Inventing America : The Culture of the Map

BY

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In his first letter about the new world Christopher Columbus recounts that when the natives first saw him, they thought he had dropped from the sky. [1] Indeed, it is as Icarus that King Ferdinand's representative landed on the American earth, although his heavenly descent from the realm of Euclidean omniscience was effected not by wings but by the scale map. This is the abstract vehicle that gave him the theoretical security that land existed along the westward course before he set foot upon it. By means of the map the European had a bird's eye view of the world, and it is this revolutionary fact that makes the map a major cultural text for tracing European doings and identity on the other half of the globe.

The map's cognitive possibilities and limitations are already implicit in the above-mentioned Icarian myth and can be illustrated by this remark of Italo Calvino's : « Discovering the New World was a very difficult undertaking... But once the New World was discovered, it was even more difficult to see it, to understand that it was new... » [2] As the basic filter both for discovering and interpreting this world, the map uniquely charted the first face-off between the cultural grammars of two different hemispheres. As cartographer Columbus repre-

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sented a sophisticated technological culture. His theoretical acumen was enriched above all by Claudius Ptolemy, whose *Geographia* displayed a superior kind of *geo-graphein* in comparison to the Indian's more direct, ancestral, physical understanding of the earth. [3] Contrary to the European explorers, the Indians were never frustrated by their mimetic « bondadge » to the topographical order nor cared to give much thought to the type of theoretical eye behind the European cartographic presence. Accustomed to the success of scientific discourse and imbued with the Cartesian tradition, the sons of Columbus naturally presumed that their version of reality was *the* version.

Indeed, since the reintroduction of Ptolemy's *Geographia* in the early 1400s, the scale map's authority steadily increased. Its analytic eloquence gave Renaissance cartographers the confidence to establish an objectivist vision of the world no longer contaminated by imaginary fictions or theological opinions. With this cartographic culture in mind, we should have no problem in following the syllogism of Columbus's adventure : he discovered the new land because he knew it was there; and he knew it was there because the technics of the map told him so. As John Parry points out, there is nothing casual here. [4] The culture of the map systematically destined Columbus first to know and then to act. Important here is the well-known fact that from 1492 to 1522 a concentrated series of major geographical discoveries coincided with the golden age of Western cartography. Never as in this period was the place of the world the place of the mappemonde. So interwoven is their relationship that the following research matrix naturally proposes itself : « America » is a cartographic revolution, the cartographic revolution is « America. » Columbus, Verrazzano, Caboto were above all expert cartographers and only then legendary discoverers. America, in fact, would take the cultural form prescribed by the map.

Both historical period and scientific procedure suggest that without the map there could have been no « new » world or settlement; thus making it the necessary condition for America's taking-place. The map as cultural sign is the ideal text for studying the way Indian land was transformed into Euro-American territory. Certainly, it was the only form of writing that could officially demonstrate to those nations competing with each other over colonial possessions what the exact size of their holdings were. Without boundaries, flags, and national toponyms there could be no *patria.* In this case too, the map preceded the people and then assumed a normative role in pre-establishing a spatial order for solving the political problem of the one and the many in its territorial and ethnogenetic forms.

There is a continuous semiotic play between the matter under analysis (the land) and the form of the analysis (the map). In the context of the inventing of America, it is not so much the discovery of the new continent that mattered as the *way it was seen. Theoria* means making visible, and beyond interpretation there is nothing to see. To repeat, the map is America's precognition; at its center is not geography *in se* but the eye of the cartographer. This fact requires new respect for the in-forming relation between the history of modern cartography and the history of the Euro-American's being-in-the-new-world. It also leads us sons of Colombus, Verrazano and Cartier to study the map not so much as a representation of space but as a space of representation. Here lies all the difference. The adventure of discovering and exploring America implies physical and cognitive mobility across an open series of heterogeneous spaces, by which the European subject attempted to weave a unified discourse. This type of combinatory logic defines the structural desire behind both Euro-American culture-building and cartographic activity. But it is exactly by forgetting that the map too is involved in such great adventures and is equally obsessed by the rage for order that one reduces it to a highly transparent, static system of representation. The result is that all of the narrative depth depicted on its surface remains hidden and its historical journeys denied.

Once placed within cartographic tradition, however, the map's objectivist ruse can be discovered for what it is. Only then can we begin to notice its critical nature, its dissimulating cleverness and complexity. Since it is an incredibly hybrid text, one really must take the time to test its political muscle and salute its military potential, but these readings have in part already been provided.[5] What still remains is the task of defining better the map's peculiar generative logic in a perspective which will restore to the viewer its spatial dynamism, temporal narrativity and unfailing subjectivity. These components in turn contribute to form a cartographic semiotics, the systemic possibilities of which repeat combinations of cartographic history. In fact, this text's most important historical moment, when it was called upon to invent the other hemisphere of the globe, coincided with the critical moment in which the conventions of the modern Ptolemaic map were jostling with those of the old medieval map to represent American space. Cartographic form, in other words, was undergoing a paradigmatic shift, and its laboratory for experimenting with new structuring techniques was of course the new world.

For propedeutic purposes, it may be convenient here to correlate the semiotic drama of the map with the following typology of his-

torical acts that helped to shape American territory : the *pictorial map* with the moment of contact and discovery; the *portolan chart* with colonization; the *scale map* with the period of nation-building. Obviously, these cartographic text-types overlap. They are not at all chronologically unilinear or generically pure, yet each is dominated by a specific semiotic function that matches the above moments of the shaping of America. The medieval pictorial map features as its major representational mode the icon, which was still the most effective means for expressing the explorers' original and enchanted contact with the new continent. The myth-laden Indian and the virgin land were the first real protagonist, thus making the image a dominating cartographic vehicle. The Cantino planisphere of 1502 and the Juan de la Cosa chart of 1500 are models of the icon's official function in making an important statement about the radically Other.

The more practical portolan, concentrating on coastline space and nautical conditions, tends to string toponymic chains along the outer edge of the new land. It relies heavily on the device of naming to indicate possession. The portolan's dialogical enthusiasm for the new land is unabashedly Eurocentric, which is evident in the spread of European writing on its surface. The Maggiolo map of 1527 and Gerolamo da Verrazzano's key 1529 map exemplify this new type of strategy which will continue to dominate throughout the 16th and 17th centuries as the European nations battle for American space primarily through toponymic rhetoric. The final system more strictly concerns a formal conception of spatial definition and is prominent in the projection of a rational and juridical organization of territory. Here boundaries precede settlement and make a state claim for *patria* and peoplehood. But the importance of the strictly Euclidean *ratio* of the point, the line and the surface, of meridians and parallels, longitude and latitude, is already awesomely evident on Sebastian Cabot's mappemonde of 1544, which Edward Wright's map of 1599 will further revolutionize by correcting Mercator's classic projection. Both of these maps reflect a peremptory confidence in the culture of technics. Once again, the three modes of representation can be used to identify map-types and different cartographic procedures, but they necessarily coexist on single maps.

We are now in a position to grasp the map's double function of opening up and closing a territory. This activity is based on the two paradigmatic moments that generate the tension and drama of any journey : departure and arrival. Thus, the map's progress in plotting America is a pilgrim's progress. It traces the *peripli* of a people and pertains to the order of story. It visibly builds a vectoral tension ordered along an east/west and a north/south axis, but this spatial

composition can also be read temporally — time being a function of space — if we read its synchronic *segmenta* diachronically. In this way we can measure the map's Olympian desire to achieve a maximum degree of stasis in terms of total movement. This schematic organization, though, should not discourage us from equally seeking its generative itineraries, where the cartographic/cultural past lies buried and its future projected.

The map as made, with its center everywhere, is clearly the result of its making just as the most perfect map of the built nation is hopelessly inscribed with the history of nation-building. In the beginning « America » was caught between two opposing modes of cartographic tradition, the image and the Euclidean line, and these faithfully reflect a vision of America as place and passage, respectively. The originating sourcetext of the new land took the form of the image-map. It was most important for the explorers to have some *thing* to show for their travels. The route itself was ultimately a mere means, even if for them it was everything. So a pictorial landscape gave purpose to the goal; the image functioned as place, and route (the mathematical line of the compass rose) was important only because there was a point of arrival. If we begin from the perspective of the line, however, the mapping of America becomes the history of the concealment of place and image. The map now becomes all route and America sheer passage. But to the extent that the global/route/line becomes the dominant factor of the cartographic text, the local/place/image becomes mere context. At the global level — the abstract surface of the scale map — context disappears, place is no longer important. The image, local space, now functions as the missing answer to the question of circulation and the success of the culture of *techné*.

The combinatory passion of the scale map, though, cannot hide the map's inevitable caesurae, its repeated recommencements through toponymic repetition, and its blank spaces — all of which call attention to the historical journey of cartographic representation. But before describing the semiotic locomotive of this journey, I would like to clarify a small mystery of cartographic authority. In the famous planisphere of Sebastian Cabot, the seventeenth legend reads : « Sebastian Cabot... wishing to succeed in convincing me, made for me a plane figure... on which he traced for me with as much science and exactness, the degrees of latitude and longitude, and also the direction of the winds. » [6] In his analysis of it, Henry Harisse speculates about a third person intervening between Cabot and the viewer but concludes that the legend is « only a pedantic prosopopeia by which the map is made to speak as an animated being. » [7]

Actually, there is here a more elusive presence that is responsible for producing cartographic meaning.

This subject makes an emblematic appearance on the frontispiece of Giacomo de Rosi's late 17th-century atlas and is accompanied by the following inscription : « Mercurio Geografico overo Guida Geografica in tutte le Parti del Mondo » [Mercury Geographer or Geographical Guide throughout the Wide World]. Hermes/Mercury is thus shown to be the mythic manipulator of cartographic tools. As the god of mapmakers and ruler of the map's semiosphere, his patronage is obligatory. Not only is he patron saint of the technical arts but also god of the occult and magical sciences. In the role of messenger, inventor of the alphabet, and transvestite trickster, he manipulates the cartographic orders of the line, the word, and the image, respectively. Great Dutch mapmakers like Abraham Ortelius and Gerard de Jode were well aware of this dramatic presence when they applied the titles *Theatrum* and *Speculum* to their atlases, two central metaphors of cartographic readability. The map, then, is both a scientific and artistic text in Hermes's hands, which prompts me to cite these words of caution to all map viewers : « *à chacun sa déformation.* » [8]

With mercurial quickness I would now like to suggest a descriptive model for a cartographic semiotics, without which the map risks being reduced to a loose aggregate of representational procedures. What is needed is a global map of the map's sign activity. This will require us to understand how each of the elementary systems of image, word, and line produces semiotic information; that is, how the map's object, the world, is transformed into these three different ways of encoding space. The cartographic semiosphere pertains to this *superior* level of systemic interaction, to the costructuring dance of word, image, and line as they vie for the right to arrange and dominate the map's design. Each system tries to deal with the activity of the other two in terms of its own language, while the costructuring dance is elaborated according to the modalities of communication, translation, interference, and distribution. [9] Furthermore, there is no way of abating this semiotic battle, for no single system can satisfy the representational functions of the other two — even if it may overpower them. At any rate, cartographic history shows that the map's semiosphere is always structurally irregular, but as Jurij Lotman helps to explain, such irregularity is the very reservoir for producing new cartographic information. [10]

In the designing of America, blank space became such a critical area for sustained intersystemic activity that mapping families burned up semiotic combinations with convention-defying rapidity. This

is why the discovery of America and the golden age of cartography go hand in hand. While the map's semiotic space can be divided up locally into various sized *segmenta* or politically plotted structures with one of the three systems having or seeking compositional control, there is often a highly readable key at the macrostructural level that announces what the map considers its paramount achievement. In the Juan de la Cosa chart the image of St. Christopher covering the presumed but unknown passage to China like a band-aid clearly makes a metanarrative statement about the systemic hegemony of the icon. At the semiospheric level I presume this means that its particular semiosis has been assigned the task of celebrating the map's aim and unifying its surface. The natural association between St. Christopher (*Christum ferens*) and Christopher Columbus (bearer of Western culture) suggests the dual ideological mission inscribed on the map. But this conclusion does not guarantee the image-system's actual effectiveness. The icon's very location along a horizontal axis of center/periphery and the dramatic sense of movement it conveys call for the mathematical follow-through of the line's *ratio* to legitimate the promise of the pictorial gesture.

On Martin Waldseemüller's world map of 1507, considered the first to bear the name « America, » a miniature map has been inserted at the top center and is flanked by the portraits of Claudius Ptolemy and Amerigo Vespucci. Each is holding one of the instruments that made the map possible, and the entire insert celebrates their technical skills and authority. Still, the spatial center that dominates the map is a toponymically dense Europe; while America, stripped of the pictorial images that alone might have represented the European's desires and fears with regard to that space, bears along its western edge the words « *Terra Ulteri' Incognita.* » Suppression of the image expresses bad faith poorly concealed. But in this particular case, the system of the word speaks for the buried fantasy of the image, a weak but real source of systemic interference. As for the semiosphere, it remains a dynamic field of sign production precisely because there is no common language to totalize image, word, and line into an intersystemic stasis.

The peculiar semiosis of the image can be understood more easily when placed in the *orbis pictus* tradition, a beautiful example of which is the Peutinger Tabula.[11] Here the map's dynamism is expressed completely in pictorial syntax, in graphic representations of the physical and human-built terrain. The Roman general Vegetius explains the practical capacity of this classic « road map » in a single comment : « Non solum consilio mentis, verum adspectus oculorum. »[12] With the scale map this truth will be slighted and the

image often reduced to a mere decorative fragment. But the Peutinger Tabula reveals a figural power for which there is no substitute. Certainly, the regime of the line cannot rival its expressive status. Through its theatricality, the system of the image solicits an actorial presence while inviting the viewer to be an « on the scene » observer. The pictorial *segmenta* of Guillaume Le Testu's 1566 *Cosmographie universelle,* for example, suggest a selection of cultural frames representing a broad gamut of imaginary and ethnographically interesting scenes of the new world. They are, however, more than a fantastic/anthropological *mise-en-scène,* for the image system's evocation of forms, *physis* and color present the crucial mimetic truth that without topography there can be no cartographic *geo-graphein.* As for the Greek word *grapheus,* it refers to writer and painter alike.

The image system, then, materializes the relation between land and map. It composes the map's material plot and reminds us that the other systems are peremptorily dependent on the earth as signifier. The image's *physis* calls for contact, put us in touch with local place, weaves a subtle cosmological net over heaven, earth, and man with an immediacy that neither line nor word can match. All this is exemplified on the Cantino chart where the new world is depicted as a lush green land with a mild climate, beautiful trees and bright red parrots — a *locus amoenus* in all its phatic force. Evidently a cartography of the image asserts a myth of contact with nature that remains America's prehistoric source of renewal. As the line's regime cast its geometrical scheme over more and more of the new continent, though, the image was progressively stripped of its context and forced to serve as frozen icon along the boarders of the map, as in Samuel de Champlain's 1613 « Carte de la Nouvelle-France. » It only retained a dramatic function in those spaces where the line's global desire still had not reached. Thus, on Sebastian Münster's map of 1540 one finds in his depiction of Brasil a cannibal leering out from behind a clump of trees.[13] The tension between the local and the global realms and between the image and the line in the map's semiosphere tended to increase in these blank spaces, and the map's systemic dynamics took on the overtones of a battle for cultural homogeneity. Here again we can see how the image and the line represent two different approaches to American dwelling. Sebastian Cabot's mappemonde of 1544 graphically illustrates the type of kinesics involved in holding one's ground at the referential level, while at that of the semiosphere an equally intense intersystemic struggle is taking place. As the image inevitably disappears with the receding blank space, one is contemporaneously presented with the history of America's disenchantment and the advance of the culture of tech-

nics. But there will always be blank spaces, the virtual space of the menacing image, lurking in the map's interstices.

According to the line's technics, cartographic blank space can only stand as an obstacle to political and cultural consensus, to the epos of global conquest. The projected contents of this space are familiar enough : the forest, Indians, wild animals, the devil. *Terra Incognita* the toponymic system calls it. But it is in such spaces as these that cartographers generally place their image sequences. As Sebastian Cabot's mappemonde shows, when America is the object, the *res picta* is invariably of Indians and their world. So on the one hand we have the image/the Indian/local dwelling and on the other the line/the European/global circulation. In raising their weapons against the red men, Cabot's armored soldiers are seconding the topophobia of the line's regime as well as its intolerance of the image. Only the image and partially the word as toponym give local place a chance to speak its localness.

As for the Indians, they recognize no such thing as abstract, purely instrumental space. This one can see on Marc Lescarbot's « Figure de la Terre Neuve, Grande Riviera de Canada, et Côtes de l'Océan en la Nouvelle France » of 1609; the dominating image of the circular and palisaded village of Hochelaga indicates what the originary spirit of dwelling on the American continent was like.[14] In the drawing of America, so frequently is the Indian depicted on the map (now dramatically, now as part of an encyclopedic inventory, now as an allegorical vignette of the cartouche) that form and matter have for all practical purposes become equivalent at the level of the image. In fact, a thematic typology of the image system of my semiotic model would reveal that with respect to the line and the word the image is the ideal cartographic locus for representing the multiverse, the oneiric, the metamorphic, the aleatory, the disruptive, the phantasmagoric, the decentered and decentering — all adjectives leading to the disestablishment of the Cartesian culture of the map. Of course, it would be self-defeating to neglect other image functions involving, for example, the dominating exhibition of Sir Walter Raleigh's coat of arms on John White's map of eastern North America or Magellan's ship, Victoria, which overwhelms the left side of Sebastian Cabot's mappemonde. But here too one is in the presence of a *cultura osservante,*[15] even if the broadest level of iconic signs most frequently deals with phenomena pertaining to the natural, as opposed to the human-built, realm. Briefly, I am thinking of all those forces inherent in natural space that the order of the line cannot ignore : the flow of rivers, the height of mountains, the various climates, the forests, the Indian spaces. The image, and in part the

word, acts as filter for such semiotic transactions between the map and geography. And Americans have always believed they can go through the juridical territory of the map and back to nature, to the apolitical, ahistorical, mythic realm of the world.

The system of the word, particularly as toponym, is bimodal. Caught between the concreteness of the image and the line's abstractness, it shares both qualities. Indeed, its semiotic activity may seem exclusively intersystemic. Synchronically, toponymic dissemination appears to make little cultural sense. But because they are a form of writing, we can presume that toponyms are bestowed for good reason. The founding of a culture on virgin land through a political act of naming is a highly public ritual. As formal acts of possession, such gestures surely indicate the conversion of natural space into a place of cultural semiosis. It also follows that such a structural effect implies a structuring behavior and a subject. If we turn to the Verrazzano and Maggiolo maps, this hypothesis is readily verifiable. What seem to be two casual toponymic lists turn out to be highly ordered cultural lexicons. The name « Franscesca » which dominates the continental mass on Maggiolo's map claims the land for the French King Francis, while Gerolamo da Verrazzano prefers to commemorate his brother's heroic adventure by equivocating in one of several legends : « Verrazano sive nova gallia. » Both maps, however, block a further Spanish advance from Florida by inscribing the North American coast with a string of French placenames honoring the royal family, members of the court and other personalities. Since the actual voyage of exploration ran from south to north, it is natural that the least important personage would find his name up around Cape Cod. [16]

Such toponymic strings not only provide us with an embryonic cultural encyclopedia but also with a narrative of ethnogenesis and cultural territorialization. The map's narrativization of these themes is generated by the spatial plotting of an advancing toponymic frontier where cultural identity and survival require ideological reproduction. Tension at this level is the result of metonymically extended toponymic strings the juridical function of which is to name a coherent system of cultural circulation and transmission. This activity is further dramatized by the simultaneous building of toponymic trees which organize space into various types of vertical structures, such as nation, colony, county, city, town. During the period of American colonization, for example, the rivalry between European nation-states indicates just how serious such toponymic hypotaxis could be. Here we need only recall the constant fight to apply French, Spanish,

English or Dutch placenames as a means to confirm colonial possessions.

Taken all together, toponyms can also be read as the inscribed body of the European presence in the new world, as so many glosses on such magical units as New Spain, New France, New England, New Amsterdam. In this perspective we are faced with the sheerly distributive syntax, or spatial dissemination, of toponymic journeys. But now we must return to the minimal cultural mechanism of the single toponym and its bimodal structure. The existential dynamics of toponymic strings can only be based on an inventory of local moments, yet it is this very local order that generates cultural discontinuity. The global drawing together of different geographical places into an isomorphic political-cultural economy cannot but be built on the weak paratactic syntax of heterogeneous dwelling. This paradoxical situation accounts for the dialogic relation between the abstract and the concrete, the one and the many, the global and the local, and — in terms of the map's semiosphere — the image and the line in the internal structure of the toponym. While every toponym belongs to the abstract territory of a homogeneous culture and tends to recapitulate it, it also remains historically in touch with its own local origins and with the precategorical energy of its specific natural ground. At this local level, all toponyms are haunted by a difference, resound with images, enter into all kinds of signifying play already suggested by the image system, and are full of other times and words. Every toponym, therefore, contains the story of its own origin and conceals the script of that which took place in its establishment. But far from soliciting the viewer simply to perform an act of historical reconstruction, such genealogical interrogation also asks one to think the removed and the unwritten. In this sense an earlier American writing comes to light, and then one still earlier, until « America » is traced back to a founding act on some ideal cartographic Urtext.

As Columbus and other explorers imposed their toponyms on the new land in advancing waves of increased density, the topography was gradually stripped of its native American inscriptions. This change, of course, fits naturally into the logistics of global circulation and cultural unity, where unimpeded cultural mobility results in the Indians' being in turn displaced. Columbus's own toponymic adventure — « to each [place] a new name » [17] — is a fitting example of this type of cultural strategy. As he moved on from island to island in those dawning days, he left these names behind him : San Salvador, Isle of S. Maria della Concezione, Fernandina, Isabella, Giovanna — thus invoking in his Adamic ritual God, the Virgin Mary, the

King, the Queen, and the royal heir. Such logic, with its supportive culture of the abstract line, is also apparent in the obsessive repetition of the prefix « New » and of readily available names of European cities and personages. As this toponymic logic is carried out, Indian presence is reduced more and more to a small number of floating chrononyms. Always on the move, the Indians no longer dwell; cartographically speaking, they float about as ghosts, so many futurist words in liberty.

The system of the line is more than a descriptive metaphor for the linear intensity of « America » as biblical/political allegory : both line and nation-building are merciless with geography in the historical process of ordering it into built space. But here formal coherence is a must. The way the line goes about its mapping business, particularly on the national map, is a sure guide to one side of American cultural formation. As a system the line projects topography onto a single geometric grid, an invisible network of abstract structural ties and infinite possibilities of calculation. Lacking the image system's *physis*, it defies gravity and escapes Icarian catastrophe. Indeed, the cartographic line seems to be uncontaminated by contact with the imperfect body of the earth. The scale map as panopticon is the result of the line's achievement of an absolute and closed system no longer dependent on the local perspectivism of the image. With map in hand, the physical subject is theoretically everywhere and nowhere, truly a global operator. Since the line is a non-place—indeed, it seeks to overcome the pitfalls of local discontinuity by representing a logic of permanent circulation — it follows that the person who relies on its technics also seeks to be free of empirical obstacles.

Cartographically, the epos of Euro-American expansion was progressively structured by the line's regime, while its narrative climax, nationhood, aimed at absolute circulation to achieve cultural closure. This utopian project actually had as its constructive principle the orthogonal grid. A graphic illustration of its rationalizing effect is provided by the type of cartographic play that eventually informed three-fourths of the country.[18] The map's line would predispose a specific type of political/cultural circulation.

Nevertheless, at the intersystemic level, the line's semiotic ambition to cast no shadow is bound to fail. It must inevitably rub its mathematical back against base local toponyms if it is to make any historical sense at all. And if it is not interested in local place, but only in combining it topologically, local place will surely question it through the system of the image. For the line to make political or cultural sense, it must be grounded in topographical place, and the placing of this incarnated line is nothing but the producing of physi-

cal boundaries. Furthermore, the very moment in which the boundary line is perfected, we have a morphological vision of the body of the American state. Never before had a nation-state sprung so rationally from a cartographic fiction, the Euclidean map imposing concrete form on a territory and a people.

Precisely because of this con-fusion, though, the line's system can never achieve pure transparency, will never be separated from the other systms of the map's semiosphere. If America is largely the story of its own making, this axiom equally informs the semiotic activity behind the mapping of America. Forced to change maps with journalistic frequency in order to keep up with the latest, most accurate and comprehensive description of the new world — as title after title on early maps of America boasts —, the 16th, 17th and 18th century viewer must have realized how rhetorical and self-conscious such cartographic enunciations were. In effect, they do draw as much attention to the artful play of cartographic semiosis as they do to a presumably more serious scientific content. In the beginning all of America was a cartographic reality; its drawing, a rather conventional affair of the map's culture.

NOTES TO THE TEXT

1. *Lettere autografe di Cristoforo Colombo* (Arnaldo Formi Editore : Bologna, 1974), p. 90.

2. Italo Calvino, *Collezione di sabbia* (Garzanti : Milan, 1984), p. 15 (my trans.).

3. For an illustration of Ptolemy's mappemonde and a discussion of the importance of it see Tony Campbell, *Early Maps* (Abbeville Press : New York, 1981), pp. 12-13.

4. John Parry, *La conquista del mare,* trans. Maria Magrini (Bompiani : Milan, 1984), p. 55 ff.

5. Three indispensable studies are : *Cartes et figures de la terre* (Centre Georges-Pompidou : Paris, 1980) ; *Hic sunt leones, geografia fantastica e viaggi straordinari,* eds. Omar Calabrese, R. Giovannoli, I. Pezzini (Electa : Milan, 1983) ; Giuseppe Dematteis, *Le metafore della terra* (Feltrinelli : Milan, 1985).

6. Henry Harrisse, *The Discovery of North America* (N. Israel, Publishing Dept. : Amsterdam, 1969 reprint), p. 11.

7. *Ibid.*

8. Giulio Macchi, « L'image impossible », in *Cartes et figures de la terre,* p. XI.

9. For these modalities see the 5 vols of Michel Serres, *Hermes* I, II, III, IV, V (Editions de Minuit : Paris, 1969, 1972, 1974, 1977, 1980). For the notion of semiosphere, see Jurij Lotman, *La semiosphera* (Marsilio Editori : Venice, 1985).

10. Lotman, p. 63 ff.

11. See Luciano Bosio, *La Tabula Peutingeriana* (Maggioli Editore : Rimini, 1983).

12. *Ibid.,* p. 79.

13. For map reproductions see : for Münster, *Le monde de Jacques Cartier,* ed. Fernand Braudel (Libre-Expression : Montreal, 1984), pp. 134-5 ; For Champlain see Seymour Schwartz & Ralph Ehrenberg, *The Mapping of America* (Harry N. Abrams, Inc., Publishers : New York, 1980), plate 46 ; for Le Testu see *L'Amérique vue par l'Europe* (Editions des musées nationaux : Paris, 1976), p. 31 but also pp. 214-5 in *Le monde de Jacques Cartier.*

14. For the Marc Lescarbot map see Schwartz & Ehrenberg plate 45 ; for Sebastian Cabot's map see *Le monde de Jacques Cartier,* pp. 131-32.

15. See Alberto Cirese, *Cultura egemonica e culture subalterne* (Palumbo, Editore : Palermo, p. 8.

16. See Lawrence Wroth, *The Voyages of Giovanni da Verrazzano* (Yale Univ. Press : New Haven, 1970), p. 86 ff.

17. *Lettere autografe de Cristoforo Colombo,* p. 86 (my trans.).

18. See Wm. Boelhower, *Through a glass darkly* (Oxford Univ : New York, 1987), p. 64 ff.