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Spatio-temporal Notions and Organized Environmental Issues: An Axiology of Action

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Abstract. *The aim of this paper is to bring together temporal and spatial notions into a different set of axiologic pairs, and to trace examples in which such a set of pairs might be illuminating in accounts of how environmental issues are perceived in various social science disciplines. The paper begins with a division of time into reified clock time (chronos) and timely kairos time, together with a spatial division between abstract space (chora) and concrete place (topos). To better comprehend these originally Greek spatial and temporal notions, some Aristotelian concepts of human action will also be used (i.e. theoria/episteme, poiesis/techne and praxis/phronesis). These extended notions of human action, time and space/place are discussed in conjunction with aesthetics, ethics and environmental issues in the different organizational settings of science, mass media, business management and environmentalism.*

Key words. *chora; chronos; kairos; topos*



Setting the Stage

The contemporary, 24-hour, all-year-round, non-stop global world of just-in-time trading and finance is constantly focusing on cutting time and reducing strenuous physical distance. The increase in international trade and swift financial markets has also encouraged extensive debate regarding its potential impact on environmental matters. The particular focus in this paper will be on the concepts of time, space and human action in conjunction with environmental issues in the different organizational

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settings of science, mass media, business management and environmentalism. This paper is also based on an undertaking to (re-)introduce some ancient Greek notions on different forms of action, time, space and place into the contemporary debate on spatio-temporal aspects of organizations.

Nowadays, a great deal of attention is being paid to the notion of time and temporality. Yet, temporal aspects in organization studies are still somewhat neglected, especially the qualitative analysis of organizational time.¹ Almost without exception, the attention to the limitations of treating organizational time as exclusively quantitative and homogenous (i.e. clock time) still relies upon an understanding of time as chronological time, depicted as linear, circular or spiral. It is argued in this paper that the analysis of time in social settings remains crippled if there is a partisan focus on chronological time alone, regardless of whether it is depicted as clock, linear, circular or spiral time.

Just as the reified clock time has reached an omnipresent and omnipotent status over human time consciousness, abstract geometric space has likewise become the key to understanding extension at the expense of concrete and meaningful place. Much attention to the spatial aspects of organizations still relies upon an understanding of space/place as 'abstract' geometrical extension, although some studies have also been dealing with different aspects of space and place in organizational settings.²

This paper is concerned with suggesting complementary notions to the mainstream understanding of time and space as clock time and geometry. The two Greek notions of time, *chronos* (flow of time-points, e.g. clock time) and *kairos* (timely moments), and their spatial counterparts, *chora* (space) and *topos* (place), are discussed in conjunction with some Aristotelian notions of human action, namely *theoria* and *episteme* (theoretical activity and scientific skills), *poiesis* and *techne* (making and skillfulness), *praxis* and *phronesis* (acting and wisdom). The possible novelty of this paper is that it illustrates how different notions of chronological and non-chronological time, space and place 'produce' different images of organizations. Such extended notions of time and space/place can be illuminating in many social studies, regardless if the focus of the study is on more or less bounded rationality among actors, on more or less deliberate mediators of norms and values, or on human and non-human 'actants' (i.e. Actor Network Theory, e.g. Callon, 1991; Latour, 1988; Law, 1992).

It is claimed in this paper that different representations of time, space and place are a main cause of controversy and confusion in accounts of how organizations are perceived in various societal disciplines. By distinguishing between different aspects of, more or less, abstract and concrete representations of time and space/place in organizational settings, the means to better understand the different logic of action in the contemporary environmental debate are provided. Still, it can be argued



that the spatio-temporal pairs in this presentation depend on more or less conventional aspects of space and time, rather than on spacing and timing in a more elaborate form. However, just by distinguishing the dualities of abstract and concrete representations of time and space in a (square) 2×2 matrix, the road is open towards exploring spacing and/or timing on the organizational scene (as done by some other scholars in this journal issue).

It must be remembered, however, that the ancient Greek concepts used in this paper have not been diffused undistorted over the years, but rather have been translated, reworked, changed, localized and even corrupted through many intermediaries. Ancient Greek discourse and usage of the then current terms for time and space do not fit closely with contemporary spatio-temporal usage and discourse. It is easy for us today, particularly when drawing on great modern thinkers, to occlude significant differences between ancient and contemporary discourse from the best of motives. Yet the difference needs to be stressed in order to avoid false anachronistic homologies between ancient and contemporary thinking. Consequently, the actual framing of the spatio-temporal concepts (abstract/concrete) in this paper makes them more restricted than they were for the ancient Greeks.

Aristotelian Forms of Human Action

For a fuller appreciation of these Greek spatial and temporal notions, a table of concepts of human action and some comments on their origin are useful (based on Rämö, 1999; see also, e.g. Hadot, 1981; Ramírez, 1995); see Table 1. The table of Aristotelian terminology differentiates between three 'forms' of human action. Initially, in an Aristotelian sense, any strict division between theory and practice in 'modern' language is artificial because theory and practice are just two different forms of activity. Theoretical activity (*theoria*) has to do primarily with the activity of investigating the world and not with the result of scientific documents, which is how the concept of theory is understood today. Still, the 'results' of this scientific activity (*episteme*) are an acquired arrangement by words that describes and codifies different states of things (or affairs). However, this theoretical activity is only one theoretical form of performance and is similar to other performances, such as those of carpenters and bricklayers. The theoretical activity (*theoria*) and its 'results' (*episteme*) may gradually filter down into a twofold domain of practice: (a) to the making part of practice (*poiesis*), which promotes skillfulness and proficiency (*techne*); and (b) to the acting part of practice (*praxis*), which in turn promotes wisdom and judgment (*phronesis*). The acting part is sometimes forgotten among contemporary scholars, whose focus of interest apparently is more on the improvement of skills and proficiency. Further, from an Aristotelian point of view, there is a much more pronounced difference between the two forms of practical



Table 1. Aristotelian notions of human action

<i>In Theory:</i>		
Theoria ⇒	<i>Theoretical Activity promotes Scientific Skills</i>	⇒ Episteme
<i>In Practice:</i>		
Poiesis ⇒	<i>Making promotes Skillfulness and Proficiency</i>	⇒ Techne
Praxis ⇒	<i>Acting promotes Wisdom and Judgment</i>	⇒ Phronesis

Source: translated from Ramírez, 1995: 8.

activities—between the performative poiesis/techne and the somewhat forgotten praxis/phronesis—than between the theoretical activities of theoria/episteme and their performative counterpart poiesis/techne. However, the term ‘activity,’ as used above, is not limited to denoting intentional physical movements but is also extended to the activity of thinking, which precedes any intentional physical movements. Also, note the somewhat awkward denominations that poiesis is *making* and praxis is *acting*. The difference between making and acting, however, is crucial in distinguishing the transitive form of making something from the intransitive form of acting in a particular way.

The next step is to use these Aristotelian terms in particular settings, namely in different forms of human time, timing, space and place.

Chronological and Non-Chronological Time

The powerful impact of clocks of all kinds on our contemporary society has strengthened a fixation on a clock-type understanding of time. This is not only inevitable but also in many cases desirable. However, in some instances this unidimensional understanding of time has led to a notion of time that tends to be taken for granted, that is, clock time. In economic exchange, time is an abstract exchange value that enables the work of people and machines to be translated into money. As such, it depends centrally on quantification that is achievable only on the basis of the rationalized and decontextualized time of the clock (see e.g. Adam, 1990, 1995, 1998; Glennie and Thrift, 1996; Thompson, 1967; Thrift, 1990).

Situations under the influence of clock time can be characterized as *chronos time*, a notion that has a long history. Already in Aristotle’s *Physics* (IV, 11, 219b), *chronos* is defined as the ‘number of motion with respect to the before and the after,’ which is a classical expression of the concept of (*chronos*) time as change, measure and serial order. Therefore, despite Aristotle’s antiquated understanding of physics—and a possible circularity in the definition—in this paper *chronos* is used as a definition of an exact quantification of time (e.g. passing time expressed in successive readings of a clock).

This omnipresent characterization of time as clock time (i.e. *chronos time*) is, however, only one delimited way of understanding time. Although the clock time of *chronos* is an important and inescapable aspect of modern life, it eventually creates blinders. Analyses of the



theory of time and its different representations include a vast field of ontological studies; see, for instance, Macey (1994). With reference to Snow (1959), there is subdivision after subdivision, also in studies of time, but it easily becomes meaningless to discuss not only two theories, but also a hundred and two, or two thousand and two theories of time. Therefore, for the sake of practicality, the above-mentioned concept of clock time, called *chronos*, will hereafter be discussed together with a more timely and non-chronological aspect of time, namely *kairos*. These two concepts of time, *chronos* and *kairos*, should not be seen as two sharply distinguished classifications, or dichotomous oppositions, but rather as complementary aspects of human time conception.

The second and more obscure Greek notion of time, *kairos* and its 'kairic' stem, is nowadays sparsely used. The words 'due measure,' 'proportion' and, above all, 'the right moment' are some of the English translations of *kairos* that carry ideas of wisdom and judgment in timely situations.³ In addition to administrating according to the clock of what already exists and is already known, all managers of organizations (and humans in general) also have to seize new opportunities, in 'windows of opportunities,' opportunities that exist for a finite period of time. Furthermore, all managers face timely situations characterized as 'moments of truth,' which might imply judicious actions beyond the mechanically learned and beyond timetables. The chronological time of *chronos*, whether it is described as clock time, linear, circular or spiral, remains inadequate in such timely situations. Instead, the chronological time of *chronos*—and most notably clock time—must be complemented by a non-chronological notion of time such as, for instance, *kairos*.

In summary, the temporal notions proposed here make a subtle distinction between two aspects of time. One notion, called *chronos* time, particularly concerns the 'exact' quantification of passing time expressed in successive readings of a clock. The second concept of time includes non-chronological timely moments in which we manifest abilities to act judiciously and wisely (i.e. *phronesis*) on a concrete and opportune occasion, that is, *kairos* time.

'Unheimliche' Spaces and Dwelling Places: *Chora* and *Topos*

Alfred Marshall already asserted in his 1890 treatise, *The Principles of Economics*, that the influence of time is more fundamental in economic life than the influence of space. Nevertheless, a study that chiefly considers organizations and institutions as being constantly produced by an ongoing process of organizing and instituting requires some form of elucidation about where the ongoing phenomena, so to speak, are claimed to take place. Therefore, this section takes a step in the direction towards spatial and placial interconnectedness between time and how organizations are represented. By restating space—in addition to time—as a second ancient wonder of fundamental ontology, a necessary reference is given to the principal concerns of this paper. The notions of *chora*



and topos (roughly translated as space/place) are supported by one of the ideas of this paper—that a partisan focus on either space or place might serve as an impediment to a more thorough understanding of social phenomena, such as processes of organizing and instituting.

Space may be conceived as a mathematical and geometrical (one, two, three, . . . or n -dimensional) realm in which all material objects are located and all events occur. Alternatively, space may be seen as an expression of human sensation of perspectives and horizons. Casey (1993, 1997) suggests that since the 7th century there has been an increasing neglect of place and the favoring of space in Western thinking. Such partiality resulted in the virtual exclusion of place by the end of the 18th century. Casey (1993, 1997) finds two attributes that characterize the sameness of abstract and objective space: it is both isotropic (same in measurement in all directions) and homogeneous.

In a study based on interpretative understanding, a sole focus on space at the expense of place is unsatisfactory, as would be a similar one-sided focus on chronological clock time at the expense of kairic time consciousness. This is because human action takes place not in space but in a specific contextual setting—in a place of action. By considering the antonyms to *place*, we refer to words such as remove, take away, dislodge, detach and take off. Similarly, if we consider the synonyms for *context*, we find words such as framework, setting, situation, environment, milieu, climate and atmosphere. All these terms have a kinship to place.

The ancient Greek understanding of time as (abstract) *chronos* time and (meaningful) *kairos* time is relatively well known among today's scholars. Far less known, however, are their spatial counterparts, *topos* and particularly *chora*, terms that roughly correspond to a 'division' between concrete place and abstract space. Yet the two spatial notions of *chora* and *topos* are also different as regards familiarity. Whereas *topos* is derived from the same stem as, for instance, topic, topography, topology, toponym and utopia, *chora* has more or less disappeared from current usage, being only sparsely used in such technical terms as chorography (mapping a region), chorology (geographical distribution of organisms in ecology/description of regions in geography) and chorometry (surveying a region). Still, this Greek notion of *chora* might serve as a useful complement to *topos* in order to distinguish between abstract space (*chora*) and concrete place (*topos*). For the ancient Greeks, however, *chora* was not simply posed as an opposite in an abstract/concrete dichotomy to *topos*. Instead, *chora* begins as just as much a concrete term as *topos*, in the sense that, although *topos* is a particular location, *chora* is simply the larger space of a given territory (beyond which there lies the still larger space of *ge* or *gaia*). For Plato, *chora* is a non-place of non-origin and a 'space' for giving and creation (e.g. *Timaeus*, 52 a–d). Thus, the intricate and elusive notion of *chora* does not denote a meaningful place, but rather is a 'place' of convergence that is crossed through and



'erased' as a mark of the absence of legible words to point 'out' a chora in that it always already is (e.g. Casey, 1993, 1997; Derrida, 1993, 1997; Heidegger, 1935; Ulmer, 1994).⁴

The simplistic difference between the two ancient Greek spatial notions of chora (space) and topos (place) is that, when the former is an abstract geometric or cartographic extension, the latter (topos) is a concrete contextual localization, without sharp demarcations. Thus (in this paper's context), they serve as a useful 'distinction' between abstract space (chora) and concrete place (topos) (see also, e.g., Casey, 1993, 1997; Elden, 1999; Grosz, 1995b; Rämö, 1999, 2000). The concepts are also used to call attention to the distinction between virtual space and concrete place.

Thus, the notion of space solely in terms of the Greek chora is an 'atopic' (out-of-place) *horror vacui*, devoid of any *genius loci*. For Heidegger (1927: 188–9), the German word *Unheimlich* (lit. 'unhome-like,' translated as 'uncanny'; cf. 'unearthly') also means 'not-being-at-home' (das Nicht-zuhause-sein). But once a bodily implacement is 'introduced,' the world 'becomes' a place-world. Particularly by considering a lived place, a place of residence, a *dwelling* place, requires a habitable place. Heidegger, for instance, says that dwelling (*wohnen*) 'names the broadest range of things people [Heidegger says "men"] do in living in a place. Thinking and building are different ways of dwelling, subordinate to it as to the more universal activity of Dasein's "being in the world"' (Heidegger, 1927: 61–3, 119, 347; see also Miller, 1995; Norberg-Schulz, 1971, 1980, 1985, 1988; Seamon and Mugerauer, 1985).

There is a further distinction, not just between space and place, but between place and site as well. Site and stead are insufficient to denote anything place-like. On the contrary, site is the very antithesis of place, for it is the remedy (*pharmakon*) that dismantles place into punctiform positions. 'Site is anti-place hovering precariously over the abyss of no-place' (Casey, 1997: 186). Comparing this blunt statement to Internet sites (and other visual media) opens up an interesting perspective between inhabitable place and virtual space (which will be briefly discussed later in this paper). Stead, on the other hand, leads towards ideas of an instrumental position, devoid of the contextual openness of a place.

Axiologic Time and Space Manifold

Extrapolating some of the presentations in the previous sections one step further gives the possibility of building a time and space manifold on a meta-level—into an axiologic manifold. Such an axiologic theory of value has a bearing upon the writings of Adam Smith, Friedrich Nietzsche, the neo-Kantians Rudolf Hermann Lotze and Albrecht Ritschl and, above all, Eduard von Hartmann, whose 1909 treatise *Grundrisse der Axiologie* is the first to use the term 'axiology' in the title. Important later contributions to the question of axiology are made by, for instance, Ralph Barton



Figure 1. Axiologic Manifold.

	<i>Abstract Space</i>	<i>Concrete Space</i>
<i>Abstract Time</i> (Clock time)	<p>Chronochoric (<i>episteme</i>) Aesthetic particularism e.g. mathematics, logics, economics</p>	<p>Chronotopic (<i>techne</i>) Ethic individualism e.g. business management</p>
<i>Concrete Time</i>	<p>Kairochoric (<i>techne</i>) Aesthetic sensationism visual media</p>	<p>Kairotopic (<i>phronesis/mantike</i>) Ethic holism environmentalism</p>

Perry in his 1926 treatise *General Theory of Value: Its Meaning and Basic Principles Construed in Terms of Interest Valuation*. The unifying concept of axiology provides for the study of a variety of questions that have often been considered in relative isolation (e.g. aesthetics, ethics, economics and mathematics). In addition to time and space and place, science and economics have been on the agenda in the previous sections of this paper, and it will be seen that both ethics and aesthetics are important in the coming axiologic manifold.

Joining the Greek space and time notions above yields the axiologic scheme in Figure 1. In this manifold, four time-space neologisms (with adjective-forming suffixes) have been introduced: *chronochoric*, *chronotopic*, *kairochoric* and *kairotopic*. The axiologic manifold depicts different communities of interest, including, for instance, the science community, the business community, the media community and the environmentalist community. Like all communities, these are neither homogeneous nor clearly delimited, but characterizations of different spheres of interest. It must also be noted that this paper is an attempt not to explain the state of affairs in an omnipotent and ‘square’ arrangement, but to better understand examples from our global contemporary society where such an axiologic time–space manifold might be illuminating in organizational settings—in this case, particularly ideas of environmental management in organizations. The reason for this focus on environmental management and organizations is that it illustrates particularly complex spatio-temporal relationships.

The multifaceted complexity of environmental issues in society (for instance, environmental management in organizations) involves almost all aspects of life and all the quadrants in the axiologic manifold. The institutionalized idea of environmental management in organizations is frequently *illustrated* with frightening (kairochoric) images of pollution, smog, etc. Environmental management in organizations is *argued* with supposedly rational arguments from the chronochoric quadrant, for instance cost–benefit analysis, environmental auditing, life cycle assessment, and mathematical modeling. The issue of environmental manage-



ment in organizations is then supposed to be *handled* with approaches from the chronotopic quadrant, for instance by implementing standardized environmental management and auditing systems. Environmental management in organizations is also sometimes *idealized* with holistic arguments of solidarity and sustainable development beyond reified clock time and geometric space representations, that is, with arguments from the kairotopic quadrant.

In the past 40 years (since Rachel Carson's *Silent Spring*) environmental management in organizations (firms) has developed from filters, high chimneys, sewage treatment works and other reactive end-of-the-pipe solutions forced by *external* legal frameworks in the 1960s and the 1970s via the introduction of *standardized* environmental management systems in the 1990s towards proactive operations driven by ideas that *internalize* environmental aspects into the very core idea of the operation. The 1987 Brundtland report (WCED), the 1992 Earth Summit in Rio de Janeiro (and the subsequent Local Agenda 21s), environmental management and auditing systems (e.g. ISO 14001, EMAS) are thus (intermediate) steps in a direction from external punctiform actions towards internalized going concerns. Well-known early examples of companies managed by far-reaching internalized environmental management are, for instance, Ben & Jerry's, The Body Shop, and 3M.⁵

To illustrate the potential benefits to be derived from visualizing different forms of human action, time and space in a manifold, the following sections focus on environmental issues in the contemporary settings of science, mass media, business management and environmentalism.

Chronochoric: Abstract Time and Abstract Space

The chronochoric quadrant in the axiologic manifold in Figure 1 represents the formal knowledge fields of mathematics, logic and, to a certain extent, economics (particularly econometrics). Contemporary (neoclassical) economics, for instance, is on the whole a field characterized by mathematical formulas with a tenuous connection to what actually motivates (individual) humans (in contrast to the archetypical average economic person). Herein lies also the Euclidean axiomatic tradition of time and space expressed as infinitesimal slices, which are the dominating features in theoretical activities (*theoria*) in the promotion of scientific skills (*episteme*). It must be noted, however, that mathematicians, logicians and (neoclassical) economists reflexively shrink back from any connection with moral sentiment in their profession; objectivity and nominalism are the alleged guiding principles—not normative claims. No ethic or moral value is (admittedly) present in such a chronochoric tradition (e.g. in mathematics, logic and neoclassical economics).

Aesthetic values, on the other hand, are very much embraced in mathematics, logic and economics. For 'beautiful formulas' are highly esteemed among colleagues. Already the much-celebrated principle of



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Occam's razor—that entities are not to be multiplied beyond necessity (*entia non sunt multiplicanda praeter necessitatem*)—is a watchword in these branches that clearly expresses an aesthetic ideal. Mathematical rigor is one of the principal valuation criteria in mathematics, but there is also an effort to achieve mathematical aesthetics. The rigorous mathematical argument completed in a beautiful way is obviously highly esteemed among colleagues. In particular, the subject of symmetry in art and science is sometimes analyzed from a mathematical point of view (e.g. the golden section). In mathematics, aesthetics is also discussed in conjunction with algebra, functional analysis, geometry, number theory, set theory and statistics (e.g. the central limit theory and its bell-shaped normal distribution). Mathematicians' aesthetic vein is also discernible in organizations such as the International Society for Mathematical Aesthetics (ISMA), as well as in the writings of, for instance, Bense (1958), whose starting point is that art and mathematics are very closely connected. Consequently, for Bense, a 'play' (*spiel*) in the sense of Friedrich Schiller or John von Neumann's game-theoretical 'play' may both be valued for their aesthetical merit.

Note that the word *particularism* in the case of the chronochoric quadrant must not be understood in its anthropological sense (as in the writings of Boas, Mead, et al.), or in its religious and animistic sense, or in its political history sense.⁶ The word 'particularism' in the case of chronochoric representation is simply used as a denominator for a devotion to a particular interest, such as a tendency among mathematicians, logicians and economists to stay within a narrowly defined profession and to filter noise and exclude others as being ignorant laypeople.

Contemporary (neoclassical) economics, with its dominant focus on mathematical formalism, has become more or less detached from any concrete place-world. Traditionally, the input factors in economics are thought to be *land*, *labor* and *capital*. In many ways, time is already inherent in these input factors inasmuch as time is the ultimate scarce resource. However, land as an input factor has been largely omitted in neoclassical economics, and has instead been replaced by an extended notion of capital in which land is included (implicitly in terms of abstract space rather than concrete place). The basic neoclassical theory quite simply portrays the action of the individual firm in terms of marginal and average analysis curves, and clusters of firms tend to be understood as composite (more or less rational) agents distributed and located in abstract space.

In economics, the idea of Rational Choice includes mathematical analysis of organizations that can be characterized as chronochoric (on Rational Choice, see, e.g., Elster, 1986; Green and Shapiro, 1994). Contemporary (neoclassical) economics on the whole is based on abstract time and space (chronos and chora) and its proponents are in addition striving for membership in the 'exact' (natural) science community



(episteme). However, McCloskey (e.g. 1994) claims that mathematics in many ways has taken over from physics as the model for the discipline of economics (see also Mirowski, 1989; and the aftermath of Mirowski's book in De Marchi, 1993).

Studies in environmental economics usually concern mathematical modeling related to the use and abuse of natural resources and to issues of putting monetary value on (negative) externalities and public goods. A typical cost-benefit analysis of a pollution damage problem compares expected (monetary) health benefits from improved air quality standards with the cost of designing and implementing pollution abatement programs. Consequently, these forms of mathematical environmental economics have eventually been detached from concrete place-world (topos) argumentations and are more closely related to abstract space (chora). Similarly, in terms of time conceptions there has been a move towards an increasing reliance on the abstract and reified clock time of chronos.

Briefly, the chronochoric quadrant is ultimately based on ideas of 'sound' (and 'objective') *explanations* built up by fixed and particularly focused semantic symbols that explain without giving any rhetoric *understanding*.

Kairochoric: Concrete Time and Abstract Space

The kairochoric quadrant is perhaps the most recent of these four schematic categories. It is used to denominate images mediated through a screen, particularly when the images/imaginings mediated are so powerful that the impression triggers profound feelings in the observer. In the conquest of the world as picture, the very word 'picture' (*Bild*) eventually means a structured image (*Gebild*). Heidegger has referred to modernity as 'the age of the world picture,' not as a plain picture of the world 'but the world conceived and grasped as a picture' (Heidegger, [1962] 1977: 115, 129-36; see also Gregory, 1994; Wolin, 1990).

The characterization of conveying messages as pictures, kairochora, might thus be called *sensationism*, which was originally a philosophy proposed by French Enlightenment writers Condillac, Bonnet and Helvetius as a response to Lockean empiricism. The main idea of sensationist philosophy and sensationist aesthetics is that all of our ideas come to us through the senses, and not through experience, as claimed by the empiricists (see O'Neal, 1996).

For instance, visual media reporting on environmental problems caused by organizations relies heavily on aesthetics (and even on *aestheticism*) in their visualization and dramatization of the message. The powerful images in media reporting have an influence not only on laypersons but also on how organizations eventually adopt and accept environmental issues to be a part of their everyday considerations (e.g. to reduce, or stop, polluting).



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These two different aesthetic focuses—the focus on aesthetically attractive (mathematical) argumentation in science (episteme) and the visualization of the aesthetic ugliness of pollution in the media (techne)—have eventually created a strained relation between the two. When representatives from the science community complain about fragmentary and incomplete media coverage, mass media representatives rebut this with complaints about scientists not being able to deliver concise explanations (see also Allan et al., 2000; Kress and Leeuwen, 1996).

The question of how the mass media portray (e.g. environmental) hazards is also the subject of a book by Singer and Endreny (1993: 163), who noted the following:

But reporting about hazards . . . is ordinarily reporting about events rather than issues, about immediate consequences rather than long-term considerations, about harms rather than risks. Precise information about risks is often unavailable and is rarely presented. Alternatives are almost never considered in a story about a particular hazard, and when they are, their risks and benefits are often not. Moral or ethical issues are generally absent from news stories about hazards, and even economic issues are for the most part ignored.

Mediated real-time depictions bring snippets of hot spots into the living room. By conveying such visual media pictures of aesthetic ugliness, issues of industrial safety regulation (e.g. the nuclear power plant in Chernobyl), farming practice (e.g. foot-and-mouth disease, mad cow disease), transportation (e.g. seabirds covered with crude oil from leaking tankers), etc. trigger action and condemnation of the action 'portrayed.' This has become one of the main characteristics in contemporary media reporting of environmental matters.

Chronotopic: Abstract Time and Concrete Place

The chronotopic notion of abstract chronos time, for instance in successive readings of a clock, together with a conception of concrete and meaningful place, is well known in situations in which the reified clock time of chronos runs our daily duties from concrete place to place. In organizational settings, management 'buzz-words' such as Time Management, Just-In-Time and Lean Production can be characterized as combining chronos and topos (see Rämö, 1999). The automobile industry was distinctly early to embrace the idea of conjoining different production stages within the organization with those in sequence outside its boundaries, with its suppliers and partners. According to Womack et al. (1990), 'lean thinking' and vertical collaboration are the fundamental ideas underlying lean production. Notions of lean production have become an important feature in all manufacturing industries, as well as in service sectors that handle complex logistical systems (e.g. transport services, hospitals). In addition to lean production's focus on quality and extended 'value streams' from suppliers to customers, its third focus is to produce things only when they are needed—just in time and just in place—rather



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than just in case. The common denominator among these management ideas is to create smooth, swift and thrifty flows from supplier via the manufacturer to the customer. This places great demands upon exactness, both in (chronos) time and (topos) place—for instance, when issuing an order with a delivery date for the next day at exactly 3:00 p.m. to a specific place (just in time and just in place). Consequently, the notion of a concrete place (topos) remains of utmost importance since this kind of thrifty (clock) time management production flow relies heavily on accurate placing.

In this axiomatic scheme, the notion is used as a characterization of business management's 'ethical individualism,' in which the purpose of an activity frequently is judged by its results in creating utility, that is, the pleasure or satisfaction derived by an individual from being in a particular situation (in creating and consuming goods or services). Thus, it is not 'atomistic' individualism; nor is it utilitarianism or solely a question of the acquisition and use of material goods.

The aim of business is sometimes seen to be the creation of the highest yield possible for the owners. This view has been heavily criticized. Still, business operations clearly express a teleological view, inasmuch as they are based on the idea of skillful and proficient (techne) handling utilities (commodities and services) in order to survive and ultimately to avoid the legal action of bankruptcy. Both the recurrent (and ever-growing) system of auditing and the legal action of bankruptcy make no, or little, allowance for unintentional failures; the teleological end result is more important than any good deontological intention. The bottom-line still counts.

In increasing numbers, organizations around the world are choosing to implement management systems and publish reports pertaining to their performance, policies and practices, not only financially but also environmentally (and socially). Examples of well-known standardized environmental management systems, such as ISO 14001 and EMAS, can be characterized as 'punctiform instrumentalizations.' Once the standardized environmental management and auditing system is launched, the clock time of chronos gives directions when something is to be done in a certain place in order to follow the rules and regulations stipulated by the standardized guiding principles. This means standardized environmental management systems are 'ruled' by the logic of the abstract clock time (chronos) in the concrete placial surroundings (topos). The broad acceptance of standardized environmental management systems is an attempt at cultural transformation in organizations in an endeavor to achieve a better understanding of environmental aspects embedded in organizing and production processes. At the same time, these standardized management systems are creating new bureaucratization processes. Thus, the risk is that rigid obedience of a standard eventually overrides the environmental concerns it was supposed to remedy in the first place (see Power, 1997).⁷



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It must be noted, however, that business operations in general cannot be reduced to such a 'bureaucratic' and 'square' clock time instrumentalism (of money making). For the core idea in any business endeavor always embraces creativity and 'kairic' right moments in the right place when crucial ideas unfold into new possibilities. Thus, the creative aspect of business (and life in general) includes kairotopic traits as well.

Kairotopic: Concrete Time and Concrete Place

The kairotopic category is represented by a (methodological or meta-physical) 'holistic ethic,' an attitude in which feelings of unity and action emerge in a concrete place at timely moments, for instance in innovative practices in organizations.

Such situations, when a 'kairic' feeling for the right moment merges with being in the right place—when one swiftly has to make a discerning decision—are known to all. Most organizations, for instance, have to rely to a great extent on the ability to handle unexpected incidents in an impromptu manner at the right place—beyond institutionalized job descriptions and rules. A simplistic picture of this is that people in organizations not only have to manage and improve what already exists and is already known, but also have to be keenly aware of and attentive to possible threats and opportunities. The latter is an example of action (and/or reaction) in a concrete, timely and opportune situation, quite frequently regardless of clock time, checklists, schemes and regulations. The chronological time of *chronos*, whether it is described as clock time, linear, circular or spiral, remains inadequate in such timely situations and places. Instead, the chronological time of *chronos* must be complemented by 'kairic' right moments in the right place (*topos*). Determinants of a manager's proficiency are not only his or her skills in terms of technical proficiency (*techne*), but also his or her ability on a daily basis to care about and communicate with people in decisive or vulnerable situations (*phronesis*). Similarly, any able craftsperson or professional has a grasp of their subject far beyond the textbooks; they know the crucial moment for judicious acting (*phronesis*).

From denominating a wise and judicious action (*phronesis*) in a concrete, instantaneous situation—beyond the reified clock time and the abstract space—the kairotopic category might eventually unfold into a feeling of greater wholeness in which, for instance, the environment embodies ideas of orderliness. Apparently, such ideas of spatial wholeness are emanating from meaningful moments in a specific place (*kairotopic*).

Environmental issues frequently arouse strong commitments that both polarize debates and occasionally search for legitimate authoritarian methods. The polarization that plagues debates is sometimes troublesome: either you are for comprehensive environmental measures or you are against them. Even those individuals who, despite a benevolent



attitude toward environmental improvement measures, nevertheless choose to examine the arguments both for and against such measures critically are sometimes seen as 'opponents.' Contemporary (extreme) examples are of environmental activists becoming so focused on preserving the place of concern that they risk their own lives or the lives of others in order to save the actual place. It can thus be said that different forms of 'madness' sneak up exceedingly close to feelings of wise and judicious action (*phronesis*) and wholeness in timely moments.

Just like the strained relation between the two different aesthetic focuses in science and in the media, the two ethics—teleology in business and deontology in environmentalism—also have a strained relationship. It is assumed among many environmentalists that the business community has little to contribute to proactive pollution reduction and environmental improvements because of its supposed narrow focus on financial 'bottom-line' issues for stockholders; business activities are simply seen as myopic and environmentalism as hyperopic.

A classical example of a holistic feeling of unity is Plato's dialogue *Phaedrus* (244d), which brings up the subtle difference between clear-sighted prophecy (*mantike*), which foretells the future and is 'the noblest of arts,' and madness (*manike*, literally, manic). In Jung's dream theory, on the other hand, incubation rites induce a *mantike atechnos*, an artificial mania in which the soul speaks directly (Latin, *divinat*; see Meier, [1949] 1981: xiv). Marcus Tullius Cicero says the following in a similar vein in *De Natura Deorum* (Book 1, section XX):

And next follows your doctrine of *mantike*, or Divination, which would so steep us in superstition, if we consented to listen to you, that we should be the devotees of soothsayers, augurs, oracle-mongers, seers, and interpreters of dreams.

Therefore, it follows that the kairotopic category is the most creative of the four categories in the axiologic manifold. This is because it inhabits important moments of clear-sightedness when new and bold ideas eventually unfold into concrete reality, but also possible moments of hypostasized confusion between delusive ideas of eternal wholeness and wishful (pejoratively) metaphysical thinking.

Closing the Stage

To conclude, four distinctive spheres in an axiologic action, time and space manifold have been discussed in this paper.

- The first sphere is the *chronochoric* notion of aesthetic particularism, with time and space expressed as infinitesimal slices (*chronos* and *chora*), which is the dominating feature in science (*episteme*), including the formal knowledge fields of mathematics, logic and, to a certain extent, economics (e.g. in the ideas of neoclassical economics and Rational Choice in economics). Supposed rational arguments, for instance cost-benefit analysis and environmental modeling, are also



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examples of the chronochoric sphere in, for instance, environmental applications.

- The second is the *kairochoric* notion of aesthetic sensationism as a denomination for images in skillful (techne) visual media reporting on, for instance, ominous environmental matters, which also have an influence on organizations (e.g. to reduce or to stop polluting).
- The third is the *chronotopic* notion of ethical individualism, with abstract clock time (chronos) joining a conception of concrete and meaningful place (topos), which is also discernible in contemporary managerial 'buzz-words' and skills (techne) such as Time Management, Just-In-Time and Lean Production, as well as in recurrent standardized environmental management and auditing systems (e.g. ISO 14001 and EMAS).
- The final sphere is the *kairotopic* notion represented by holistic ethic ideas of unity in a concrete place (topos) at timely moments (kairos), which embraces both the ability to act judiciously and wisely (phronesis)—in organizations and elsewhere—and delusive ideas of wholeness (mantike/manike). In the environmental debate, holistic arguments of solidarity and sustainable development can inhabit moments of clear-sightedness as well as delusions.

Although there are several pitfalls on the road towards a blending of an Aristotelian perspective of time, space, place and human action with contemporary debates on environmental concerns, they do have a common denominator in their concern with *understanding human action* in organizations and in society. Similarly, in order not to get lost in a Heideggerian 'Black Forest' filled with idiosyncrasies and neologisms, the fundamental ontological trait of Heideggerian exegesis cannot be pushed too far in a social science paper such as this, which is embedded in dichotomous modes of representation (a dichotomization that is also incompatible with the ancient Greek's understanding of chronos/kairos and chora/topos). The road is nevertheless open towards an understanding of time, space, place and human action in an approach that goes beyond the focuses of formalist mathematical expressions and static 'snapshots.' Regardless of how far one pushes attempts to understand human action, it still requires a pendulum between different representations, such as chronological and a kairic understanding of time. This is because an exclusive focus on chronos time—a *vulgar* clock time in Heidegger's vocabulary—tends to reduce humans to objects. Likewise, a partisan focus on human experienced time (e.g. kairos time) will eventually lead to a dead end—into a literal Heideggerian *Being towards death* (cf. *Memento Mori*). Such a partisan focus on kairos time ultimately leaves unanswered the intricate relationship between datability, lapse of time, publicness in apprehending intertemporal and intergenerational matters—matters that are of utmost importance in, for instance, studies of human-caused environmental depletion.⁸



Similarly, the observation that in most scientific presentations references to space dominate far more than do references to place in spatial accounts helps us to conclude that closer examination of (abstract) placement and (concrete) implacement is central in understanding the difference between space and place. The ancient Greek notions of *topos* and *chora*—roughly translated, respectively, as place and space—might also be illuminating in accounts of how different images of places, spaces and spatial experiences are ‘produced’ in contemporary organizational settings (e.g. physical office settings vs. virtual organizations).

The indicative (rather than hortatory) discussion in this paper has focused on understanding (rather than explaining) extended spatio-temporal notions in conjunction with environmental issues in different organizational settings (i.e. science, mass media, business management and environmentalism). The logic of action is quite different if one wants to scientifically analyze environmental conditions (science), illustrate environmental depletion (media), run organizations (management), or embrace right moments of action (innovativeness and/or environmentalism). For example, the differences between organizing municipalities or companies are crucial factors in terms of the environmental management alternatives available in each case. The flexibility to meet changing conditions and fast-moving opportunities is dramatically different in municipalities and in companies. Municipalities are fixed in time and place regarding a lack of temporal agility and a definite locality. Companies, on the other hand, are increasingly flexible in terms of time and place. The delicate spatio-temporal manifold elaborated in this paper serves as a useful complement to the everydayness of calculations, clocks, deadlines, measures and standards and thus might help us to better understand human action in different organizational settings.

It should be stressed again that the point in this paper is by no means to abandon the omnipresent quantitative (clock) time of infinitesimal small now-points, *punctum temporis*, but to understand that such an expression is only one of several delimiting and fabricated interpretations of time. Entering the question of understanding of time, timing, space, place and human action (and reaction) leads towards an understanding that human time and place might require the mediation of several time and space/place conceptions in which contextuality is strongly emphasized.

As stated in the introduction, time and space theories of organizational settings in particular and in social science in general are frequently analyzed with a partisan focus on chronological time and ‘abstract’ space. This use of universal symbolic language in social settings, such as a partisan focus on clock time’s representation of time and abstract geometric space, is at the expense of more human aspects of time, timing and place. By distinguishing between different aspects of abstract and concrete representations of human time and space manifold, the means are provided to understand what goes beyond the reified objectivization of not only time and space but humans as well. Symbolic practices derive



their meaning in social life only through the structure of social relations within which they come into play—in this case, in an interplay between different forms of organizing and action in timely places.

Notes

- 1 Some scholars have nevertheless chosen the assignment to enter into different aspects of the question of time and temporality in organizational settings (e.g. *Academy of Management Review*, 2001; Adam, 1990, 1995, 1998; Bluedorn and Denhart, 1988; Blyton et al., 1989; Burrell, 1992; Butler, 1995; Carlisle and Manning, 2000; Caseby, 1996, 2000; Clark, 1985, 1990; Collinson and Collinson, 1997; Cooper and Rousseau, 2000; Dubinskas, 1988; Hassard, 2001; Lee and Liebenau, 1999; Orlikowski and Yates, 2002; Waller et al., 2001; Whipp, 1994; Whipp et al., 2002; Zerubavel, 1979). Several of the above writers have also noted that the qualitative analysis of organizational time has been consistently overlooked (e.g. Adam, 1990, 1995, 1998; Bluedorn and Denhart, 1988; Burrell, 1992; Butler, 1995; Hassard, 2001; Whipp et al., 2002; Zerubavel, 1979).
- 2 On space and place as 'abstract' geometrical extension in organizational settings, see e.g. the early works by Hotelling (1929) on competition; Palander (1935) on location theory; Von Thünen (1826) on land use; Weber (1929) on industrial location; contemporary works by Chandler et al. (1998) on industrial dynamics; Fujita et al. (1999) on spatial economy; Porter (1990) on industrial location. On aspects of space and place in organizational settings beyond 'abstract' representations, see e.g. Augé (1992) on 'supermodern' non-places; Carlstein et al. (1978) on time geography; Casey (1993, 1997) on philosophy of space/place; Castells (1996) on network society; De Certeau (1974) on spatial culture; Collinson and Collinson (1997) on gender and control; Deleuze and Guattari (1972/1980) on territorialization; Giddens (1990) on modernity; Gregory (1994) on human geography; Grosz (1995a) on gender; Kirkeby (1998) on management philosophy; Lefebvre (1974) on spatial theory; Lipnack and Stamps (1997) on virtual teams; Massey (1994) on gender; Parkes and Thrift (1980) on chronogeography.
- 3 References to the notion of *kairos* are elaborated in e.g. Heidegger (1979, 1989); Kerkhoff (1976); Kinneavy (1986); Kinneavy and Eskin (1994); Kisiel (1993); Ramírez (1995); Ruin (1994); Smith (1969, 1986); White (1987). On *chronos* and *kairos* in organizational settings, see e.g. Bartunek and Necochea (2000); Berman Brown and Herring (1998); Ciborra (1999); Hedaa and Törnroos (2002); Jaques (1982); Kirkeby (1998); Orlikowski and Yates (2002); Rämö (1999, 2000, 2002).
- 4 As noted by a well-versed reviewer of this paper, the ancient Greek usage had no simple oppositions between either *chora* and *topos* or *chronos* and *kairos*. The *chora* discussed in Plato's *Timaeus* (52) is not simply a "'place" of convergence crossed through and erased' just because certain modern modes of reading, after Heidegger, play with the idea of erasure. One still needs to respect or leave standing (as sensitive deconstructive readings do) what Plato argues in that passage: if one is to postulate a world of ungenerated and indestructible Forms, as objects perceptible by reason/*noesis*, and of a second category of generated and changeable Forms, then one will need a third construct, a distinct form of eternal Space (*to tes choras aei*). The Platonic



conclusion, in line with his theorizing that knowledge is glimpsable only by those with some access to *noesis* (e.g. philosopher-kings in the *Republic*), is that there must be eternal categories of Being, Place and Becoming (*Timaeus*, 52D) as the precondition for our world with its pale shadow versions of each, including therefore our impoverished sense of *chora* (as understood unthinkingly by most people).

- 5 A discussion on environmental management in organizations is beyond the scope of this paper and requires a more thorough analysis than space permits, but on the confusing pluralism of the 'green message' in management, see Fineman (2001).
- 6 'Particularism' in this everyday sense is also not identical with the term 'internalism,' as used in the internalism/externalism debate in philosophy of science.
- 7 This brings us to the issue of standardization in management and accounting practice. Although there is no room here to go into this fully, it can be argued that clock time (chronos) is the ruling factor in efficiency (to do things right) and timely moments (kairos) are crucial in questions of effectiveness (to do the right things); see Rämö (2002).
- 8 See Ricoeur's (1985) discussion on the limits of Heidegger's specific focus on Dasein's unique *within-time* and *within-the-world-ness*.

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