

Chapter 5

Modeling and visualizing in GIS: The topological influences of Homer's *Odyssey* and Dante's *Inferno* on James Joyce's *Ulysses* (1922)

Joycean cartographies

A humanities GIS model makes it possible to visualize how the narrative and geographical influences of Homer's *Odyssey* and Dante's *Inferno*, together with *Thom's Official Directory of the United Kingdom of Great Britain and Ireland*, contributed to James Joyce's creation of a kaleidoscopic “verbal representation of Dublin” in *Ulysses*.¹ Joyce composed the epic novel while living in Trieste, Zürich, and Paris, as the First World War unleashed a cataclysm that swept through the nations of Europe during the second decade of the twentieth century. In self-imposed exile from Ireland, Joyce declared through the character of Stephen Dedalus that “history . . . is a nightmare from which I am trying to awake.”² To reimagine the streetscapes of his native city, Joyce relied on memory as well as the family and friends with whom he corresponded. Mostly, however, he looked to a map of Dublin as his primary source: an insert map in the 1904 edition of *Thom's* directory, dated to the official statistical record of October 25, 1903. Perhaps inspired by the nightmarish history unfolding around him, Joyce declared that in *Ulysses* he aimed “to give a picture of Dublin so complete that if the city

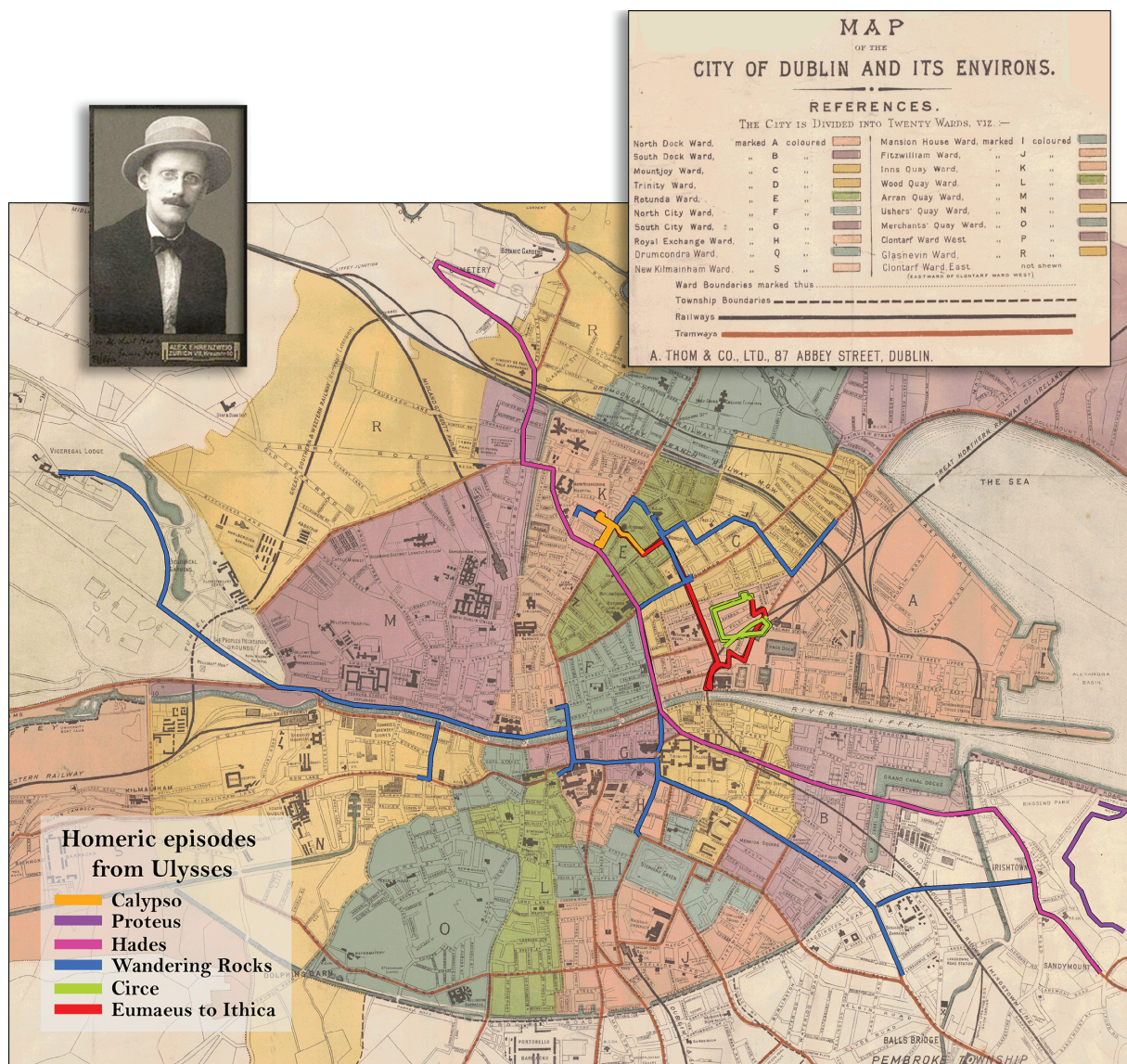


Figure 5.1 The “Joggfery” (geography) of *Ulysses* (1922). Created by the author from Map of the City of Dublin and its Environs, A. Thom & Co., Ltd., 87 Abbet Street, Dublin (1904), obtained from Trinity College Dublin Library; James Joyce, *Ulysses* (London: Penguin, 1992 [1922]); photo by Alex Ehrenzweig, 1915.

one day suddenly disappeared from the earth it could be reconstructed out of my book.”²³ If one approaches the novel in a literal manner (and without prior knowledge of Irish history, literature, or culture), Joyce’s depiction of the early twentieth-century city may appear as unintelligible; a rush of words in which space and time collide and clash in hopelessly

fragmented, distorted, and incomprehensible ways. Joyce's structuring of *Ulysses'* narrative as a stream of consciousness (a literary device in which the interior monologues of a character melt into their environment and setting) may encourage this perception. However, Joyce, displaying all the precision of a master cartographer, mapped his novel by consulting *Thom's* directory and seeking corroboration from Dubliners:

He was fanatic as well about verifying certain geographical minutiae, writing to his Aunt Josephine, for example, to inquire whether "an ordinary person" might climb over the area railing at 7 Eccles Street and safely lower himself down to gain entry through the lower level of the house.⁴

In such a manner, Joyce "remotely sensed" the layout and atmosphere of Dublin's streets, districts, pubs, churches, houses, and neighborhoods to create a mental map from which to plot the paths of his characters as their itineraries crisscrossed the city. Through techniques of literary cartography and montage, Joyce not only recreated a physical reality of Dublin (colored by his personality) but also the official, statistical city enshrined in *Thom's* directory, embalming by reference and allusion its street lists, tradesmen's catalogues, and census counts.⁵

Ulysses takes place on June 16, 1904, largely in the consciousness of Joyce's principal characters: the 22-year-old student Stephen Dedalus and 38-year-old advertising salesman Leopold Bloom. Both characters experience alienation in their daily lives. Dedalus mourns his mother (despite his refusal to pray at her deathbed), while Bloom, a Jew in a largely Catholic country, carries the dual burden of his son Rudy's recent death and the knowledge that his wife, Molly, is cuckolding him with a *bon vivant* named Blazes Boylan. Their separate peregrinations through the different districts and neighborhoods of Dublin during the day eventually converge in the book's phantasmagoric "Nighttown" section. Drawing on the skills of an "engineer" and a "scissors and paste man," Joyce used *Thom's* directory and map to erect Cartesian scaffolding over the city of Dublin. In this framework, and influenced by Classical Greek and Medieval Italian epic poetry, he stitched together the book's plotlines. Once he had sewn the fabric of his book together, Joyce dismantled the cartographic structure to reveal a kaleidoscopic textual tapestry. Humanities GIS techniques make it possible to creatively reconstruct Joyce's literary deconstruction of the *Thom's* map of Dublin to identify the sites that integrate the topologies and literary allusions from Homer and Dante into the novel.

Homer and Dante's topologies

Joyce based the wanderings of Dedalus and Bloom through Dublin on the voyages of the *Odyssey* (8 BC). Homer's epic poem describes Odysseus' adventures during the 10 years he traveled across the Aegean and Mediterranean seas in an effort to return home to Ithaca after the Trojan Wars.

Looking to Homer, Joyce divided *Ulysses* into three main sections—*The Telemachiad*, *The Odyssey*, and *The Nostos*—as narrative structures to plot the whereabouts of Bloom and Dedalus as they journey through Dublin’s streets and districts.⁶

However, Joyce also looked to another literary work for a template to *Ulysses*: Alighieri Dante’s epic poem *Divina Commedia* (ca. 1308–21). Reading the poet in college, he declared, “I love Dante almost as much as the Bible. He is my spiritual food”⁷ and claimed that “Europe’s epic is the *Divine Comedy*.” A paperback edition of the poem—an undated 1904 reissue—provided Joyce with Dante’s literary and historical sources through which he identified people, places, and events as well as allusions and geographical references.⁸ The *Divine Comedy* presents a cosmography strikingly different than the one depicted by Homer in the *Odyssey*. Dante’s poem tells the story of his descent with the ancient Roman poet Virgil into the three levels (nine circles) of suffering to the center of Hell, before ascending Mount Purgatory to Paradise. Influenced by the poem’s first cantica, *Inferno*, Joyce plotted the paths that Bloom (as Virgil) and Dedalus (as Dante) forge across Dublin as they symbolically descend into Hell to the foot of Mount Purgatory on the doorstep of Bloom’s house on Eccles Street in the early morning hours of June 17. There, the pair of voyagers glimpse the constellation of Paradise.⁹

In contrast to Homer’s heroic geography, the *Inferno* imparts a medieval Catholic cosmology in which time and space assume eschatological and hierarchical functions of an ecclesiastical globe, cleaved by the pit of Hell. Topologically, Homer’s narrative plots movement along a horizontal axis (on the plane of the Mediterranean and Aegean Seas), while Dante’s narrative indicates a downward movement on a vertical axis (a descent into Hell). In this way, Joyce engaged the schemas and topologies of both narratives to chart Bloom’s and Dedalus’s journeys. Employing humanities GIS techniques, then, we can explore how Homer’s and Dante’s spatial and narrative influences converge in the fluid mosaic of Joyce’s novel.

Modeling *Ulysses*

I incorporated *Thom’s* directory map of Dublin into a humanities GIS model in figure 5.1 to facilitate three forms of interpretive visualization: hermeneutic (textual and topological), ergodic (mapping alternative narrative paths in a “cybertext”), and deformative (deliberate textual misreadings). This GIS model serves three objectives. The first seeks to create a topographical picture of Dublin using the cartographical source material that Joyce used to plot his novel. The second translates Joyce’s “cut-and-paste” and other visual and literary methods into GIS form. The third explores and maps how Joyce narratively and topologically linked various Dublin locations to selected Homeric episodes with symbolic references to Dante’s journey. I selected six of the eighteen Homeric episodes from *Ulysses* to map in this chapter. Using digital editing software, I took the six different sections of *Thom’s* map of

Dublin that correspond with the six chosen Homeric episodes, digitized them into raster images, and imported them into ArcMap where I georectified the sections to create a GIS model for each episode.

1. In the model for each episode, I created a polyline shapefile tracing Bloom's and Dedalus's specific movement using GIS editing techniques based on Joyce's text and the schematic of the streetscapes displayed by the digitized sections of *Thom's* map displayed in the ArcMap window.
2. I then geocoded the sites and corresponding passages in the GIS model frames of each Homeric episode using point and polyline shapefiles to identify locations and to map the paths of Joyce's characters.
3. Last, I created three fields in the attribute tables of each episode's location point shapefile. The first field listed the ID of the episode, and the second and third fields listed textual linkages between *Ulysses* and *Inferno*. Though not shown in the following figures, this GIS function is useful for conducting spatial hermeneutic readings.

The attribute tables provide a means for scholars to make short annotations on the passages, locations, and character paths in the six chosen episodes. I enhanced this GIS interpretive approach by adding hyperlinks to a full-scale *Thom's* map using red circles to identify each episode's location in Dublin and text boxes that feature truncated and deformative *Wordle Cloud* readings of passages from each episode to visualize Joyce's stream-of-consciousness technique. The use of ArcMap and ArcCatalog in this manner does not so much serve to export a finished image or representation (although this is certainly an option) as it does to provide a tool to visualize, situate, and create topological hermeneutics as well as ergodic and deformative interpretive readings of a piece of literature.

The topologies of *Ulysses*

The GIS models of Homer's six episodes—(1) "Calypso," (2) "Proteus," (3) "Hades," (4) "Wandering Rocks," (5) "Circe," and (6) "Ithaca"—illustrate possible means to explore the influences of the *Odyssey* and *Inferno* on Joyce's novel. By no means definitive, these interpretive models provides the foundation for the ArcScene 3D visualization featured at the end of this chapter, illustrating how Homer's and Dante's schemas and topologies may have guided Joyce in plotting Bloom's and Dedalus's journey across Dublin on June 16, 1904. The following chapter sections discuss how GIS helped to both visualize and analyze the ways Joyce linked various locations in Dublin to the three main levels of Hell (upper, middle, and lower) and Purgatory in the *Inferno* to the six Homeric episodes of *Ulysses*.

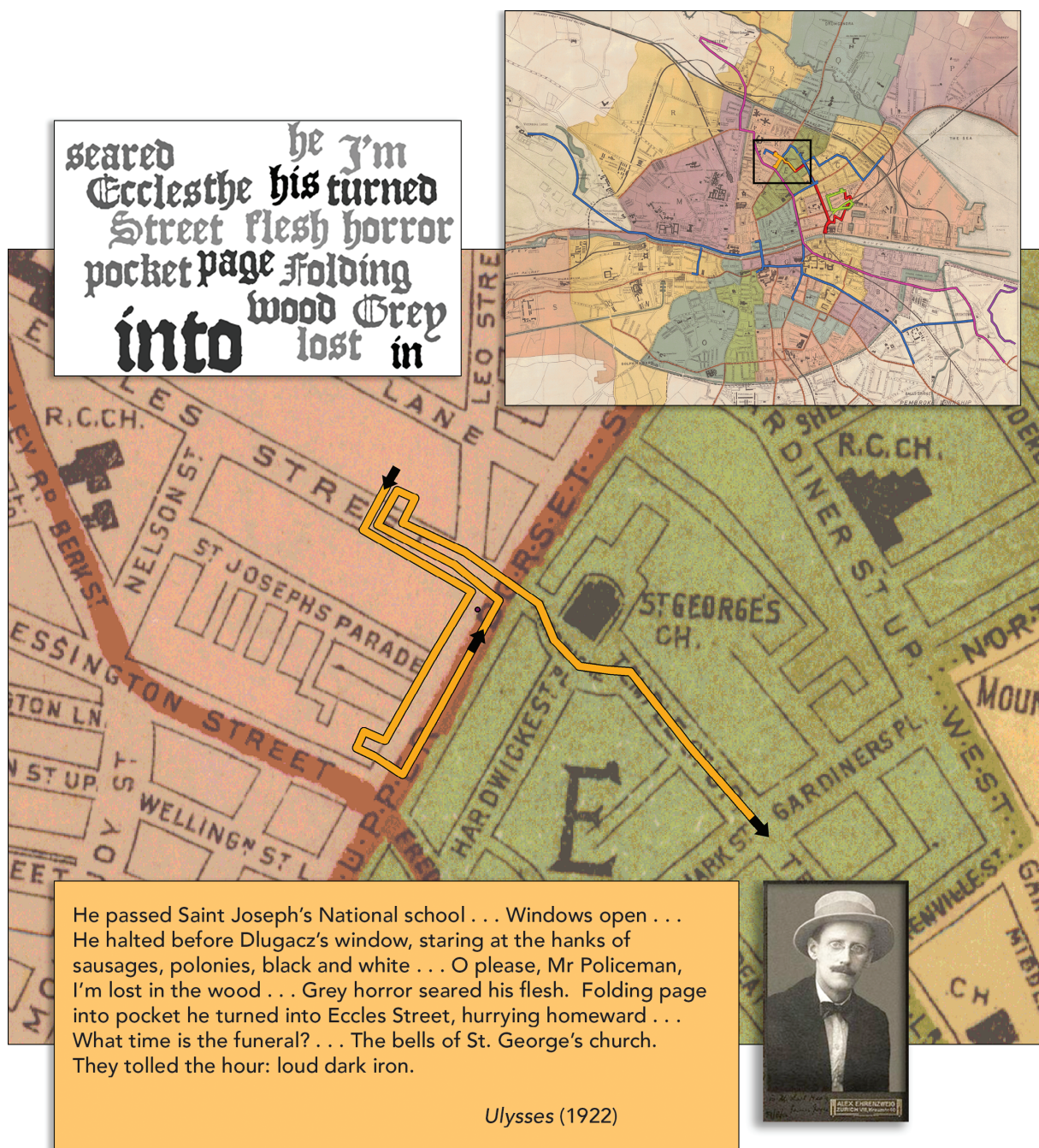


Figure 5.2 Upper Hell, (1) *Calypso*, 8 a.m. (7 Eccles Street). Created by the author from *Map of the City of Dublin and its Environs*, A. Thom & Co., Ltd., 87 Abbot Street, Dublin (1904), obtained from Trinity College Dublin Library; James Joyce, *Ulysses* (London: Penguin, 1992 [1922]); photo by Alex Ehrenzweig, 1915.

Upper Hell

(1) *Calypso*, 8 a.m. (7 Eccles Street)

Although it is the fourth episode in the novel, “Calypso” is the first to introduce Leopold Bloom as he leaves his house on Eccles Street. Joyce writes that Bloom “ate with relish the inner organs of beasts and fowls,”¹⁰ and the GIS model displays the path he takes walking to Dlugacz’s butcher shop to buy a breakfast of “mutton kidneys which gave to his palate a fine tang of faintly scented urine.”¹¹ Like Dante at the beginning of the *Inferno*, Bloom finds himself “lost in the wood.”¹² Alienated as a Jewish cuckold in a Catholic country, his life corresponds with Dante’s first *terza rima*:

In the middle of the journey of our life
I came to myself within a dark wood
Where the straight way was lost.¹³

The geocoded word boxes and clouds in the GIS analysis of “Calypso” correspond with Bloom’s path and his thoughts as he travels to and from 7 Eccles Street, to Dlugacz’s butcher shop, and past St. George’s Church¹⁴ to begin his journey across Dublin (figure 5.2). The episode closes with Bloom’s musings about Paddy Dignam’s burial procession, which he will participate in during the “Hades” episode.

(2) *Proteus*, 11 a.m. (Sandymount Strand)

The GIS model of “Proteus” traces Stephen Dedalus’s walk on the beach (shown in purple) as he follows the shoreline at Sandymount Strand and gazes out across the rippling mudflats at low tide (figure 5.3).¹⁵ Joyce composed this episode as a stream-of-consciousness set piece. Through Dedalus’s thoughts and impressions, Joyce tackles the philosophical question of how objects are perceived in time (*nacheinander*) and space (*nebeneinander*). Dedalus is haunted by the memory of his recently deceased mother, “a ghostwoman with ashes on her breath.”¹⁶ The burden of his mother’s death on Dedalus’s mind increases as he questions the nature of divinity and reality, wonders who his father really is, and grapples with financial solvency. Like Dante (and Bloom), he finds himself “*Where the straight way was lost*” and pondering the,

Ineluctable modality of the visible: at least that if no more, thought through my eyes.
Signatures of all things I am here to read, seaspawn and seawrack, the nearing tide, that
rusty boot. Snotgreen, bluesilver, rust: coloured signs.¹⁷

Analysis of the GIS models of “Calypso” and “Proteus” confirm Clive Hart’s and Leo Knuth’s observation in *A Topographical Guide to James Joyce’s Ulysses* (1975) that the “topography of Dublin is ‘on the page’ at least as much as are the meanings of the words . . . ‘kidney’, or ‘ineluctable modality’: it is part of the book’s primary reference system, without which its full sense cannot be apprehended.”¹⁸ In “Proteus,” Dedalus is glimpsed by Bloom, who in the 11 a.m. episode of “Hades” joins a funeral procession commencing outside Paddy Dignam’s house in Sandymount.

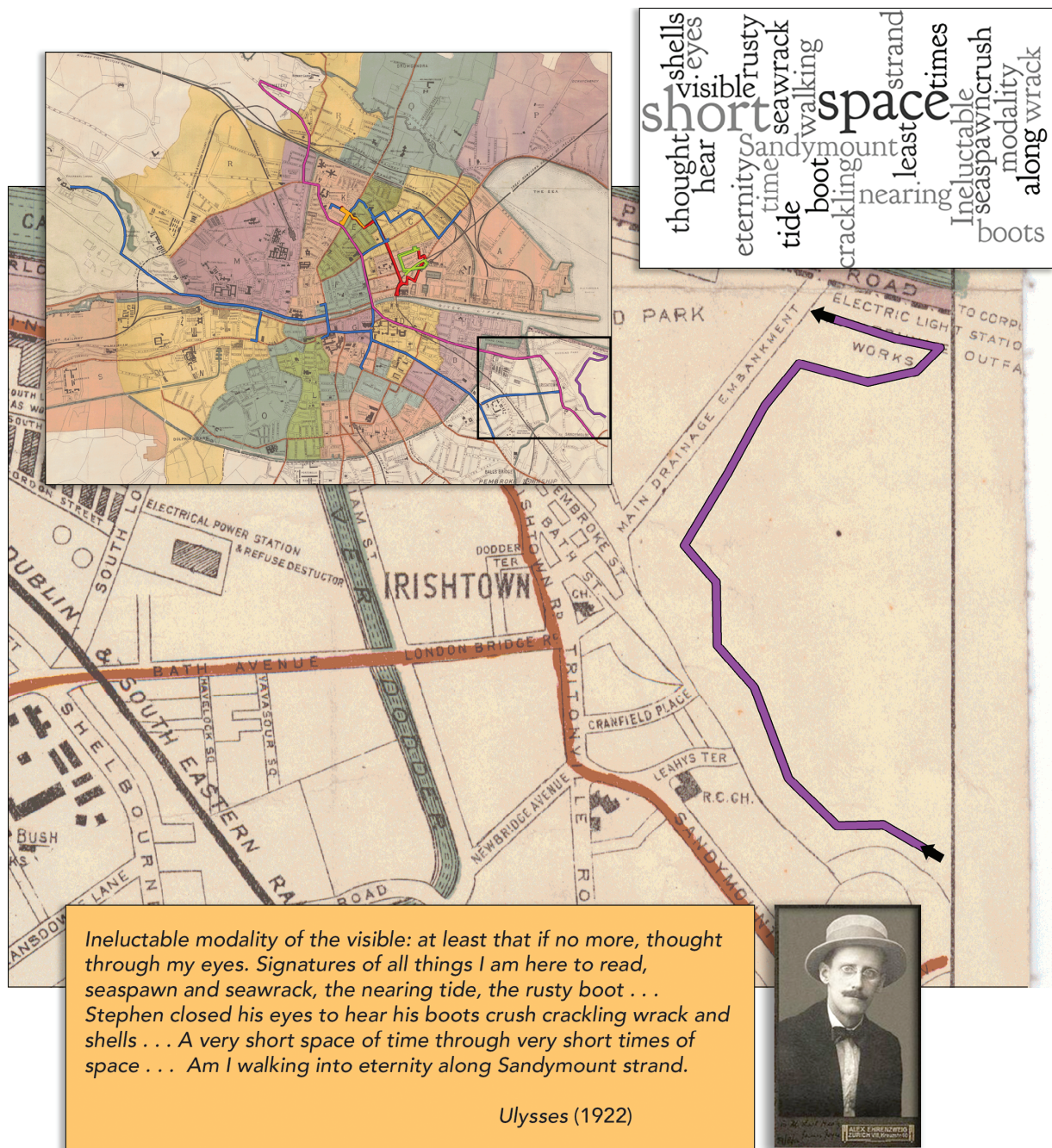


Figure 5.3 Upper Hell, (2) *Proteus*, 11 a.m. (Sandymount Strand). Created by the author from Map of the City of Dublin and its Environs, A. Thom & Co., Ltd., 87 Abbot Street, Dublin (1904); obtained from Trinity College Dublin Library; James Joyce, *Ulysses* (London: Penguin, 1992 [1922]). Photo by Alex Ehrenzweig, 1915.