

# Die Ökonomie an der Grenze: Raum und Skala (Maßstab) in frühen Druck-Medien

## The Economy of the Edge: Space and Scale in Early Print Media

### Экономика на границе: пространство и скала в ранних брошюрах

Von/by

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#### Schlüsselworte

*Drucktechnik  
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#### Abstract

As Walter ONG has observed in his *Orality & Literacy: The Technologizing of the Word* (1982), "*Technologies are not mere exterior aids but also interior transformations of consciousness*" (1982): they heighten awareness and understanding precisely by introducing distance between the mind and a natural milieu, thus enabling new ways of perceiving and knowing. The central aspect of the mediation process is thus space itself and the ways in which space is modulated to convey not only information proper, but also information about how we relate to the content and medium of the message. Looking at the evidence of early maps and print texts, the drama associated with the interiorization of their symmetrically displayed information fields unfolds largely outside these fields, on the border, on the edge. Architecture, perhaps the premier arena for the concretization of perceived spatial relations, offers ample testimony to the reality and symbolic power of inside-outside spatial divisions: witness, for example, the grotesqueries which adorn the exterior, the wicked realm beyond, of Gothic cathedrals. Precisely by portraying bizarre hybrids of incongruous elements, these grotesque figures and symbols incorporate, embody the cognitive tension unfolding and being assimilated at the interface of diverse semiotic domains. As Tuan concludes in his monograph *Space and Place: The Perspective of Experience* (1977), "*The built environment, like language, has the power to define and refine sensibility. It can sharpen and enlarge consciousness. Without architecture feelings about space must remain diffuse and fleeting*" (107). It is the objective of this investigation to examine, specifically, these '*feelings about*

*space*' as registered in early print maps and texts, a focus which by no means excludes examination of earlier manuscript texts to the extent that comparisons are instructive. The emphasis is on print documents precisely because here, much more so than in chirographic products --themselves frequently embellished with lavish, and revealing, marginalia--space, in the form of the orderly and fixed arrangement of elements, reigns supreme.

The abiding concern of this study is the issue of space, specifically the ways in which space is perceived, experienced, and represented. While I focus initially on graphic manifestations of apparent '*feelings about space*' as registered in early maps and print documents, I hope to show that these observations can be profitably extended to the new and rapidly developing study of virtual environments and software interfaces where, as with artistically embellished maps and manuscripts, the fields of art, architecture, and graphic design felicitously converge to advance understanding and enhance retention of information displayed in a variety of multi-media arrays. Information, it seems, must always be somewhere, must be correlated, whether directly or indirectly, with some spatial configuration in order to bring consciousness into relief.

In the case of early maps the presence of abundant artistic embellishments clearly serves to '*locate*' the diagrammatically depicted information within such familiar knowledge schemata as popular lore and classical mythology, and of course at the same time signals an outright hazy state of knowledge of many geographical boundaries. For that matter, virtually any information field is, with respect to those perceiving it, embedded in some lesser known field, the particulars of which are filled in by the imagination. Again, since information must be felt as being located somewhere, the construction of illusions is essentially inevitable. Commenting on the contextualization of local- within more global information fields, Tuan, in his book *Space and Place: The Perspective of Experience*, reasons that "*Knowledge of this hazy field is not redundant. Though inaccurate and dyed in phantasms, it is necessary to the sense of reality of one's empirical world. Facts require contexts in order to have meaning, and contexts invariably grow fuzzy and mythical around the edges*" (1977:88). Precisely for this reason it is the edges, the borders of maps and manuscripts, which function as veritable '*conversion zones*' mediating between the known and the unknown, or at least between the presumed and the prescribed. It is here that the drama associated with the interiorization of displayed information unfolds, here that unfathomable distances and dimensions yield to the scale of that which is more readily graspable, a circumstance which, paradoxically, often has the end effect of '*marginalizing*' the information field proper.

With the advent of print technology the idea that information is fixed in space, is '*located somewhere*' was profoundly intensified, as evident, for example, in countless title pages, line arrangements, map cartouches and the

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like where the integrity of the word is subordinated to exigencies of spatial display; the meaning and relative importance of words and even proper names is strictly secondary to their spatial arrangement on the page. In essence, the process, launched by writing, of perceiving words as visual images, fixed in space, rather than exclusively as auditory images, passing through space, is vastly accelerated and standardized by print technology. With print the information in every document receives a precise form and fixed position in innumerable identical exemplars, a boon to texts and even more so to maps, where exactitude in the depiction of spatial relations is, after all, critical. Technology has, in this instance, clearly penetrated into and altered consciousness by intrusively directing information away from the auditory and funneling it, instead, along the visual sensory channel, creating, in the process, a heightened sense of space and spatial relations in which, in terms of a natural milieu, the visual sense is disproportionately privileged. This newly solidified relationship of text to space is additionally betokened by the development of 'access software', as it were, including title pages themselves (which replaced the simple incipit of manuscript books), chapter heads and running heads, and detailed alphabetically arranged indexes to the loci of included information. Again, what looms large here, as with maps, is the organization, measurement and display of information whose fixity in space is guaranteed principally by its occupying the same position in any number of invariant copies. To quote Walter Ong, author of several texts aimed at elucidating these matters, "*Print encouraged the mind to sense that its possessions were held in some sort of inert mental space*" (1982:132).

This association of information with space, with locations, while clearly boosted along by print technology, in fact has its analog in the Greek and Roman mnemotechnic art of imagining a body of information as being deposited in specific sections of some landscape or edifice through which one would mentally 'walk' in the course of recalling that information. This method of constructing so-called 'memory theaters', of associating information with explicit architectural or landscape structures, forms a bridge, as it were, from the conception of information spatialized in print maps and documents to the emerging area of cyberspace and concerns with constructing user interfaces which mirror real life environments. Moreover, this analogy with early mnemotechnics calls attention to the importance of constructing cognitive maps as a means of navigating ever more multifaceted software contrived for managing ever more complex information domains. Common to both memory theaters and interface metaphors is the denomination of orienting information in spatial terms.

This metainformation is most usefully cast in the form of such familiar metaphors of space and place as cities, landscapes, desktops, and, to cite what has become the most discussed metaphor of ordered flow systems, highways, each with its myriad potential appurtenances. Thus the process of locating a specific file can be readily allegorized in terms such as sidestreet, cul-de-sac, bank, park and the like, whereby, additionally, intuitive and

iconic correlates could be exploited to buttress association chains in a given cognitive map. A finance file, for example, might usefully be 'located' firstly in the realm attached to a specific building icon, and, more explicitly, to that virtual building already conventionally identified with finances, the 'bank'.

In essence this is just what the symbol-cluttered borders of early maps and documents made possible: a way of relating to the encoded information about space via illusion, via reference to familiar metaphors and symbols which could be grasped together in such a fashion as to set in motion a narrative, a cognitive map, reflecting the user's own imagined linkages. As for the symbols and images themselves, these were, from the twelfth to the fourteenth century, for the most part impromptu drawings and doodles which could perhaps be seen as derivative of formal illuminations even though, in their capacity to encapsulate critical commentary on the text or circumstances attending interaction with the text, these often quite intricate arabesques far exceeded any mere decorative function. And while it is true that eclectic ornamentation figured prominently in the efforts of sixteenth- and seventeenth-century Dutch and Flemish cartographers sheerly to enhance the appeal, and thus marketability, of their maps (WELU in WOODWARD 1987:173), this does not change the fact that these symbols and images had this appeal precisely because, even as they pleased esthetically, they also facilitated the kind of illusions necessary to 'digest' and contextualize the information surface.

As unique blends of cartography, art, and assorted emblems, maps --most conspicuously highly embellished early maps-- are truly multimedia information surfaces, and, as such, invite comparison with current multimedia technologies. The analogy is all the more cogent when we consider that both have a paramount stake in the issue of space, specifically how space --or, for that matter, cyberspace-- is perceived, experienced and represented. In his book *The Power of Maps* Dennis Wood proposes a model of the signification process in maps which emphasizes both their informative and mythic aspects. He sees the map as being essentially a focusing device between two planes of signification: intrasignification comprising iconic, tectonic, linguistic, temporal and presentational codes, and extrasignification comprising thematic, historical, rhetorical, topic and utilitarian codes:

As a medium of language (in the broadest sense) [the map] serves as a visual analogue of phenomena, attributes, and spatial relations... It seems to inform, with unimpeachable dispassion, of the objects and events of the world. As myth, however, it refers to itself and to its makers, and to a world seen quite subjectively through their eyes. It trades in values and ambitions; it is politicized. (1992:116) The mythic element in maps, present since ancient times when the world as then conceived was aswarm with all manner of mythical beast and monstrous peoples, persists in modern spatially configured information displays, even if less explicitly. If only through such subtleties as color palette, icon selection, design features, and mottos, modern maps often speak volumes about the

attitudes and values their makers attach to the depicted space. And while such a cartography-mythology hybrid as BUNTING's 1585 map of Asia drawn in the form of PEGASUS may strike us as singularly curious, we seem to have no difficulty whatsoever accepting and utilizing such 'mythical' software features as 'magic doors' and other teleporting devices to facilitate the navigation of complex information fields. Each case demonstrates a willingness to suspend disbelief, to indulge illusion, in order to 'get a fix on' the target information, invariably conceived as being 'located' somewhere. This can be readily likened to 'feelings about space' which evolved in step with print technology which, with its fixed margins, running heads, and indices, situated information in a specific place within a domain of invariant copies. As Walter Ong points out in his *Orality and Literacy*, "Print encouraged the mind to sense that its possessions were held in some sort of inert mental space" (1982:132). Put another way, whether speaking of texts, maps, or software interfaces, in each case there is a virtual mapping of semantic dimensions onto spatial dimensions, of information 'space' onto physical space. Clearly it is space itself which is being modulated to be both a conduit for information and a basis for generating metainformation addressing all aspects of information access, storage, and recall.

The economy of the edge is perhaps best characterized, then, as a kind of conversion zone for the configuring and anchoring of information in space, as a regime where, through intermapping between semantic space and information space, new information hierarchies are achieved which enable understanding and facilitate the establishment of useful interconnections.

While much remains to be done to lay bare the myriad complexities of the mental mechanisms involved, I hope to have at least made clear that a common process of committing information to spatial matrices can be detected in the borders and layout techniques of early maps and documents, and that an understanding of this process proffers valuable insights into the nature and functioning of spatial metaphors in other areas, notably in evolving software interfaces designed to facilitate the navigation of computerized information fields. This seems to be where we are at the moment.

## References

- ALLEN, John L. 1976. "Lands of Myth, Waters of Wonder: The Place of the Imagination in the History of Geographical Exploration." In Lowenthal and Bowden 1976:41-61.
- BAGROW, Leo. 1985. *History of Cartography*. Second ed. Chicago: Precedent Publishing, Inc.
- BAPTISTA, Joanne Casalius Romanus. 1681. *De Profanis et Sacris Veteribus Ritibus, Opus Tripartitum*. Frankfurt: Thomas Heinrich Hauenstein.
- BOONE, Elizabeth Hill, and Walter D. MIGNOLO, eds. 1994. *Writing Without Words: Alternative Literacies in Mesoamerica and the Andes*. Durham, NC: Duke University Press.
- BOURGEAT, Ludwig. 1699. *Theatrum Ethnico Idololatricum Politico-Historicum*. Mainz: Paul Hachemberg.
- BUISSERET, David, ed. 1992. *Monarchs, Ministers and Maps*. Chicago: University of Chicago Press.
- CAMILLE, Michael. 1991. "Reading the Printed Image: Illuminations and Woodcuts of the Pèlerinage de la vie humaine in the Fifteenth Century". In: Hindman 1991:259-291.
- CAMILLE, Michael. 1992. *Image on the Edge: The Margins of Medieval Art*. Cambridge, MA: Harvard University Press.
- CAMPBELL, Mary B. 1988. *The Witness and the Other World: Exotic European Travel Writing, 400-1600*. Ithaca: Cornell University Press.
- CASSIRER, Ernst. 1963. *The Individual and the Cosmos in Renaissance Philosophy*. Translated by Mario DOMANDL. New York: Barnes & Noble.
- CASSON, Lionel. 1994. *Travel in the Ancient World*. Baltimore: Johns Hopkins University Press.
- CHAPPELL, Warren. 1970. *A Short History of the Printed Word*. New York: Dorset Press.
- CHARTER, Roger, ed. 1989. *The Culture of Print: Power and the Uses of Print in Early Modern Europe*. Princeton, NJ: Princeton University Press.
- CHRISTY, Craig. 1983. *Uniformitarianism in Linguistics*. Amsterdam: Benjamins.
- CHRISTY, Craig. 1992. "Geology and the Science of Language: Metaphors and Models." In Naumann 1992:79-89.
- CHRISTY, Craig. 1993. "Alphabetic Writing, Cognitive Structures and Language Change." In Droihe and Grell, eds. 1993:329-341.
- CHRISTY, Craig. 1994. "Humboldt, Condillac, and the Analysis of Alphabetic Writing." In Schlieben-Lange et al., eds. 1994:27-40.
- CHRISTY, Craig. 1994. "Literacy and Cartography: Methodological, Theoretical, and Cultural Consequences of Parallel Technologies." To appear in *Das kulturelle Erbe geo- und montanwissenschaftlicher Bibliotheken*. Essen: Verlag Glückauf.
- DROIHE, Danielle, and Chantal Grell, eds. 1993. *La Linguistique entre Mythe et Histoire*. Münster: Nodus Publikationen.
- EISENSTEIN, Elizabeth L. 1979. *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early-Modern Europe*; 2 Volumes. Cambridge: Cambridge University Press.

- ELM, Theo, and Hans H. HIEBEL, eds. 1991. *Medien und Maschinen: Literatur im technischen Zeitalter*. Freiburg: Rombach Verlag.
- ENGLER, Balz, ed. 1992. *Writing and Culture*. Tübingen: Gunter Narr.
- ENOS, Richard, ed. 1990. *Oral and Written Communication: Historical Approaches*. Newbury Park, CA: Sage Publications, Inc.
- FEVRE, Lucien, and HENRI-JEAN MARTIN. 1976. *The Coming of the Book: The Impact of Printing 1450-1800*. Translation by David Gerard of *L'Apparition du Livre* (1958). London: NLB.
- FRIEDMAN, John Block. 1981. *The Monstrous Races in Medieval Art and Thought*. Cambridge, Mass.: Harvard University Press.
- GAUR, Albertine. 1992. *A History of Writing*. Revised ed. of 1985. New York: Cross River Press.
- GILLISPIE, Charles Coulston. 1951. *Genesis and Geology: A Study in the Relations of Scientific Thought, Natural Theology, and Social Opinion in Great Britain, 1790-1850*. New York: Harper & Row.
- GOODY, Jack. 1986. *The Logic of Writing and the Organization of Society*. Cambridge: Cambridge University Press.
- GRAFTON, Anthony. 1992. *New Worlds, Ancient Texts: The Power of Tradition and the Shock of Discovery*. Cambridge, Mass.: The Belknap Press of Harvard University Press.
- GREEN, Henry. 1866. *Whitney's Choice of Emblems*. Facsimile reprint. London: Lovell Reeve & Co.
- GREENE, Mott T. 1982. *Geology in the Nineteenth Century: Changing Views of a Changing World*. Ithaca: Cornell University Press.
- GRONBECK, Bruce E. 1990. "Communication Technology, Consciousness, and Culture: Supplementing FM-2030's View of Transhumanity". In Medhurst et al., eds. 1990:3-18.
- GRONBECK, Bruce E.; Thomas J. Farrell and Paul A. Soukup, eds. 1991. *Media, Consciousness, and Culture: Explorations of Walter Ong's Thought*. Newbury Park, CA: Sage Publications, Inc.
- HARLEY, J. B. and David WOODWARD, eds. 1987. *The History of Cartography, Volume One: Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean*. Chicago: University of Chicago Press.
- HARLEY, J. B. and David WOODWARD, eds. 1992. *The History of Cartography, Volume Two, Book One: Cartography in the Traditional Islamic and South Asian Societies*. Chicago: University of Chicago Press.
- HARRIS, William V. 1989. *Ancient Literacy*. Cambridge, MA: Harvard University Press.
- HAVELOCK, Eric A. 1982. *The Literate Revolution in Greece and Its Cultural Consequences*. Princeton: Princeton University Press.
- HAVELOCK, Eric A. 1986. *The Muse Learns to Write: Reflections on Orality and Literacy from Antiquity to the Present*. New Haven: Yale University Press.
- HAVELOCK, Eric A. and Jackson P. HERSHBELL, eds. 1978. *Communication Arts in the Ancient World*. New York: Hastings House Publishers.
- HIND, Arthur M. 1908. *A Short History of Engraving and Etching*. Boston: Houghton Mifflin Co.
- HINDMAN, Sandra L., ed. 1991. *Printing the Written Word: The Social History of Books, Circa 1450-1520*. Ithaca, NY: Cornell University Press.
- HOLME, Charles. 1990. *The Art of the Book*. Reprint of 1914 ed. New York: Dorset Press.
- ILLICH, Ivan. 1993. *In the Vineyard of the Text: A Commentary to Hugh's Didascalicon*. Chicago: University of Chicago Press.
- INNIS, Harold A. 1972. *Empire and Communications*. Revision of 1950 ed. Toronto: University of Toronto Press.
- LEVARIE, Norma. 1968. *The Art and History of Books*. New York: James H. Heineman, Inc.
- LEWIS, John. 1970. *Anatomy of Printing: The Influence of Art and History on its Design*. New York: Watson-Guptill Publications.
- LORD, Albert B. 1964. *The Singer of Tales*. Cambridge, MA: Harvard University Press.
- LOWENTHAL, David, and Martyn J. Bowden, eds. 1976. *Geographies of the Mind: Essays in Historical Geosophy in Honor of John Kirtland Wright*. New York: Oxford University Press.
- MCLUHAN, Marshall. 1962. *The Gutenberg Galaxy: The Making of Typographic Man*. Toronto: University of Toronto Press.
- MCLUHAN, Marshall. 1964. *Understanding Media: The Extensions of Man*. New York: McGraw Hill.
- McMURTRIE, Douglas C. 1943. *The Book: The Story of Printing and Bookmaking*. New York: Oxford University Press.
- MEDHURST, Martin J., Alberto Gonzalez and Tarla Rai Peterson, eds. 1990. *Communication and the Culture of Technology*. Pullman, Washington: Washington University Press.
- MITCHELL, W.J.T., ed. 1980. *The Language of Images*. Chicago: University of Chicago Press.

- MONMONIER, Mark. 1991. *How to Lie with Maps*. Chicago: University of Chicago Press.
- NAUMANN, Bernd, Frans Plank and Gottfried Hofbauer, eds. 1992. *Language and Earth: Elective Affinities between the Emerging Sciences of Linguistics and Geology*. Amsterdam: Benjamins.
- OLSON, David R. 1994. *The World on Paper: The Conceptual and Cognitive Implications of Writing and Reading*. Cambridge: Cambridge University Press.
- OLSON, David R. and Nancy TORRANCE, eds. 1991. *Literacy and Orality*. Cambridge: Cambridge University Press.
- ONG, Walter J., S.J. 1967. *The Presence of the Word: Some Prolegomena for Cultural and Religious History*. New Haven: Yale University Press.
- ONG, Walter J., S.J. 1971. *Rhetoric, Romance, and Technology: Studies in the Interaction of Expression and Culture*. Ithaca: Cornell University Press.
- ONG, Walter J., S.J. 1977. *Interfaces of the Word: Studies in the Evolution of Consciousness and Culture*. Ithaca: Cornell University Press.
- ONG, Walter J., S.J. 1982. *Orality and Literacy: The Technologizing of the Word*. London: Methuen.
- PENROSE, Boies. 1952. *Travel and Discovery in the Renaissance 1420-1620*. Cambridge: Harvard University Press.
- POLANYI, Karl, Conrad Arensberg and Harry Pearson, eds. 1957. *Trade and Market in the Early Empires*. Chicago: Free Press.
- POMEY, P. Francisco, S.J. 1732. *Pantheum Mythicum*. Frankfurt: Johann Wilhelm Roennagel.
- PREZIOSI, Donald. 1979. *The Semiotics of the Built Environment: An Introduction to Architectonic Analysis*. Bloomington: Indiana University Press.
- PUTNAM, George Haven. 1962. *Books and Their Makers During the Middle Ages*. 2 vols. New York: Hillary House.
- ROMM, James S. 1992. *The Edges of the Earth in Ancient Thought*. Princeton, NJ: Princeton University Press.
- ROTH, Leland M. 1993. *Understanding Architecture: Its Elements, History, and Meaning*. New York: HarperCollins Publishers.
- SCHLIEBEN-LANGE, Brigitte, et al., eds. 1994. *Europäische Sprachwissenschaft um 1800: Methodologische und historiographische Beiträge zum Umkreis der "idéologie"*, Vol. IV. Münster: Nodus.
- SILVERSTONE, Roger. 1991. "Television, Rhetoric, and the Return of the Unconscious in Secondary Oral Culture". In: Gronbeck et al., eds. 1991:147-159.
- SKELTON, Raleigh A. 1972. *Maps: A Historical Survey of Their Study and Collecting*. Chicago: University of Chicago Press.
- STOCK, Brian. 1983. *The Implications of Literacy: Written Language and Models of Interpretation in the Eleventh and Twelfth Centuries*. Princeton: Princeton University Press.
- SVENBRO, Jesper. 1993. *Phrasikleia: An Anthropology of Reading in Ancient Greece*. Translated from the French (1988) by Janet LLOYD. Ithaca: Cornell University Press.
- TUAN, Yi-Fu. 1974. *Topophilia: A Study of Environmental Perception, Attitudes, and Values*. Englewood Cliffs, NJ: Prentice-Hall.
- TUAN, Yi-Fu. 1977. *Space and Place: The Perspective of Experience*. Minneapolis: University of Minnesota Press.
- TURNBULL, David. 1989. *Maps are Territories: Science is an Atlas*. Chicago: University of Chicago Press.
- WALLIS, Helen M., and Arthur H. ROBINSON, eds. 1987. *Cartographical Innovations: An International Handbook of Mapping Terms to 1900*. London: Map Collector Publications Ltd.
- WINNICOTT, Donald W. 1971. *Playing and Reality*. London: Tavistock Publications.
- WITTKOWER, Rudolf. 1942. "Marvels of the East: A Study in the History of Monsters." - *Journal of the Warburg and Courtauld Institutes* 5:159-197.
- WOOD, Denis, with John FELS 1992. *The Power of Maps*. New York: Guilford Press.
- WOODWARD, David. 1987. *Art and Cartography: Six Historical Essays*. Chicago: University of Chicago Press.

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