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Isolario
Michael Emerson

. . . with compass to the wind I have stepped repeatedly upon each isle its ports and bays, its rocks both bare and filled with growth, and with a stylus marked their true position on a chart
Bartolommeo da li Sonetti, *Isolario* (note 1)

The rhetoric of place in contemporary architectural and philosophical thought presents a move away from space as the defining concern of such discourses, toward a more experiential, localized view. The concept of place offered is often one of stillness in space and time, in which the goal is a return, recovery, or reconstruction of foundations thought lost or in need of repair. But perhaps by revisiting place as it was, we will find a mode of thinking place and its relation to architecture that is more attuned to contemporary philosophical and cultural contexts - place less still for our world of shifting epistomologies and global overnight delivery.

It was an architect, Leon Battista Alberti, who thought to apply the instruments and systematic observations of the seafaring navigator to the measurement of land. He devised a method of surveying successive triangulations of positions in the landscape using an instrument he called a "horizon," which was in essence a mariner's astrolabe used horizontally top chart points against a terrestrial rather than a celestial constant. Because of the varying surface from which observations were made, navigators took a series of measurements against a succession of bearings, with each point determined by its relationship to those previous. Driven by renewed interest in terrestrial mapping following the reintroduction of Ptolemy's Geographia to the West in 1406, such principles took Europeans round Africa's southern cape for the first time and across the Atlantic to the first extensive contact with the Americas, thus extending the oicoumene, or known world, beyond limits essentially unchanged for thirteen hundred years.

These haven-finding skills of the navigator are often presented as a proto-scientific approach to the world, marked by greater accuracy of cartographic representation and geometry in the pursuit of efficient, direct transport.(note 2) It is an argument that opens onto later post-colonial revisions of the "discovery" stories, which, while thoughtfully questioning the triumphant rhetoric surrounding such events in a concern for indigenous peoples displaced or exterminated, often colours these events with intentions more reflective of twentieth-century secular technocracies than those of the Renaissance.

For Alberti and the fifteenth century in general, navigational practices and instruments presented more than a pragmatic expansion of space. They provided an opportunity to contemplate a new

sense of place, one informed by a mobile rather than a static act of dwelling. Alberti brought ashore the navigator's art, and with it an aqueous conception of poetic foundations. In his perspective painting, he borrows the navigator's meridianae. In his architecture, his lineamenti describe a navigator's orientation of longitudo and latitudo. The intention of such conceptions is not to create the place of the work ex nihilo and permanently fix it in space, but to reveal place in its true relation between body and sky, to triangulate the shifting connections between humanity, its maritime and terrestrial places, and the divine. It is my contention that proto-scientific activities of the Italian Renaissance are due more to this exploratory loosening of place than an objective, scientific intentionality.

The architect's appropriation of navigational practice brings its poetics to bear on his work as well. Indeed, the Renaissance navigator would recognize little distinction between the two. The fifteenth century isolario, while drawing on the tradition 6' of the medieval portolano, or written sailing instructions, and anticipating later atlases of sailing charts, is unique in its combining nautical maps with poetic descriptions of islands and sailing instructions. Popularized by Cristoforo Buondelemonte's Liber isolarum Archipelagi of 1420 and Leonardo Dati's widely distributed Della Sphera of 1422, Bartolommeo da Ii Sonetti's Isolario of 1485 was the first to be printed and included woodcut navigational maps of 49 Mediterranean islands, together with sonnets providing poetic descriptions of each island's unique features. Indeed, the association of marine navigation and poetry was such that upon Christopher Columbus' return from the New World, the Bishop of San Leone, Guliano Dati, versified the Admiral's letters.

For my Isolario, I created a series of nine collaged panels that unfold in spiraling succession, each presenting a stage in the navigator's journey that the architect may bring to bear on her work, too. The collages are made from the cartographic and navigational materials of the fifteenth and twentieth century's primary modes of long distance transportation. The fifteenth century is represented by a Ptolemaic mappa mundi, the production of which flourished during this time. The twentieth century is represented by an aviator's Visual Flight Rules/Instrument Flight Rules (VFR/IFR) map of the region surrounding Montreal and several images from a reference book on aviation navigation.

1. Orientation

The first panel familiarizes the navigator with the instruments and representational conventions she will need for her voyage; both are an attempt to come to terms with the gaps between the physical reality of the area to be traversed and the systems which attempt to chart the territories in front of her. The sphericity and lines of movement charted by the navigator's body reveal statically a shifting axis between her body and the stars. Indeed, a Vitruvian figure, the common representation of a static axis in the architectural treatises
of the Renaissance, appears as well in Pierre Garcie's Le Grant Routier of 1520 (note 3). Although it too represents humanity as a privileged pole in the axis of earth and the heavens, the context is different. The navigator's figure does not appear in the familiar outstretched pose, fingers and toes touching lightly the edge of a square and circle. Instead, the body describes a windrose, marking the four cardinal directions as a Greek cross. Proportionality as a linear or volumetric representation of divine harmony, a chief
concern of other Vitruvian illustrations, is subordinated to the body's relationship with directional Aeolian movement. The figure's center remains the navel, but here is placed the North Star, the unmoving celestial guide for mariners since antiquity, around which spins the dome of the heavens, whose stars are depicted between windpoints in the figures outer ring.

2. Departure
Journeys of both periods begin with a vertical windcatching gesture -the airplane ascends, the sails rise- prior to longitudinal and latitudinal movement. Coming at the outset of the voyage, the Isolario's gesture creates a sort of axis mundi, a connection between earth and the heavens that establishes the moving vessel as a place, despite the constant displacement of itself from moment to moment. Because of her constant displacement, the traditional practice of marking sacred space by auguring the earth and erecting walls must be redefined to reflect the navigator's embrace of aquatic or atmospheric mutability -the furrows of the inaugural plow possess an indelibility that those of the ship's prow or the aircraft's edged wings must lack. Frothy wakes subside, turbulent winds disperse, and the navigator's former position is accessible only to memory made visible by instrumental or textual logs. The navigator's axis mundi is the connection between micro- and macrocosm of a body not stilled by divine geometry, but rather one blown by the winds as it chases the stars through their courses.

3. Setting Course
Having set out, the navigator must now decide on the path which will lead to her destination. For distant travel it is not enough to know that she is to make for X, as she must also decide to make X by way of Y or Z, the points against which she will take bearings for both ship and final destination. On the Isolario's third panel, the navigator travels by way of one of the three continents of the oicoumene: Africa, Asia, or Europe. Such waypoints are common to all systems of navigation, though their character may differ. Before oceanic voyages, Western navigators plotted course primarily through recognizable man-made or geographic features, a dead-reckoning manner of navigation requiring either constant visual contact with shoreline, or short excursions beyond sight of land to islands of well-established position. Crossing open water required a mode of projecting waypoints forward into an imagined space and time. Micronesian Puluwatan navigators, whose ancestors attained oceanic capabilities centuries before Europeans, set their waypoints beneath unmoving stars atop imaginary islands whose position was consistently conceived as being just beyond the horizon.(note 4) High altitude modern aviation similarly uses "imaginary" electronic waypoints to navigate beyond sight of land because of altitude or darkness.

4. Magnetic Disturbance
The earth, which is a constant physical or imaginary presence in navigation, often rejects the means used to read it. The instrumental homogenization of space is confounded by unseen deposits within the earth. The Isolario's abstract grids laid over land by the compass's ability to determine magnetic north unfix themselves, together with the waypoints determined by them. A problem for both periods, such interruptions are marked explicitly noted on the modern aviator's map and implicitly on medieval maps -the eastern Mediterranean's almost 8° magnetic disturbance caused an upward distortion in compass-based medieval charts. In the hierarchical world system the Renaissance inherited from antiquity, the sublunar realm was thought of as a sphere of change, dissolution, and inconstancy both physically and metaphysically. This applied not just to the beings and objects that inhabited this world, but to the earth itself. Ptolemy wrote, "Parts of the earth are different today from what they were, either on account of revolution or from transformation, in which processes they are known to have partially have passed into ruin."(note 5) Such transformations remind the navigator that the shifting of the sea is a

characteristic of land, as well.

5. Blindness
Areas beyond the reach of sight are found on maps of both periods. The Ptolemaic mappa mundi notes many terrae incognitae, or uncharted regions, beyond the three continents of the oicoumene. Modern aviation charts warn against areas unlit and therefore inaccessible by visual flight rules. Mythically, such areas are considered the home of the either the monstrous or the sacred that, like the face of the Gorgon or that of the Hebrew God, are too terrible for sight. Facing such areas, the navigator's own experiences may prove adverse or advantageous. The Isolario panel, dominated by a blackened center, is only navigated by borrowing the dispersed grid of the previous panel. Confronting blindly the route before her, the navigator is thrown back on such culturally or personally conditioned memories to determine proper course. In either case the navigator is made aware of the hazards of entertaining options and making decisions that are primarily determined by past events.

6. Synaesthesia
Having experienced the loss of both instrumentation and sight, the navigator must find an alternate mode of wayfinding, one in which the primacy of mechanics and sight gives way to a less localized sensitivity to the environment. On the lsolario panel, the numerical system accessible only to instrument and eye becomes a series of raised markers accessible to touch. The topography of earth and map, signified and signifier, coincide in the relief. Hands which once traced paths through compass and rhumb line now put aside instruments and tracings for a sensual experience of the area to be traversed. Salinity and swell intensity differ throughout an ocean. Air grows more or less turbulent with altitude. These are characteristics of the sea and sky not available to the eye but known to a pitched body.

7. Holding
Toward the end of a journey, the navigator experiences a pause through repetitive, circular movement round an island or an electronic radio beacon, a spatial recurrence that has a temporal component as well. Bearings and sounding must be taken, checklists must be completed, each done at prescribed times or regular intervals. Such repetitions are responsible for much of the work's rigour, but also gives rise to its rituals. In the late fifteenth century Friar Felix Febri noted in his travel log Venetian sailors "who sing when work is going on, because work at sea is very heavy, and is only carried on by a concert between one who sings out orders and the labourers who sing in response."(note 6) Rhythmic call and response rituals establish a connection between the navigator and her shipmates. When they enter open areas, it is these rituals of bodies at work that will reveal their place among each other and, ultimately, within the unmarked territory.

8. Approach
If the navigator's departure establishes her connection with the wind, the approach throws the benevolence of this relationship into doubt. Ulysses, with Ithaca at last within sight after nine days of favorable winds, slept while his men, impatient and greedy, ripped open Aeolus's bag, unleashing a hurricane that sent them far from home, again.' The navigator's motility requires a connection with an element as capricious as it is beneficial, and once she has allied herself with the winds, the contract is broken only with great difficulty. The gusts that refuse a ship entry into

harbor or push her onto rocks and shoals and the windshear that throws the aircraft into the ground speak to the danger inherent in any return.

9. Arrival

The last panel is blue, more like the seas car skies just traveled than the ruddy earth of a destination achieved. The blue both emanates out from and recedes behind a vaguely defined center. The destination is immediacy, an awareness of the moment's place between a constantly receding past and an inevitable future. Navigation as a series of successive measurements that relies on the endurance of previous markers to lend accuracy to current measurements, and thus future positions. is not just applied mathematics, but an ethical orientation as well; history and tradition, whether one is thoughtful of them or not, are cultural markings from which ethical bearings are taken. Understanding the influences of tradition, of past markers, allows the navigator to conceive of responding differently to these conditions. Likewise, the navigator's future position relies on a set of imaginary points used to ameliorate the exigencies of her constant displacement. Her ability to conceive a point which is not, but should be, is an act of ethical imagination.

> *Receive now . . .the things which I have long desired to attain by various doctrinal approaches but could not- until... I was at sea en route back from Greece...*
> Nicholas of Cusa, *De Docta Ignorantia* (note 8)

Notes:

1. Bartolommeo da li Sonetti, *Isolario* (Amsterdam: Theatrum Orbis Terrarum 1972), reprint of the 1485 ed., Venice, xii.
2. See for example, Joan Gadol's discussion of Alberti's use of navigational techniques in *Leon Battista Alberti: Universal Man of the Renaissance* (Chicago: University of Chicago 1969), 168-180.
3. Fascimile repoduction in D.W. Waters, *The Rutters of the Sea* (New Haven: Yale I 967).
4. Edward Casey; *Getting Back Into Place* (Indiana: Bloomington 1993), 26-29.
5. Claudius Ptolemy, *The Georgraphy*, trans. Edward Luther Stevenson (New York: Dover 1991), 29.
6. Felix Fabri, *The Book of the Wanderings of Brother Felix Fabri*, from William Main Doerflinger, Songs of the Sailor and Lumberman (Glenwood, IL: Meyerbooks 1990), 92.
7. *The Odyssey of Homer*, trans. Richard Lattimore (New York: Harper & Row 1967), 152-53.
8. Jasper Hopkins, *Nicholas of Cusa on Learned Ignorance* (Minneapolis: University of Minnesota 1996), 158.