

## Space as a key word

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If Raymond Williams were contemplating the entries for his celebrated text on *Keywords* today, he would surely have included the word "space." He may well have included it in that short list of concepts, such as "culture" and "nature", to be listed as "one of the most complicated words in our language."<sup>1</sup> How, then, can the range of meanings that attach to the word "space" be clarified without losing ourselves in some labyrinth (itself an interesting spatial metaphor) of complications?

"Space" often elicits modification. Complications sometimes arise from the modifications (which all too frequently get omitted in the telling or the writing) rather than from any inherent complexity in the notion of space itself. When, for example, we write of "material", "metaphorical", "liminal", "personal", "social" or "psychic" space (just to take a few examples) we indicate a variety of contexts that so inflect matters as to render the meaning of space contingent upon the context. Similarly, when we construct phrases such as spaces of fear, of play, of cosmology, of dreams, of anger, of particle physics, of capital, of geopolitical tension, of hope, of memory, or of ecological inter-action (again, just to indicate a few of the seemingly infinite sites of

1. R. Williams, *Keywords: A Vocabulary of Culture and Society* (Oxford: Oxford University Press, revised edition, 1985).

deployment of the term) then the terrain of application defines something so special as to render any generic definition of space a hopeless task. In what follows, however, I will lay aside these difficulties and attempt a general clarification of the meaning of the term. I hope thereby to disperse some of the fog of mis-communication that seems to bedevil use of the word.

The entry point we choose for such an enquiry is not innocent, however, since it inevitably defines a particular perspective that highlights some matters while occluding others. A certain privilege is, of course, usually accorded to philosophical reflection, since philosophy aspires to rise above the various and divergent fields of human practices and partial knowledges, in order to assign definitive meanings to the categories to which we may appeal. I have formed the impression that there is sufficient dissension and confusion among the philosophers as to the meaning of space as to make that anything but an unproblematic starting point. Furthermore, since I am by no means qualified to reflect on the concept of space from within the philosophical tradition, it seems best to begin at the point I know best. I therefore start from the standpoint of the geographer, not because this is a privileged site that somehow has a proprietary right (as some geographers sometimes seem to claim) over the use of spatial concepts, but because that is where I happen to do most of my work. It is in this arena that I have wrestled most directly with the complexity of what the word "space" might be all about. I have, of course, frequently drawn upon the work of others operating within various branches of the academic and intellectual division of labor as well as upon the work of many geographers (too many to be acknowledged in a brief essay of this sort) who have been actively engaged in exploring these problems in their own distinctive ways. I make no attempt here to build a synthesis of all this work. I give a purely personal account of how my own views have evolved (or not) as I have sought meanings that work, as satisfactorily as possible, for the theoretical and practical topics of primary concern to me.

I began reflecting upon this problem many years ago. In *Social Justice and the City*, published in 1973, I argued that it was crucial to reflect on the nature of space if we were to understand urban processes under capitalism. Drawing upon ideas previously culled from a study of the

philosophy of science and partially explored in *Explanation in Geography*, I identified a tripartite division in the way space could be understood:

If we regard space as absolute it becomes a 'thing in itself' with an existence independent of matter. It then possesses a structure which we can use to pigeon-hole or individuate phenomena. The view of relative space proposes that it be understood as a relationship between objects which exists only because objects exist and relate to each other. There is another sense in which space can be viewed as relative and I choose to call this relational space - space regarded in the manner of Leibniz, as being contained in objects in the sense that an object can be said to exist only insofar as it contains and represents within itself relationships to other objects.<sup>2</sup>

I think this tripartite division is well-worth sustaining. So let me begin with a brief elaboration on what each of these categories might entail.

Absolute space is fixed and we record or plan events within its frame. This is the space of Newton and Descartes and it is usually represented as a pre-existing and immovable grid amenable to standardized measurement and open to calculation. Geometrically it is the space of Euclid and therefore the space of all manner of cadastral mapping and engineering practices. It is a primary space of individuation - *res extensa* as Descartes put it - and this applies to all discrete and bounded phenomena including you and me as individual persons. Socially this is the space of private property and other bounded territorial designations (such as states, administrative units, city plans and urban grids). When Descartes' engineer looked upon the world with a sense of mastery, it was a world of absolute space (and time) from which all uncertainties and ambiguities could in principle be banished and in which human calculation could uninhibitedly flourish.

The relative notion of space is mainly associated with the name of Einstein and the non-Euclidean geometries that began to be constructed most systematically in the 19th century. Space is relative in the

2. D. Harvey, *Social Justice and the City* (London: Edward Arnold, 1973) p. 13.

double sense: that there are multiple geometries from which to choose and that the spatial frame depends crucially upon what it is that is being relativized and by whom. When Gauss first established the rules of a non-Euclidean spherical geometry to deal with the problems of surveying accurately upon the curved surface of the earth, he also affirmed Euler's assertion that a perfectly scaled map of any portion of the earth's surface is impossible. Einstein took the argument further by pointing out that all forms of measurement depended upon the frame of reference of the observer. The idea of simultaneity in the physical universe, he taught us, has to be abandoned. It is impossible to understand space independent of time under this formulation and this mandates an important shift of language from space *and* time to space-time or spatio-temporality. It was, of course, Einstein's achievement to come up with exact means to examine such phenomena as the curvature of space when examining temporal processes operating at the speed of light.<sup>3</sup> But in Einstein's schema time remains fixed while it is space that bends according to certain observable rules (much in the same way as Gauss devised spherical geometry as an accurate means to survey through triangulation on the earth's curved surface). At the more mundane level of geographical work, we know that the space of transportation relations looks and is very different from the spaces of private property. The uniqueness of location and individuation defined by bounded territories in absolute space gives way to a multiplicity of locations that are equidistant from, say, some central city location. We can create completely different maps of relative locations by differentiating between distances measured in terms of cost, time, modal split (car, bicycle or skateboard) and even disrupt spatial continuities by looking at networks, topological relations (the optimal route for the postman delivering mail), and the like. We know, given the differential frictions of distance encountered on the earth's surface, that the shortest distance (measured in terms of time, cost, energy expended) between two points is not necessarily given by the way the legendary crow flies. Furthermore the standpoint of the observer plays a critical role. The typical New Yorker's view of the world, as the famous Steinberg

3. R. Osserman, *The Poetry of the Universe* (New York: Doubleday, 1995).

cartoon suggests, fades very fast as one thinks about the lands to the west of the Hudson River or east of Long Island. All of this relativization, it is important to note, does not necessarily reduce or eliminate the capacity for calculability or control, but it does indicate that special rules and laws are required for the particular phenomena and processes under consideration. Difficulties do arise, however, as we seek to integrate understandings from different fields into some more unified endeavor. The spatio-temporality required to represent energy flows through ecological systems accurately, for example, may not be compatible with that of financial flows through global markets. Understanding the spatio-temporal rhythms of capital accumulation requires a quite different framework to that required to understand global climate change. Such disjunctions, though extremely difficult to work across, are not necessarily a disadvantage provided we recognize them for what they are. Comparisons between different spatio-temporal frameworks can illuminate problems of political choice (do we favor the spatio-temporality of financial flows or that of the ecological processes they typically disrupt, for example).

The relational concept of space is most often associated with the name of Leibniz who, in a famous series of letters to Clarke (effectively a stand-in for Newton) objected vociferously to the absolute view of space and time so central to Newton's theories.<sup>4</sup> His primary objection was theological. Newton made it seem as if even God was inside of absolute space and time rather than in command of spatio-temporality. By extension, the relational view of space holds there is no such thing as space or time outside of the processes that define them. (If God makes the world then He has also chosen, out of many possibilities, to make space and time of a particular sort). Processes do not occur *in* space but define their own spatial frame. The concept of space is embedded in or internal to process. This very formulation implies that, as in the case of relative space, it is impossible to disentangle space from time. We must therefore focus on the relationality of space-time rather than of space in isolation. The relational notion of space-time implies the idea of

4. I reviewed some of this in D. Harvey, *Justice, Nature and the Geography of Difference* (Oxford: Basil Blackwell, 1996) particularly chapter 10.

internal relations; external influences get internalized in specific processes or things through time (much as my mind absorbs all manner of external information and stimuli to yield strange patterns of thought including dreams and fantasies as well as attempts at rational calculation). An event or a thing at a point in space cannot be understood by appeal to what exists only at that point. It depends upon everything else going on around it (much as all those who enter a room to discuss bring with them a vast array of experiential data accumulated from the world). A wide variety of disparate influences swirling over space in the past, present and future concentrate and congeal at a certain point (e.g. within a conference room) to define the nature of that point. Identity, in this argument, means something quite different from the sense we have of it from absolute space. Thus do we arrive at an extended version of Leibniz's concept of the monad.

Measurement becomes more and more problematic the closer we move towards a world of relational space-time. But why would it be presumed that space-time only exists if it is measurable and quantifiable in certain traditional ways? This leads to some interesting reflections on the failure (perhaps better construed as limitations) of positivism and empiricism to evolve adequate understandings of spatio-temporal concepts beyond those that can be measured. In a way, relational conceptions of space-time bring us to the point where mathematics, poetry, and music converge if not merge. And that, from a scientific (as opposed to aesthetic) viewpoint, is anathema to those of a positivist or crudely materialist bent. On this point the Kantian compromise of recognizing space as real but only accessible to the intuitions tries to build a bridge between Newton and Leibniz precisely by incorporating the concept of space within the theory of Aesthetic Judgement. But Leibniz's return to popularity and significance not only as the guru of cyberspace but also as a foundational thinker in relationship to more dialectical approaches to mind-brain issues and quantum theoretical formulations signals some sort of urge to go beyond absolute and relative concepts and their more easily measurable qualities as well as beyond the Kantian compromise. But the relational terrain is an extremely challenging and difficult terrain upon which to work. There are many thinkers who, over the years, have applied their talents to

reflecting upon the possibilities of relational thinking. Alfred North Whitehead was fascinated by the necessity of the relational view and did much to advance it.<sup>5</sup> Deleuze likewise made much of these ideas both in his reflections on Leibniz (with reflections on baroque architecture and the mathematics of the fold in Leibniz's work) as well as on Spinoza.<sup>6</sup>

But why and how would I, as a working geographer, find the relational mode of approaching space-time useful? The answer is quite simply that there are certain topics, such as the political role of collective memories in urban processes, that can only be approached in this way. I cannot box political and collective memories in some absolute space (clearly situate them on a grid or a map) nor can I understand their circulation according to the rules, however sophisticated, of relative space-time. If I ask the question: what does Tiananmen Square or "Ground Zero" mean, then the only way I can seek an answer is to think in relational terms. This was the problem that I confronted when writing about The Basilica of Sacre Coeur in Paris.<sup>7</sup> And, as I shall shortly show, it is impossible to understand Marxian political economy without engaging with relational perspectives.

So is space (space-time) absolute, relative or relational? I simply don't know whether there is an ontological answer to that question. In my own work I think of it as being all three. This was the conclusion I reached thirty years ago and I have found no particular reason (nor heard any arguments) to make me change my mind. This is what I then wrote:

space is neither absolute, relative or relational in itself, but it can become one or all simultaneously depending on the circumstances.

The problem of the proper conceptualization of space is resolved

5. J. Fitzgerald, *Alfred North Whitehead's Early Philosophy of Space and Time* (New York: Rowman and Littlefield, 1979); I tried to come to terms with Whitehead's views in Harvey, *Justice, Nature and the Geography of Difference*, *op.cit.*
6. G. Deleuze, *The Fold: Leibniz and the Baroque* (Minneapolis: Minnesota University Press, 1992).
7. D. Harvey, "Monument and Myth," *Annals of the Association of American Geographers* 69 (1979) pp. 362-81.

through human practice with respect to it. In other words, there are no philosophical answers to philosophical questions that arise over the nature of space – the answers lie in human practice. The question ‘what is space?’ is therefore replaced by the question ‘how is it that different human practices create and make use of different conceptualizations of space?’ The property relationship, for example, creates absolute spaces within which monopoly control can operate. The movement of people, goods, services, and information takes place in a relative space because it takes money, time, energy, and the like to overcome the friction of distance. Parcels of land also capture benefits because they contain relationships with other parcels . . . in the form of rent relational space comes into its own as an important aspect of human social practice.<sup>8</sup>

Are there rules for deciding when and where one spatial frame is preferable to another? Or is the choice arbitrary, subject to the whims of human practice? The decision to use one or other conception certainly depends on the nature of the phenomena under investigation. The absolute conception may be perfectly adequate for issues of property boundaries and border determinations but it helps me not a whit with the question of what is Tiananmen Square, Ground Zero or the Basilica of Sacre Coeur. I therefore find it helpful – if only as an internal check – to sketch in justifications for the choice of an absolute, relative, or relational frame of reference. Furthermore, I often find myself presuming in my practices that there is some hierarchy at work among them in the sense that relational space can embrace the relative and the absolute, relative space can embrace the absolute, but absolute space is just absolute and that is that. But I would not confidently advance this view as a working principle let alone try to defend it theoretically. I find it far more interesting in principle to keep the three concepts in dialectical tension with each other and to constantly think through the interplay among them. Ground Zero is an absolute space at the same time as it is relative and relational in space-time.

Let me try to put this in a more immediate context. I give a talk in a

room. The reach of my words is bounded by the absolute space of those particular walls and limited to the absolute time of the talk. To hear me people have to be there within that absolute space during that absolute time. People who cannot get in are excluded and those that come later will not hear me. Those who are there can be identified as individuals – individuated – each according to the absolute space, such as the seat occupied, for that time. But I am also in a relative space with respect to my audience. I am here and they are there. I try to communicate across the space through a medium – the atmosphere – that refracts my words differentially. I talk softly and the clarity of my words fades across space; the back row can't hear at all. If there is a video-feed to Aberdeen I can be heard there but not in the back row. My words are received differentially in relative space-time. Individuation is more problematic since there are many people in exactly the same relative location to me in that space-time. All the people in the fourth row are equidistant from me. A discontinuity in space-time arises between those who can hear and those who cannot. The analysis of what is going on in the absolute space and time of the talk given in the room looks very different when analysed through the lens of relative space-time. But then there is the relational component too. Individuals in the audience bring to the absolute space and time of the talk all sorts of ideas and experiences culled from the space-time of their life trajectories and all of that is co-present in the room: he cannot stop thinking of the argument over breakfast, she cannot erase from her mind the awful images of death and destruction on last night's news. Something about the way I talk reminds someone else of a traumatic event lost in some distant past and my words remind someone else of political meetings they used to go to in the 1970s. My words express a certain fury about what is going on in the world. I find myself thinking while talking that everything we are doing in this room is stupid and trivial. There is a palpable sense of tension in the room. Why aren't we out there bringing the government down? I extricate myself from all these relationalities, retire back into the absolute and relative spaces of the room and try to address the topic of space as a key word in a dry and technical manner. The tension dissipates and someone in the front row nods off. I know where everyone is in absolute space and time but I

8. Harvey, *Social Justice and the City*, *op. cit.*, p. 13.

have no idea, as the saying goes, "where peoples' heads are at." I may sense that some people are with me and some are not but I never know for sure. Yet this is, surely the most important element of all. That, after all, is where shifting political subjectivities lie. The relationality is elusive if not impossible to pin down, but it is none the less vitally important for all that.

There is, I mean to show by this example, bound to be a liminality about spatiality itself because we are inexorably situated in all three frameworks simultaneously, though not necessarily equally so. We may end up, often without noticing it, favoring one or other definition through our practical actions. In an absolutist mode, I will do one thing and reach one set of conclusions; in a relative mode, I'll construct my interpretations differently and do something else; and if everything looks different through relational filters then I will conduct myself in a quite different way. What we do as well as what we understand is integrally dependent upon the primary spatio-temporal frame within which we situate ourselves. Consider how this works in relation to that most fraught of socio-political concepts we call "identity." Everything is clear enough in absolute space and time, but things get a bit more awkward when it comes to relative space-time and downright difficult in a relational world. But it is only in this last frame that we can start to grapple with many aspects of contemporary politics since that is the world of political subjectivity and political consciousness. Du Bois long ago attempted to address this in terms of what he called "double consciousness" – what does it mean, he asked, to carry within oneself the experience of being both black and American? We now complicate the question further by asking what does it mean to be American, black, female, lesbian and working class? How do all those relationalities enter into the political consciousness of the subject? And when we consider other dimensions – of migrants, diasporic groups, tourists and travellers and those that watch the contemporary global media and partially filter or absorb its cacophony of messages – then the primary question we are faced with is understanding how this whole relational world of experience and information gets *internalized* within the particular political subject (albeit individuated in absolute space and time) to support this or that line of thinking and of action. Plainly, we

cannot understand the shifting terrain upon which political subjectivities are formed and political actions occur without thinking about what happens in relational terms.

If the contrast between absolute, relative and relational conceptions of space is the only way to unpack the meaning of space as a key word, then matters could safely be left here. Fortunately or unfortunately, there are other and equally cogent ways to address the problem. Many geographers in recent years, for example, have pointed to a key difference in the deployment of the concept of space as an essential element in a materialist project of understanding tangible geographies on the ground and the widespread appropriation of spatial metaphors within social, literary and cultural theory. These metaphors, furthermore, have frequently been used to disrupt so-called metanarratives (such as Marxian theory) and those discursive strategies in which the temporal dimension typically prevails. All of this has provoked an immense debate on the role of space in social, literary and cultural theory. I do not intend to get into any detailed discussion of the significance of this so-called "spatial turn" in general and its relation to postmodernism in particular. But my own position has been fairly clear throughout: of course the proper consideration of space and space-time has crucial effects upon how theories and understandings get articulated and developed. But this creates absolutely no justification whatsoever for turning away from all attempts at any kind of metatheory (the end result would be to take us back to geography as it was practiced in the academy in the 1950s, which is, interestingly where a significant segment of contemporary British Geography seems to be happily, if unwittingly, substantively headed). The point about grappling with space as a key word is therefore to identify how this concept might be better integrated into existing social, literary and cultural metatheories and with what effects.

Cassirer, for example, sets up a tripartite division of modes of human spatial experience, distinguishing between *organic*, *perceptual* and *symbolic* spaces.<sup>9</sup> Under the first he arranges all those forms of spatial

9. E. Cassirer, *An Essay on Man* (New Haven: Yale University Press, 1944); see also Harvey, *Social Justice and the City*, *op. cit.*, p. 28.

experience given biologically (hence materially and registered through the particular characteristics of our senses). Perceptual space refers to the ways we process the physical and biological experience of space neurologically and register it in the world of thought. Symbolic space, on the other hand, is abstract (and may entail the development of an abstract symbolic language like geometry or the construction of architectural or pictorial forms). Symbolic space generates distinctive meanings through readings and interpretations. The question of aesthetic practices here comes to the fore. In this domain, Langer, for her part, distinguishes between "real" and "virtual space." The latter, in her view, amounts to a "created space built out of forms, colours, and so on" so as to produce the intangible images and illusions that constitute the heart of all aesthetic practices. Architecture, she argues, "is a plastic art, and its first achievement is always, unconsciously and inevitably, an illusion: something purely imaginary or conceptual translated into visual impression." What exists in the real space can be described easily enough but in order to understand the affect that comes with exposure to the work of art we have to explore the very different world of virtual space. And this, she holds, always projects us into a distinctively ethnic domain.<sup>10</sup> These were the sorts of ideas I first encountered in *Social Justice and the City*.

It is out of this tradition of spatialized thought that Lefebvre (almost certainly drawing upon Cassirer) constructs his own distinctive tripartite division of material space (the space of experience and of perception open to physical touch and sensation); the representation of space (space as conceived and represented); and spaces of representation (the lived space of sensations, the imagination, emotions, and meanings incorporated into how we live day by day).<sup>11</sup>

If I focus on Lefebvre here it is not because, as so many in cultural and literary theory seem to suppose, that Lefebvre provides the originary moment from which all thinking about the production of space derives (such a thesis is manifestly absurd), but because I find it

10. S. Langer, *Feeling and Form: A Theory of Art* (New York: Prentice Hall, 1953); see also Harvey, *Social Justice and the City op. cit.*, p. 31.

11. H. Lefebvre, *The Production of Space* (Oxford: Basil Blackwell, 1991).

more convenient to work with Lefebvre's categories rather than Cassirer's. Material space is, for us humans, quite simply the world of tactile and sensual interaction with matter, it is the space of experience. The elements, moments and events in that world are constituted out of a materiality of certain qualities. How we represent this world is an entirely different matter, but here too we do not conceive of or represent space in arbitrary ways, but seek some appropriate if not accurate reflection of the material realities that surround us through abstract representations (words, graphs, maps, diagrams, pictures, etc.). But Lefebvre, like Benjamin, insists that we do not live as material atoms floating around in a materialist world; we also have imaginations, fears, emotions, psychologies, fantasies and dreams.<sup>12</sup> These spaces of representation are part and parcel of the way we live in the world. We may also seek to represent the way this space is emotively and affectively as well as materially lived by means of poetic images, photographic compositions, artistic reconstructions. The strange spatio-temporality of a dream, a fantasy, a hidden longing, a lost memory or even a peculiar thrill or tingle of fear as we walk down a street can be given representation through works of art that ultimately always have a mundane presence in absolute space and time. Leibniz, too, had found the whole question of alternate spatio-temporal worlds and dreams of considerable interest.

It is tempting, as with the first tripartite division of spatial terms we considered, to treat of Lefebvre's three categories as hierarchically ordered, but here too it seems most appropriate to keep the three categories in dialectical tension. The physical and material experience of spatial and temporal ordering is mediated to some degree by the way space and time are represented. The oceanographer/physicist swimming among the waves may experience them differently from the poet enamored of Walt Whitman or the pianist who loves Debussy. Reading a book about Patagonia will likely affect how we experience that place when we travel there even if we experience considerable cognitive dissonance between expectations generated by the written word and how it actually feels upon the ground. The spaces and times

12. W. Benjamin, *The Arcades Project* (Cambridge, Mass.: Belknap Press, 1999).

of representation that envelop and surround us as we go about our daily lives likewise affect both our direct experiences and the way we interpret and understand representations. We may not even notice the material qualities of spatial orderings incorporated into daily life because we adhere to unexamined routines. Yet it is through those daily material routines that we absorb a certain sense of how spatial representations work and build up certain spaces of representation for ourselves (e.g. the visceral sense of security in a familiar neighborhood or of being "at home"). We only notice when something appears radically out of place. It is, I want to suggest, the dialectical relation between the categories that really counts, even though it is useful for purposes of understanding to crystallize each element out as distinctive moments to the experience of space and time.

This mode of thinking about space helps me interpret works of art and architecture. A picture, like Munch's *The Scream*, is a material object but it works from the standpoint of a psychic state (Lefebvre's space of representation or lived space), and attempts through a particular set of representational codes (the representation of space or conceived space) to take on a physical form (the material space of the picture open to our actual physical experience) that says something to us about the qualities of how Munch lived that space. He seems to have had some sort of horrific nightmare, the sort from which we wake up screaming. And he has managed to convey something of the sense of that through the physical object. Many contemporary artists, making use of multimedia and kinetic techniques, create experiential spaces in which several modes of experiencing space-time combine. Here, for example, is how Judith Barry's contribution to the Third Berlin Biennial for Contemporary Art is described in the catalogue:

In her experimental works, video artist Judith Barry investigates the use, construction and complex interaction of private and public spaces, media, society, and genders. The themes of her installations and theoretical writings position themselves in a field of observation that addresses historical memory, mass communication, and perception. In a realm between the viewer's imagination and media-generated architecture, she creates imaginary spaces, alienated de-

pictions of profane reality . . . In the work *Voice Off* . . . the viewer penetrates the claustrophobic crampedness of the exhibition space, goes deeper into the work, and, forced to move through the installation, experiences not only cinematic but also cinemasthetic impressions. The divided projection space offers the possibility of making contact with different voices. The use and hearing of voices as a driving force, and the intensity of the psychic tension – especially on the male side of the projection, – conveys the inherent strength of this intangible and ephemeral object. The voices demonstrate for spectators how one can change through them, how one tries to take control of them and the loss one feels when they are no longer heard.

◆ Barry, the catalogue concludes, "stages aesthetic spaces of transit that leave the ambivalence between seduction and reflection unresolved."<sup>13</sup>

But to grapple fully with this description of Barry's work, we need to take the concepts of space and space-time to a deeper level of complexity. There is much in this description that escapes the Lefebvrian categories but refers back to the distinctions between absolute space and time (the cramped physical structure of the exhibit), relative space-time (the sequential motion of the visitor through the space) and relational space time (the memories, the voices, the psychic tension, the intangibility and ephemerality, as well as the claustrophobia). Yet we cannot let go of the Lefebvrian categories either. The constructed spaces have material, conceptual and lived dimensions.

I propose, therefore, a speculative leap in which we place the threefold division of absolute, relative and relational space-time up against the tripartite division of experienced, conceptualized and lived space identified by Lefebvre. The result is a three-by-three matrix within which points of intersection suggest different modalities of understanding the meanings of space and space-time. It may properly be objected that I am here restricting possibilities because a matrix mode of representation is self-confined to an absolute space. This is a perfectly valid objection. And insofar as I am here engaging in a

13. Third Berlin Biennial for Contemporary Art, *Catalogue: Judith Barry, Voice Off* (Berlin: Biennale, 2004) pp. 48–9.

representational practice (conceptualization) I cannot do justice to either the experienced or the lived realms of spatiality either. By definition, therefore, the matrix I set up and the way I can use it has limited revelatory power. But with all that conceded, I find it helpful to consider the combinations that arise at different intersections within the matrix. The virtue of representation in absolute space is that it allows us to individuate phenomena with great clarity. And with a bit of imagination it is possible to think dialectically across the elements within the matrix so that each moment is imagined as an internal relation of all the others. I illustrate the sort of thing I have in mind (in a somewhat condensed, arbitrary and schematic form) in Figure 1. The entries within the matrix are merely suggestive rather than definitive (readers might enjoy constructing their own entries just to get some sense of my meaning).

I find it helpful to read across or down the matrix of categories and to imagine complex scenarios of combination. Imagine, for example, the absolute space of an affluent gated community on the New Jersey shore. Some of the inhabitants move in relative space on a daily basis into and out of the financial district of Manhattan where they set in motion movements of credit and investment moneys that affect social life across the globe, earning thereby the immense money power that permits them to import back into the absolute space of their gated community all of the energy, exotic foods and wondrous commodities they need to secure their privileged lifestyle. The inhabitants feel vaguely threatened, however, because they sense that there is a visceral, undefinable and unlocatable hatred for all things American arising in the world out there and its name is "terrorism." They support a government that promises to protect them from this nebulous threat. But they become increasingly paranoid about the hostility they sense in the world around them and increasingly look to build up their absolute space to protect themselves, building higher and higher walls, even hiring armed guards to protect the borders. Meanwhile, their profligate consumption of energy to power their bullet-proof humvees that take them into the city every day, proves the straw that breaks the back of global climate change. Atmospheric patterns of circulation shift dramatically. Then, in the compelling but rather inaccurate popular-

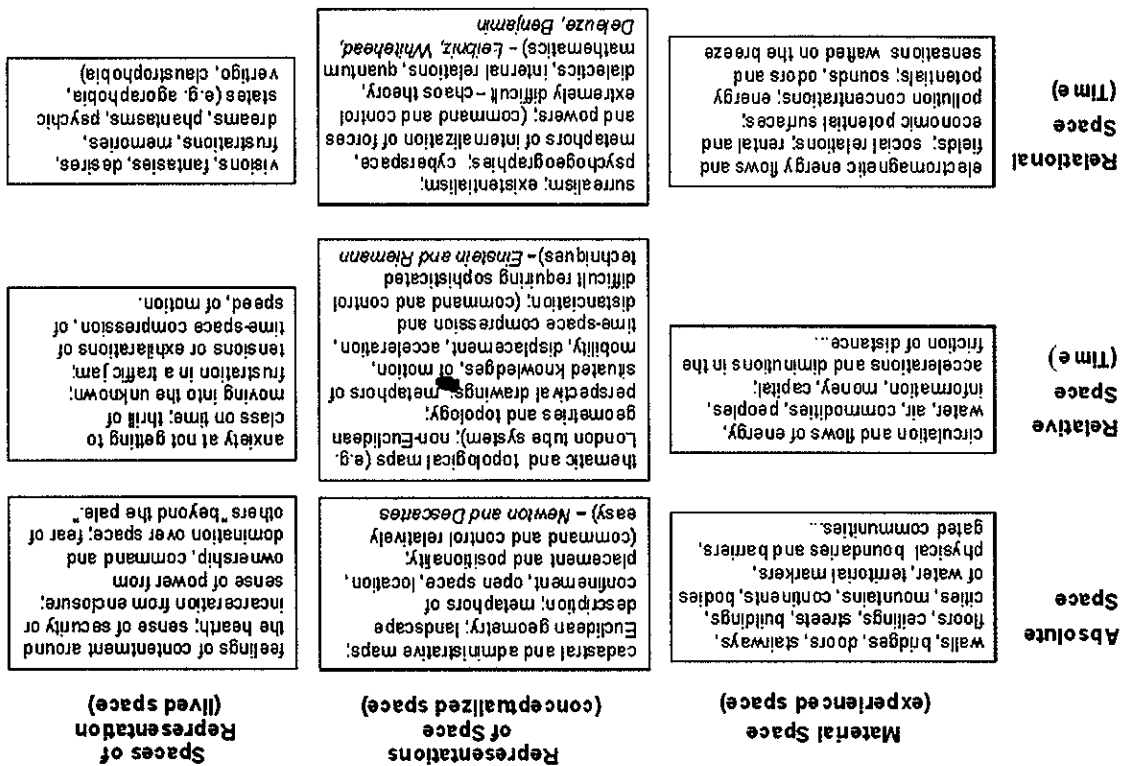


Figure 1 A general matrix of spatialities

ized depiction of chaos theory, a butterfly flaps its wings in Hong Kong and a devastating hurricane hits the New Jersey shore and wipes out the gated community. Many residents die because they are so fearful of the outside that they ignore the warnings to evacuate. If this were a Hollywood production, a lone scientist would recognize the danger and rescue the woman he adores but who has hitherto ignored him but she now falls gratefully in love with him . . .

In the telling of a simple story of this sort it proves impossible to confine oneself to just one modality of spatial and spatio-temporal thinking. The actions taken in the absolute space only make sense in relational terms. Even more interesting, therefore, is the situation in which moments in the matrix are in more explicit dialectical tension. Let me illustrate.

What spatial and spatio-temporal principles should be deployed in re-designing the site known as "Ground Zero" in Manhattan? It is an absolute space that can be materially reconstructed and to this end engineering calculations (informed by Newtonian mechanics) and architectural designs must be made. There is much discussion about retaining walls and the load-bearing capacities of the site. Aesthetic judgments on how the space, once turned into a material artifact of some sort, might be lived as well as conceptualized and experienced also become important (Kant would approve). The problem is to so arrange the physical space as to produce an emotive effect while matching certain expectations (commercial as well as emotive and aesthetic) as to how the space might be lived. Once constructed the experience of the space may be mediated by representational forms (such as guide books and plans) that help us interpret the intended meanings of the reconstructed site. But moving dialectically across the dimension of absolute space alone is much less rewarding than the insights that come from appealing to the other spatio-temporal frames. Capitalist developers are keenly aware of the relative location of the site and judge its prospects for commercial development according to a logic of exchange relations. Its centrality and proximity to the command and control functions of Wall Street are important attributes and if transportation access can be improved in the course of reconstruction then so much the better since this can only add to land and property

values. For the developers the site does not merely exist *in* relative space-time: the re-engineering of the site offers the prospect of transforming relative space-time so as to enhance the commercial value of the absolute spaces (by improving access to airports for example). The temporal horizon would be dominated by considerations of the amortization rate and the interest/discount rate applying to fixed capital investments in the built environment.

But there would almost certainly be popular objections, led by the families of those killed at that site, to thinking and building only in these absolute or relative spatio-temporal terms. Whatever is built at this site has to say something about history and memory. There will likely also be pressures to say something about the meanings of community and nation as well as about future possibilities (perhaps even a prospect of eternal truths). Nor could the site ignore the issue of relational spatial connectivity to the rest of the world. Even capitalist developers would not be averse to combining their mundane commercial concerns with inspiring symbolic statements (emphasizing the power and indestructibility of the political-economic system of global capitalism that received such a body blow on 9/11) by erecting, say, a towering phallic symbol that spells defiance. They, too, seek expressive power in relational space-time. But there are all manner of relationalities to be explored. What will we know about those who attacked and how far will we connect? The site is and will have a relational presence in the world no matter what is built there and it is important to reflect on how this presencing works: will it be lived as a symbol of US arrogance or as a sign of global compassion and understanding? Taking up such matters requires that we embrace a relational conception of space-time.

If, as Benjamin has it, history (a relative temporal concept) is not the same as memory (a relational temporal concept) then we have a choice of whether to historicize the events of 9/11 or to seek to memorialize them. If the site is merely historicized in relative space (by a certain sort of monumentality) then this imposes a fixed narrative on the space. The effect will be to foreclose on future possibilities and interpretations. Such closure will tend to constrict the generative power to build a different future. Memory, on the other hand, is, according to Benjamin, a potentiality that can at times "flash up" uncontrollably

at times of crisis to reveal new possibilities.<sup>14</sup> The way the site might be lived by those who encounter it then becomes unpredictable and uncertain. Collective memory, a diffuse but nevertheless powerful sense that pervades many an urban scene, can play a significant role in animating political and social movements. Ground Zero cannot be anything other than a site of collective memory and the problem for the designers is to translate that diffuse sensibility into the absolute spaces of bricks, mortar, steel and glass. And if, as Balzac once put it, "hope is a memory that desires" then the creation of a "space of hope" on that spot requires that memory be internalized there at the same time as ways are left open for the expression of desire.<sup>15</sup>

The expressive relationality of Ground Zero in itself poses fascinating questions. The forces that converged over space to produce 9/11 were complex. How, then, can some accounting be given of these forces? Can something experienced as a local and personal tragedy be reconciled with an understanding of the international forces that were so powerfully condensed within those few shattering moments in a particular place? Will we get to feel in that space the widespread resentment in the rest of the world towards the way US hegemony was so selfishly being exercised throughout during the 1980s and 1990s? Will we get to know that the Reagan administration played a key role in creating and supporting the Taliban in Afghanistan in order to undermine the Soviet occupation and that Osama bin Laden turned from being an ally of the US into an enemy because of US support for the corrupt regime in Saudi Arabia? Or will we only learn of cowardly, alien and evil "others" out there who hated the US and sought to destroy it because of all it stood for in terms of the values of liberty and freedom? The relational spatio-temporality of the event and the site can be exhausted with enough dedicated digging. But the manner of its representation and of its materialization is uncertain. The outcome will clearly depend upon political struggle. And the fiercest battles will have to be fought over what relational space-time the rebuilding will invoke. These were the sorts of issues I encountered when I attempted to

14. W. Benjamin, *Illuminations* (New York: Schocken, 1968).

15. See D. Harvey, *Paris: Capital of Modernity* (New York: Routledge, 2003), chapter 1.

interpret the meaning of the Basilica of Sacre-Coeur in Paris against the background of the historical memory of the Paris Commune.

This brings me to some observations on the politics of the argument. Thinking through the different ways in which space and space-time get used as a key word helps define certain conditions of possibility for critical engagement. It also opens up ways to identify conflicting claims and alternative political possibilities. It invites us to consider the ways we physically shape our environment and the ways in which we both represent and get to live in it. I think it fair to say that the Marxist tradition has not been deeply engaged upon such issues and that this general failure (although there are, of course, numerous exceptions) has more often than not meant a loss of possibilities for certain kinds of transformative politics. If, for example, socialist realist art fails to capture the imagination and if the monumentality achieved under past communist regimes was so lacking in inspiration, if planned communities and communist cities often seem so dead to the world, then one way to engage critically with this problem would be to look at the modes of thinking about space and space-time and the unnecessarily limiting and constricting roles they may have played in socialist planning practices.

There has not been much explicit debate about such issues within the Marxist tradition. Yet Marx himself is a relational thinker. In revolutionary situations such as that of 1848 Marx worried that the past might weigh like a nightmare on the brain of the living and forthrightly posed the question as to how a revolutionary poetry of the future might be constructed then and there.<sup>16</sup> At that time he also pled with Cabot not to take his communist-minded followers to the new world. There, Marx averred, the Icarians would only re-plant the attitudes and beliefs internalized from out of the experience of the old. They should, Marx advised, stay as good communists in Europe and fight through the revolutionary transformation in that space, even though there was always the danger that a revolution made in "our little corner of the world" would fall victim to the global forces ranged around it.<sup>17</sup>

16. K. Marx, *The Eighteenth Brumaire of Louis Bonaparte* (New York: International Publishers, 1963).

17. Cited in L. Marin, *Utopias: A Spatial Play* (Atlantic Heights, N.J.: Humanities Press, 1984).

Lenin, plainly distressed at Mach's idealist mode of presentation, sought to reinforce the absolute and mechanistic views on space and time associated with Newton as the only proper materialist basis for scientific enquiry. He did so at the very time when Einstein was bringing relative, but equally materialist views of space-time into prominence. Lenin's strict line was to some degree softened by Lukacs's turn to a more pliable view of history and temporality. But Lukacs's constructivist views on the relation to nature were roundly rejected by Winfogel's assertion of a hard-headed materialism that morphed into environmental determinism. In the works of Thompson, Williams and others, on the other hand, we find different levels of appreciation, particularly of the temporal dimension though space and place are also omnipresent. In Williams' novel *People of the Black Mountains* the relationality of space-time is central. Williams uses it to bind the narrative together and directly emphasizes the different ways of knowing that come with different senses of space-time:

If lives and places were being seriously sought, a powerful attachment to lives and to places was entirely demanded. The polystyrene model and its textual and theoretical equivalents remained different from the substance they reconstructed and simulated . . . At his books and maps in the library, or in the house in the valley, there was a common history which could be translated anywhere, in a community of evidence and rational enquiry. Yet he had only to move on the mountains for a different kind of mind to assert itself; stubbornly native and local, yet reaching beyond to a wider common flow, where touch and breadth replaced record and analysis; not history as narrative but stories as lives.<sup>18</sup>

For Williams the relationality comes alive walking on the mountains. It centers a completely different sensibility and feeling than that constructed from the archive. Interestingly, it is only in his novels that Williams seems able to get at this problem. Within the Marxian tradition, with the exception of Lefebvre and the geographers, an

18. R. Williams, *People of the Black Mountains: The Beginnings* (London: Chatto and Windus, 1989) pp. 10-12.

expansive understanding of the problematics of space and time is missing. So how then can these perspectives on space and space-time become more closely integrated into our reading, interpretation, and use of Marxian theory? Let me lay aside all concern for caveats and nuances in order to present an argument in the starkest possible terms.

In the first chapter of *Capital*, Marx introduces three key concepts of use value, exchange value and value. Everything that pertains to use value lies in the province of absolute space and time (Figure 2). Individual workers, machines, commodities, factories, roads, houses and actual labor processes, expenditures of energy, and the like can all be individuated, described and understood within the Newtonian frame of absolute space and time. Everything that pertains to exchange value lies in relative space-time because exchange entails movements of commodities, money, capital, labor power and people over time and space. It is the circulation, the perpetual motion, that counts. Exchange, as Marx observes, therefore breaks through all barriers of space and time.<sup>19</sup> It perpetually reshapes the coordinates within which we live our daily lives. With the advent of money this "breaking through" defines an even grander and more fluid universe of exchange relations across the relative space-time of the world market (understood not as a thing but as continuous movement and interaction). The circulation and accumulation of capital occurs in relative space-time. Value is, however, a relational concept. Its referent is, therefore, relational space-time. Value, Marx states (somewhat surprisingly), is immaterial but objective. "Not an atom of matter enters into the objectivity of commodities of values." As a consequence, value does not "stalk about with a label describing what it is" but hides its relationality within the fetishism of commodities.<sup>20</sup> The only way we can approach it is via that peculiar world in which material relations are established between people (we relate to each other via what we produce and trade) and social relations are constructed between things (prices are set for what we produce and trade). Value is, in short, a social relation. As such, it is impossible to measure except by way of its effects (try measuring any

19. K. Marx, *Capital Vol 1* (New York: Viking Press, 1976) p. 209.

20. *Ibid.*, p. 138; p. 167.

social relation directly and you always fail). Value internalizes the whole historical geography of innumerable labor processes set up under conditions of or in relation to capital accumulation in the space-time of the world market. Many are surprised to find that Marx's most fundamental concept is "immaterial but objective" given the way he is usually depicted as a materialist for whom anything immaterial would be anathema. This relational definition of value, I note in passing, renders moot if not misplaced all those attempts to come up with some direct and essentialist measure of it. Social relations can only ever be measured by their effects.

If my characterization of the Marxian categories is correct, then this shows no priority can be accorded to any one spatio-temporal frame. The three spatio-temporal frames must be kept in dialectical tension with each other in exactly the same way that use value, exchange value and value dialectically intertwine within the Marxian theory. There would, for example, be no value in relational space-time without concrete labors constructed in innumerable places in absolute spaces and times. Nor would value emerge as an immaterial but objective power without the innumerable acts of exchange, the continuous circulation processes, that weld together the global market in relative space-time. Value is, then a social relation that internalizes the whole history and geography of concrete labors in the world market. It is expressive of the social (primarily but not exclusively class) relations of capitalism constructed on the world stage. It is crucial to mark the temporality involved, not only because of the significance of past "dead" labor (fixed capital including all of that embedded in built environments) but also because of all the traces of the history of proletarianization, of primitive accumulation, of technological developments that are internalized within the value form. Above all, we have to acknowledge the "historical and moral elements" that always enter into the determination of the value of labor power.<sup>21</sup> We then see Marx's theory working in a particular way. The spinner embeds value (i.e. abstract labor as a relational determination) in the cloth by performing concrete labor in absolute space and time.

21. *Ibid.*, p. 275.



Figure 2 A matrix of spatialities for Marxian theory

The objective power of the value relation is registered when the spinner is forced to give up making the cloth and the factory falls silent because conditions in the world market are such as to make this activity in that particular absolute space and time valueless. While all of this may seem obvious, the failure to acknowledge the interplay entailed between the different spatio-temporal frames in Marxian theory often produces conceptual confusion. Much discussion of so-called "global-local relations" has become a conceptual muddle, for example, because of the inability to understand the different spatio-temporalities involved. We cannot say that the value relation causes the factory to close down as if it is some external abstract force. It is the changing concrete conditions of labor in China when mediated through exchange processes in relative space time that transforms value as a social relation in such a way as to bring the concrete labor process in Mexico to closure.

So far, I have largely confined attention to a dialectical reading of Marxian theory down the left hand column of the matrix. What happens when I start to read across the matrix instead? The materiality of use values and concrete labors is obvious enough. But how can this be represented and conceived? Physical descriptions are easy to produce but Marx insists that the social relations under which work is performed are critical also. Under capitalism the wage laborer is conceptualized (second column) as a producer of surplus value for the capitalist and this is represented as a relation of exploitation. This implies that the labor process is lived (third column) as alienation. Under different social relations, e.g. those of socialism, work could be lived as creative satisfaction and conceptualized as self-realization through collective endeavors. It may not even have to change materially in order for it to be reconceptualized and lived in a quite different way. This was, after all, Lenin's hope when he advocated the adoption of Fordism in Soviet factories. Fourier, for his part, thought that work should be about play and the expression of desire and be lived as sublime joy and for that to happen the material qualities of work processes would need to be radically restructured. At this point we have to acknowledge a variety of competing possibilities. In his book *Manufacturing Consent*, for example, Burawoy found that the workers

in the factory he studied did not generally experience work as alienation.<sup>22</sup> This arose because they smothered the idea of exploitation by turning the workplace into a site for role and game-playing (Fourier style). The labor process was performed by the workers in such a way as to permit them to live the process in a non-alienated way. There are some advantages for capital in this, since unalienated workers often work more efficiently. Capitalists have therefore acceded to various measures, such as caisteries, quality circles, and the like, to try to reduce alienation and to emphasize incorporation. They have also produced alternative conceptualizations that emphasize the rewards of hard work and produce ideologies to negate the theory of exploitation. While the Marxian theory of exploitation may be formally correct, therefore, it does not always or necessarily translate into alienation and political resistance. Much depends on how it is conceptualized. The consequences for political consciousness and working class action are wide-ranging. Part of class struggle is therefore about driving home the significance of exploitation as the proper conceptualization of how concrete labors are accomplished under capitalist social relations. Again, it is the dialectical tension between the material, the conceived and the lived that really matters. If we treat the tensions in a mechanical way then we are lost.

While working through matters in this way is helpful, I earlier argued that the "matrix thinking" offers limited opportunities unless we are prepared to range freely and dialectically over all the moments of the matrix simultaneously. Let me give an example. The primary form of representation of value is through money. This too is an immaterial concept with objective power but it must also take on material form as an actual use value. This it does in the first instance through the emergence of the money commodity (e.g. gold). The emergence occurs, however, through acts of exchange in relative space-time and it is this that allows tangible money forms to become an active presence in absolute space and time. This creates the paradox that a particular material use value (such as gold or a dollar bill) has to represent the universality of value, of abstract

22. M. Burawoy, *Manufacturing Consent: Changes in the Labor Process Under Monopoly Capitalism* (Chicago: Chicago University Press, 1982).

labor. It further implies that social power can be appropriated by private persons and from this the very possibility of money as capital placed in circulation in relative space-time arises. There are, as Marx points out, many antinomies, antitheses and contradictions in how money is created, conceptualized, circulated, and used as both a tangible means of circulation and a representation of value on the world market. Precisely because value is immaterial and objective, money always combines fictitious qualities with tangible forms. It is subject to that reversal Marx describes in the fetishism of commodities such that material relations arise between people and social relations are registered between things. Money as an object of desire and as an object of neurotic contemplation imprisons us in fetishisms while the inherent contradictions in the money form inevitably produce not only the possibility but also the inevitability of capitalist crises. Money anxieties are frequently with us and have their own spatio-temporal locations (the impoverished child that pauses before the vast panoply of capitalist commodities perpetually beyond reach in the window of the store). The spectacles of consumption that litter the landscape in absolute space and time can generate senses of relative deprivation. We are surrounded at every turn with manifestations of the fetish desire for money power as the representation of value on the world market.

For those unfamiliar with Marxian theory, this will all doubtless appear rather mysterious. The point, however, is to illustrate how theoretical work (and I would like to suggest this should be true of all social, literary and cultural theory) invariably and necessarily entails at the very minimum moving dialectically across all points within the matrix and then beyond. The more we move the greater the depth and range of our understandings. There are no discrete and closed boxes in this system. The dialectical tensions must not only be kept intact. They must be continuously expanded.

I end, however, with some cautionary remarks. In recent years many academics, including geographers, have embraced relational concepts and ways of thinking (though not very explicitly with respect to those of space-time). This move, as crucial as it is laudable, has to some degree been associated with the cultural and postmodern turn. But in the same way that traditional and positivist geography limited its vision

by concentrating exclusively on the absolute and relative and upon the material and conceptual aspects of space-time (eschewing the lived and the relational), so there is a serious danger of dwelling only upon the relational and lived as if the material and absolute did not matter. Staying exclusively in the lower right part of the matrix can be just as misleading, limiting and stultifying as confining one's vision to the upper left. The only strategy that really works is to keep the tension moving dialectically across all positions in the matrix. This is what allows us to better understand how relational meanings (such as value) are internalized in material things, events and practices (such as concrete labor processes) constructed in absolute space and time. We can, to take another example, debate interminably all manner of ideas and designs expressive of the relationality of Ground Zero, but at some point something has to be materialized in absolute space and time. Once built, the site acquires a "permanence" (Whitehead's term) of physical form. And while it is always open to reconceptualize the meaning of that material form so that people can learn to live it differently, the sheer materiality of construction in absolute space and time carries its own weight and authority. By the same token, political movements that aspire to exercise some power in the world remain ineffectual until they assert a material presence. It is all fine and good, for example, to evoke relational conceptions such as the proletariat in motion or the multitude rising up. But no one knows what any of that means until real bodies go into the absolute spaces of the streets of Seattle, Quebec City and Genoa at a particular moment in absolute time. Rights, Don Mitchell perceptively observes, mean nothing without the ability to concretize them in absolute space and time:

If the right to the city is a cry and a demand, then it is only a cry that is heard and a demand that has force to the degree that there is a space from and within which this cry and demand is visible. In public space – on street corners or in parks, in the streets during riots and demonstrations – political organizations can represent themselves to a larger population and through this representation give their cries and demands some force. By claiming space in public, by creating public spaces, social groups themselves become public.

