

Figure 7. South-Dublin Coastline.

relation to the streetscapes, landscapes, and hinterlands of Dublin. Mediated by smartphones and tablets, the atlas provides a reader/viewer with the means to move through actual landscapes and, to repurpose the words of Annie Proulx, 'stand metaphorically in both the unwritten and the written landscapes, and enter the territory of the page the same time it is created in the mind -a profound involvement with place through real three dimensional landscapes and the described and imagined landscape.'[39]

EXPLORING THE CARTESIAN PALE: LONDON (1933–1935)

Beckett sought psychiatric treatment in London as it was not available in Ireland at the time, and during this period he composed the novel *Murphy* (1938), which was centred on the Irish emigrant experience in Britain. Beckett's protagonist takes up employment in a lunatic asylum to prevent his fiancée, an erstwhile prostitute named Celia, from resuming her profession. A sub-plot revolves around a cast of Irish characters travelling from Dublin to London in vain pursuit of Murphy, who dies as a result of a gas explosion in his garret at the Magdalen Mental Mercyseat asylum. Beckett charted Murphy's movements across London by consulting the 1935 edition of *Whittaker's Almanac* and taking long walks

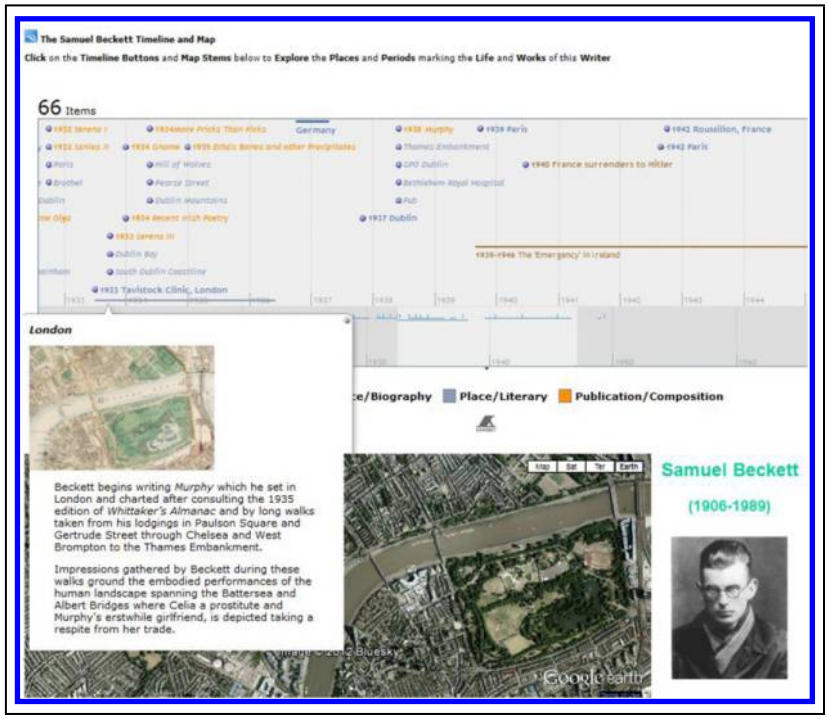

Figure 8. Battersea Park, London.

from his lodgings in Paulson Square and Gertrude Street through Chelsea and West Brompton to the Thames Embankment. Impressions gathered by Beckett during his walks ground his depiction of the place where Celia takes a respite from her trade include the following (see Figure 8):

> She walked to a point about halfway between the Battersea and Albert Bridges and sat down in a bench between a Chelsea pensioner and an Eldorado hokey-pokey man, [...] Artists of every kind, writers, underwriters, devils, ghosts, columnists, musicians, lyricists, organists, painters and decorators, sculptors and statuaries, critics and reviewers, major and minor, drunk and sober, laughing and crying, in schools and singly, passed up and down ...[40].

It can be seen that Murphy's wanderings occur not only within his mind, but across a cultural geography of the city plotted with a cartographer's precision, and leavened by an anthropologist's attention to the intricacies of human behaviour. In *Murphy* Beckett is preoccupied with lampooning the rational

Cartesian framing of space and experience, along with its construction of identity as a self-contained thinking subject (or *Cogito*), which posits a mind-body split. Accordingly, there is a distinct contrast between the geographical settings of the novel, which are firmly situated in Cartesian space, and Beckett's representation of Murphy's perception of the outer world that constitutes time and place as a 'big blooming buzzing confusion,'[41] as he moves through the streets of London. The novel underscores the futility of imaging the mental world to be any less intractable than the physical, and illuminates Beckett's growing insight that the duality between man and the world is illusory. In *Proust* (1930) Beckett noted that time is 'the perpetual exfoliation of personality.'[42] Like Marcel Proust before him, Beckett perceived human reality as fragmentary, and later stated 'the confusion is not my invention … It is all around us and our only chance now is to let it in. The only chance of renovation is to open our eyes and see the mess.'[43]

FRAGMENTED LANDSCAPES: PARIS–NORMANDY (1939–1946)

The eruption of the Second World War in 1939 caused the Irish Free State to adopt a policy of neutrality, designated officially as the 'Emergency.' As a result,

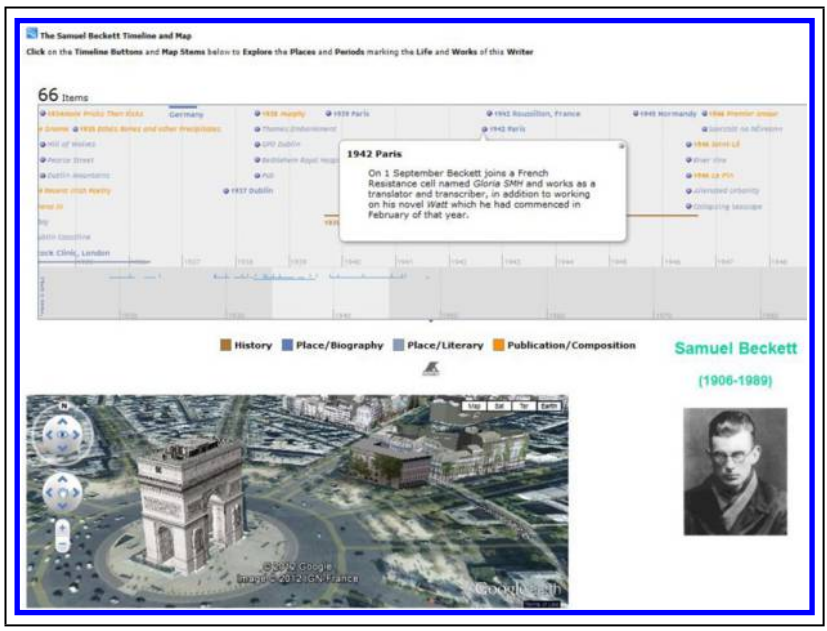

Figure 9. Paris.

Beckett returned to Paris and joined the French Resistance in response to the Nazi treatment of Jewish friends and colleagues (see Figure 9).

An informer caused him to take refuge from the Gestapo in the village of Roussillon in Vichy France until 1945. At the end of the war, Beckett volunteered with the Hospital of the Irish Red Cross at Saint-Lô in Normandy. He returned to Paris in January 1946, and embarking upon a frenzy of writing, switched from English to French, as a means to strip language to the bare essentials of his vision.[44] He later explained: '*Parce qu'en francais c' est plus facile d'écrire sans style* [In French it's easier to write without style].'[45] David Weisberg notes that Beckett's first post-World War II fictions are structured by and take place in the dissolution of the city as the ordering, social matrix of narrative mimesis.[46] His characters are marked by a paratactic, associative wandering through spaces and a social world left behind, in ruins, rejected, forgotten, unbelievable, and canceled out.[47]

Beckett's 1946 short story *Le Fin* (*The End*) transposes the cityscapes of St Lô and Paris onto Dublin and provides a map of a post-war landscape simultaneously alien and familiar. He commenced writing the story in English, but completed it in French. The desolate beauty of the poem *Saint-Lô* and the dislocation that characterizes Beckett's story *Le Fin,* intimates the firebombing of the town, which occurred on 25 July 1944 during the Allied invasion of Normandy. Occupied by the German Army at the time, Saint-Lô was located on the river Vire, and served as a landmark for the high-altitude Allied bombing raids of *Operation Cobra*. The target area was pounded with elemental fury and saturated with 50,000 general purpose and fragmentation bombs.[48] In 1946 Beckett prepared a radio broadcast *The Capital of Ruins* for Radio Telefis Eireann documenting its post-war reconstruction. He reported that 'Saint-Lô was bombed out of existence in one night. German prisoners of war, and casual labourers attracted by the relative food plenty, but soon discouraged by housing conditions, continued, two years after the liberation, to clear away debris, literally by hand.'[49] Beckett distilled the remains of Saint-Lô into a short poem:

> Vire will wind in other shadows
> unborn through the bright ways tremble
> and the old mind ghost-forsaken
> sink into its havoc.[50]

The lines echo the theme of his radio address by tracing the path of the River Vire winding through the town's apocalyptic landscape (see Figure 10).

Le Fin is narrated by an existential figure with 'A mask of dirty old hairy leather, with two holes and a slit,'[51] who is expelled, rather than released, from a charitable institution. He finds upon his release that 'the city had suffered many changes, nor was the country as I remembered it.'[52] Authorial perspectives of

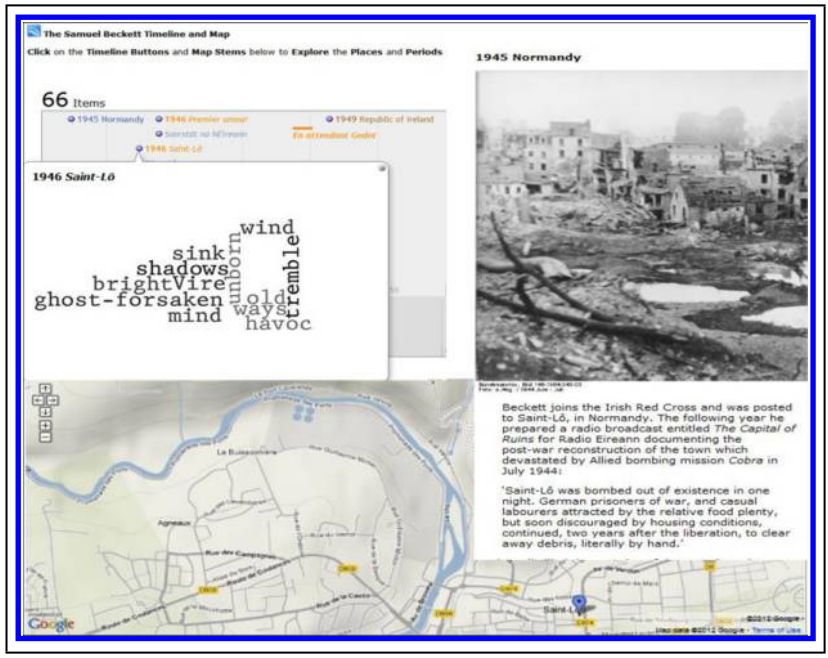

Figure 10. Saint-Lô, France.

Cartesian verisimilitude that characterized Beckett's earlier depictions of cities were replaced with impressions of existential and phenomenological dislocation:

> In the street I was lost. I had not set foot in this part of the city for a long time and it seemed greatly changed. Whole buildings had disappeared, the palings had changed position and on all sides I saw in great letters, the names of tradesmen I had never seen before and would have been at a loss to pronounce.[53]

The city, built on the mouth of a bay, with two canals and mountains to the south, intimates St Lô, Paris, London, and Dublin simultaneously in Beckett's prose. The vestigial landscape of 1930s Ireland, marked by the social and economic blight resulting from the Free State's economic war with Britain, emerges and fades in *Le Fin* under Beckett's transposition of the human and physical desolation he encountered along the banks of the Vire in the bombed out ruins of Saint-Lô. For Beckett, the setting of the post-war city does not function as a representation of social chaos but rather the greatly changed city acts as a space of narrative debility.[54] The story concludes with an implosion of his personal narrative perspective: 'The sea, the sky, the mountains and the islands closed in

Figure 11. Easter Rising 1916, O'Connell Bridge, Dublin.

and crushed me in a mighty systole, then scattered to the uttermost confines of space.'[55] Beckett's experience of Saint-Lô, and Paris coupled with his memory of watching the Dublin fires of the Easter 1916 Uprising (see Figure 11) were distilled in the story's last image of impending destruction:

> It was evening, I was with my father on a height, he held my hand. I would have liked him to draw me close with a gesture of protective love, but his mind was on other things [. . .] And on the slopes of the mountains, now rearing its unbroken bulk behind town, the fires turned from gold to red, from red to gold.[56]

Eugene Webb observes, 'The idea that time goes through repetitious patterns is implicit in Proust, but in Beckett it is quite elaborately developed.'[57] *Le Fin* is marked by Beckett's return to the latent memory of Dublin burning in 1916, a dissolution of the Cartesian perspective, and a narrative transition from third person English to first person French leaving an indelible image of the storyteller whose primitive, suffering, existence is itself an emblem of the ruins into which conventional stories, had collapsed.[58] *Le Fin* and the post-war fragility of the poem 'Saint-Lô' heralds the emergence of the existential

Beckettian landscape, a narrative setting in which identity and place have been dislocated and reconstituted in the fragmented geographies of alienated streetscapes, ditches, rooms, and ruined cities. The atlas, mediated by personal computing, smartphone, and tablet mediums can be seen to manifest a Beckettian perspective as well, illuminating Loren Falk's observation that 'Perception is no longer anchored by the vanishing point in representation. It drifts in a landscape with no horizon. The affective interface is about a certain tension between physical and digital matter and space.'[59] The myriad of *ergodic* and *deformative* visualizations of Beckett's biography and early works made possible by the atlas allow us to interactively map the shift from conventional order to entropic dissolution in his depictions of the human relation to landscape, and foreshadow our understandings of the roles of place and culture in the better known plays *Waiting for Godot* (*En Attendant Godot,* 1953) and *Endgame* (*Fin de Partie,* 1957).

CONCLUSION

The Beckettian shift illustrated by the atlas's cultural mapping is emblematic of the transition marking the change from analogue to digital scholarship, and the transformations that will distinguish the third wave of the digital humanities from its predecessors. In a 1931 essay titled *Proust*, Beckett observed that the influential French writer accepted 'the sacred ruler and compass of literary geometry'[60] and hinted that writing, beyond the blinders of habit and memory, consisted perhaps in the 'the imposition of our own familiar soul on the terrifying soul of our surroundings.'[61] It must be recognized that new terrains and paths emerging from the first two waves of the digital humanities have unshackled traditional habits and memories of what constitutes teaching and research and engendered alienation in scholarly circles. As Phillip Barron states 'for many of us trained in the humanities, to contribute data to such a project feels a bit like chopping up a Picasso into a million pieces and feeding those pieces one by one into a machine that promises to put it all back together, cleaner and prettier than it looked before.'[62] However humanities infused deployments of GPS enabled iPads, tablets, and smartphones enhanced with augmented realities from social media and Big Data feeds are facilitating new habits, memories and modes of perception and interpretation to survey and represent emerging and protean cultural landscapes, much like Picasso and Beckett did in their own times and places. Lev Manovich predicts that the 'systematic use of large-scale computational analysis and interactive visualization of cultural patterns will become a major trend in cultural criticism and culture industries in the coming decades.'[63] The interactive geo-cultural mapping capability of the atlas embraces this prediction and engages the technological developments of the

first two waves of the digital humanities. In addition the atlas highlights the salience of Beckett's perceptions and writing as it moved beyond the Cartesian pale in conceptualizing literary and cultural mapping tools and digital methods for the third wave. David Cooper and Ian Gregory's Lakes District GIS, in addition to Franco Moretti's Marxist geometrical and Barbara Piatti's European cartographical literary mapping projects have illuminated relations between writers and place, but all are bound by Euclidian and Descartean principles. Though the *Digital Literary Atlas of Ireland, 1922–1949* engages such principles as well, its dynamic platform is designed to allow users to slip beyond such boundaries. The atlas provides the reader/viewer with the ability to interactively create their own dynamic mappings on iPads, tablets, and smartphones while experiencing the virtual and actual landscapes of a writer simultaneously. In manner similar to how abstract, expressionist and avant-garde artists constructed stories and images, atlas reader/viewers can digitally author narratives intimating dimensions and perspectives beyond the spatio-temporal boundaries imposed by latitude and longitude, text, frame and canvas. The atlas also provides the possibility for digital translations of 'Deep Mapping' approaches conceptualized by William Least Heat Moon in *PrairyErth* (1991) which engages a 'vertical form of travel writing' to 'record and represent the grain and patina of place' through juxtapositions and interpenetrations of the historical with the present, the political with the poetic and the discursive with the sensual. This technique conflates oral testimony, anthology, memoir, biography, and natural history.[64] Deep Mapping applications of the atlas allow us to excavate and visualize Beckett's biography to understand how (historically, and culturally) the environments which shaped his early poetry and prose in turn manifested themselves into his greater and more well-known works. The atlas also illustrates what Manovich calls 'info-aesthetics' described as the 'theoretical analysis of the aesthetics of information access as well as the creation of new media objects' which "aestheticize' information processing.'[65] Building on the developments of the first two waves, the atlas provides us with a means to speculate how humanistic tropes, further geo-spatial and digital technological innovations, as well as analytical approaches such as *ergodicity*, and *deformance* sparked by the study of literature, film, painting and gaming, may shape new methodologies, tools and navigations in the crest of the 'third wave' of the digital humanities.

TECHNICAL NOTES

The *Digital Literary Atlas of Ireland, 1922–1949* can be accessed at [http://www.tcd.ie/trinitylongroomhub/digital-atlas/]. For optimum performance the atlas should be viewed in Google Chrome or Safari browsers. In addition the Google Earth plug-in must be downloaded.

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