

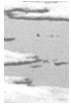
Part Two

Unpromising associations

Henri Lefebvre points out in the opening arguments of *The production of space* (1991) that we often use that word 'space', in popular discourse or in academic, without being fully conscious of what we mean by it. We have inherited an imagination so deeply ingrained that it is often not actively thought. Based on assumptions no longer recognised as such, it is an imagination with the implacable force of the patently obvious. That is the trouble.

That implicit imagination is fed by all kinds of influences. In many cases they are, I want to argue, unpromising associations which connotationally deprive space of its most challenging characteristics. The influences to be addressed in this Part derive from philosophical writings in the broadest sense of that term. Part *Three* will take up more practical-popular and social-theoretical understandings of space, particularly in the context of the politics of modernity and capitalist globalisation. The aim of both Parts is to unearth some of the influences on hegemonic imaginations of 'space'. What follows immediately, then, is an attempt to draw out some particular threads of argument which exemplify ways in which space can come, through significant philosophical discourses, to have associated with it characteristics which, to my mind at least, disable its full insertion into the political. This is not a book about philosophy; the arguments here are particular and focus solely on how some commonly accepted positions, even if not directly concerned with space, have reverberations none the less for the way in which we imagine it. The particular philosophical strands addressed here serve as exemplars. They revolve around Henri Bergson, structuralism and deconstruction: a selection made both because of their significance as strands of thought and because in their wider arguments they have, in different ways, much to offer the kind of project this book is engaged in. In other words, they are engaged with because of their promise rather than their problems.

None of these philosophers has the reconceptualisation of space as their objective. Most often, and in the context of wider debates, temporality is a more pressing concern. Over and over again space is conceptualised as (or, rather, assumed to be) simply the negative opposite of time. It is indeed, I want to argue, in part that



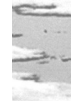
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lacuna in relation to actively thinking about space, and the contradictions which thereby arise, that can provide a hint of how to breach the apparent limits of some of the arguments as they now stand. One theme is that time and space must be thought together: that this is not some mere rhetorical flourish, but that it influences how we think of both terms; that thinking of time and space together does not mean they are identical (for instance in some undifferentiated four-dimensionality), rather it means that the imagination of one will have repercussions (not always followed through) for the imagination of the other and that space and time are implicated in each other; that it opens up some problems which have heretofore seemed (logically, intractably) insoluble; and that it has reverberations for thinking about politics and the spatial. Thinking about history and temporality necessarily has implications (whether we recognise them or not) for how we imagine the spatial. The counterpositional labelling of phenomena as temporal or spatial, and entailing all the baggage of the reduction of space to the a-political sphere of causal closure or the reactionary redoubts of established power, continues to this day.

The prime aims of the philosophies explored were largely in tune with the arguments presented in this book. I cheer on Bergson in his arguments about time, approve of structuralism's determination not to let geography be turned into history, applaud Laclau's insistence on the intimate connection between dislocation and the possibility of politics ... It's just when they get to talking about space that I find myself rebuffed. Puzzled by the lack of explicit attention they give, irritated by their assumptions, confused by a kind of double usage (where space is both the great 'out there' and the term of choice for characterisations of representation, or of ideological closure), and, finally, pleased sometimes to find the loose ends (their own internal dislocations) which make possible the unravelling of those assumptions and double usages and which, in turn, provokes a reimagining of space which might be not just more to my liking, but also more in tune with the spirit of their own enquiries.

There is one distinction which ought to be made from the outset. It has been argued that, at least in recent centuries, space has been held in less esteem, and has been accorded less attention, than has time (within geography, Ed Soja (1989) has made this argument with force). It is often termed the 'prioritisation of time over space' and it has been remarked on and taken to task by many. It is not, however, my concern here. What I am concerned with is the *way* we imagine space. Sometimes the problematical character of this imagination does indeed perhaps result from deprioritisation – the conceptualisation of space as an afterthought, as a residual of time. Yet the early structuralist thinkers can by no means be said to have prioritised time and still, or so I shall argue, the effect of their approach was a highly problematical imagination of space.

Moreover, the excavation of these problematical conceptualisations of space (as static, closed, immobile, as the opposite of time) brings to light other sets of connections, to science, writing and representation, to issues of subjectivity and its

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conception, in all of which implicit imaginations of space have played an important role. And these entwinings are in turn related to the fact that space has so often been excluded from, or inadequately conceptualised in relation to, and has thereby debilitated our conceptions of, politics and the political.

What follows is an engagement with some of those debilitating associations. Each of these strands of philosophy has developed in particular historico-geographical conjunctures. They themselves have been interventions in something already moving. Sometimes what is at issue is disentangling them in some measure from the orientations provoked by their moments, the debates of which they were a part. Reorienting them to my own concerns can produce new lines of thought from them. Sometimes what is at issue is pushing them further. The effect in the end, I hope, is to liberate 'space' from some chains of meaning (which embed it with *closure* and *stasis*, or with *science*, *writing* and *representation*) and which have all but choked it to death, in order to set it into other chains (in this chapter alongside *openness*, and *heterogeneity*, and *liveliness*) where it can have a new and more productive life.



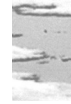
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space/representation

There is an idea with such a long and illustrious history that it has come to acquire the status of an unquestioned nostrum: this is the idea that there is an association between the spatial and the fixation of meaning. Representation – indeed conceptualisation – has been conceived of as spatialisation. The various authors who will figure in this chapter have come to this position along different routes, but almost all of them subscribe to it. Moreover, though the reference is to ‘spatialisation’, there is in all cases slippage; it is not just that representation is equated with spatialisation but that the characteristics thus derived have come to be attributed to space itself. Moreover, though the further development of these philosophical positions implies almost always quite another understanding of what space might be, none of them pause very long either explicitly to develop this alternative or to explore the curious fact that this other (and more mobile, flexible, open, lively) view of space stands in such flat opposition to their equally certain association of representation with space. It is an old association; over and over we tame the spatial into the textual and the conceptual; into representation.

Of course, the argument is usually quite the opposite: that through representation we spatialise time. It is space which is said thereby to tame the temporal.

Henri Bergson’s is one of the most complex and definitive of these philosophical positions. For him, the burning concern was with temporality, with ‘duration’; with a commitment to the experience of time and to resisting the evisceration of its internal continuity, flow and movement. It is an attitude which strikes chords today. In *Bergsonism*, Deleuze (1988) denounces what he sees as our exclusive preoccupation with extended magnitudes at the expense of intensities. As Boundas (1996, p. 85) expands this, the impatience is with our over-insistent focus on the discrete at the expense of continua, things at the expense of processes, recognition at the expense of encounter, results at the expense of tendencies ... (and lots more besides). Every argument being proposed in this book would support such an endeavour. A reimagination of things as processes is necessary (and indeed now widely accepted) for the reconceptualisation of places in a way that might challenge exclusivist localisms based on claims of some eternal authenticity. Instead of things as

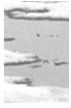


pregiven discrete entities, there is now a move towards recognising the continuous becoming which is in the nature of their being. Newness, then, and creativity, is an essential characteristic of temporality. And in *Time and free will* (1910), Bergson plunges straight in to an engagement with psychophysics and the science of his day, wielding an argument that this intellectualisation was taking the life out of experience. By conceptualising, by dividing it up, by writing it down, it was obliterating that vital element of life itself.

To address the problem he worked through a distinction between different kinds of multiplicities. For both Bergson and Deleuze, whom Boundas (1996) rolls together, in relation to this discussion, as Deleuze–Bergson, are engaged over the meanings of ‘difference’ and ‘multiplicity’. For them there is an important distinction between *discrete* difference/multiplicity (which refers to extended magnitudes and distinct entities, the realm of diversity) and *continuous* difference/multiplicity (which refers to intensities, and to evolution rather than succession). The former is divided up, a dimension of separation; the latter is a continuum, a multiplicity of fusion. Both Bergson and Deleuze are in battle to instate the significance, indeed the philosophical primacy, of the second (continuous) form of difference over the first (the discrete) form. What is at issue is an insistence on the genuine openness of history, of the future. For Bergson, change (which he equated with temporality) implies real novelty, the production of the really new, of things not already totally determined by the current arrangement of forces. Once again, then, there is a real coincidence of desires with the argument of this book. For the burden of the third proposition of this book is precisely to argue not just for a notion of ‘becoming’, but for the openness of that process of becoming.

However, Bergson’s overwhelming concern with time, and his desire to argue for its openness, turned out to have devastating consequences for the way he conceptualised space. This has often been attributed to a classic (modernist?) prioritisation of time. Indeed Soja (1989) argues that Bergson was one of the most forceful instigators of a more general devaluation and subordination of space relative to time which took place during the second half of the nineteenth century (see also Gross, 1981–2). And the classic recantation by Foucault of the long history of the denigration of space, begins: ‘Did it start with Bergson, or before?’ (Foucault, 1980, p. 70). The problem however runs more deeply than simple prioritisation. Rather, it is a question of the mode of conceptualisation. It is not so much that Bergson ‘deprioritised’ space, as that *in the association of it with representation* it was deprived of dynamism, and radically counterposed to time. Thus:

Has true duration anything to do with space? Certainly, our analysis of the idea of number [which he has just been discussing] could not but make us doubt this analogy, to say no more. For if time, as the reflective consciousness represents it, is a medium in which our conscious states form a discrete series so as to admit of being counted, and if on the other hand our conception of number ends in spreading out in space everything which can be directly counted, it is to be



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presumed that time, understood in the sense of a medium in which we make distinctions and count, is nothing but space. That which goes to confirm this opinion is that we are compelled to borrow from space the images by which we describe what the reflective consciousness feels about time and even about succession; it follows that pure duration must be something different. Such are the questions which we have been led to ask by the very analysis of the notion of discrete multiplicity. But we cannot throw any light upon them except by a direct study of the ideas of space and time in their mutual relations. (1910, p. 91)

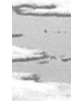
One of the crucial provocations for Bergson, and a constant reference point, is Zeno's paradox. The message which the paradox is used to hammer home is that movement (a continuum) cannot be broken up into discrete instants. 'It is ... because the continuum cannot be reduced to an aggregate of points that movement cannot be reduced to what is static. Continua and movements imply one another' (Boundas, 1996, p. 84). This is an important argument but it is an argument about the nature of *time*, about the impossibility of reducing real movement/becoming to stasis multiplied by infinity; the impossibility of deriving history from a succession of slices through time (see also Massey, 1997a).

However the line of thought gets tangled up with an idea (inadvertent? certainly not very explicit) of space. Thus, in *Matter and Memory* (Bergson, 1911) we find:

The arguments of Zeno of Elea have no other origin than this illusion. They all consist in making time and movement coincide with the line which underlies them, in attributing to them the same subdivisions as to the line, in short in treating them like that line. In this confusion Zeno was encouraged by common sense, which usually carries over to the movement the properties of its trajectory, and also by language, which always translates movement and duration in terms of space. (p. 250)

The rejected time of instantaneous time-slices attracts the label 'spatial', as in: what is at stake for Bergson–Deleuze is 'the primacy of the heterogeneous time of [temporal] difference over the spatialized time of metrication with its quantitative segments and instants' (Boundas, 1996, p. 92). Immediately this association renders space in a negative light (as the lack of 'movement and duration'). And so, to the list of dualisms within which these philosophies are doing combat (continua rather than discontinuities, processes rather than things...) is added time rather than space (p. 85).

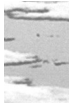
Now these arguments have taken flight in particular situations. One dragon that had to be vanquished (but which is still around today) was empty time. Empty, divided and reversible time in which nothing changes; where there is no evolution but merely succession; a time of a multiplicity of discrete things. Bergson's concern was that time is too often conceptualised in the same manner as space (as a discrete multiplicity). We misunderstand the nature of duration, he argued, when we 'spatialize' it – when we think of it as a fourth dimension



of extension. (There is here a prescient critique of an over-easy tendency to talk of space-time, or of four-dimensionality, without investigating the nature of the integration of dimensions which is at issue.) The nature of the dragon provoked the form of the response. The instantaneous slice through time was assumed to be static, as it is in the form in which it is invoked in Zeno's paradox. It was then awarded the label 'spatial'. And finally it was argued: anyway, if there is to be real becoming (the genuine continuous production of the new), then such supposedly static slices through time must be impossible. Static time-slices, even multiplied to infinity, cannot produce becoming.

However, the argument can be turned around. Does not the argument in the form just recounted imply that the 'space' which comes to be defined, *via* a connotational connection with representation, must likewise be impossible? Does it not rather mean that space itself (the dimension of a discrete multiplicity) can precisely *not* be a static slice through time? With that kind of space it would indeed be impossible to have history as becoming. In other words, not only can time *not* be sliced up (transforming it from a continuous to a discrete multiplicity) but even the argument that this is *not* possible should not refer to the result as space. The slide here from spatialisation as an activity to space as a dimension is crucial. Representation is seen to take on aspects of *spatialisation* in the latter's action of setting things down side by side; of laying them out as a discrete simultaneity. But representation is also in this argument understood as fixing things, taking the time out of them. The equation of spatialisation with the production of 'space' thus lends to space not only the character of a discrete multiplicity but also the characteristic of stasis.

Space, then, is characterised as the dimension of quantitative divisibility (see, for instance, *Matter and Memory*, 1911, pp. 246–53). This is fundamental to the notion that representation is spatialisation: 'Movement visibly consists in passing from one point to another, and consequently in traversing space. Now the space which is traversed is infinitely divisible; and as the movement is, so to speak, applied to the line along which it passes, it appears to be one with this line and, like it, divisible' (p. 248). This character of space as the dimension of plurality, discrete multiplicity, is important, both conceptually and politically. But in Bergson's formulation here it is a discrete multiplicity *without duration*. It is not only instantaneous it is static. Thus, 'we cannot make movement out of immobilities, nor time out of space' (*Time and Free Will*, 1910, p. 115). From a number of angles, this proposition will be questioned in the argument which follows. In *Matter and Memory* Bergson writes 'The fundamental illusion consists in transferring to duration itself, in its continuous flow, the form of the instantaneous sections which we make in it' (1911, p. 193). In its intent I applaud this argument; but I would demur at its terms. Why can we not imbue these instantaneous sections with their own vital quality of duration? A dynamic simultaneity would be a conception quite different from a frozen instant (Massey, 1992a). (And then, if we persisted in the nomenclature of 'spatial' we could



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indeed 'make time out of space' – save that we would not have started from such a counterpositional definition in the first place.) On the one hand, this throws doubt upon the use of the word 'space' in the foregoing quotations from Bergson; on the other hand, however, it shows that the very impetus of his argument provides a further step, a questioning of the use of the term space itself. It is a questioning already implicit in Bergson's argument, even in these earlier works.

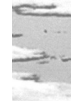
The problem is that the connotational characterisation of space through representation, as not only discrete but also without life, has proved strong. Thus, Gross (1981–2) writes of Bergson as arguing that 'the rational mind merely spatialises', and that he conceptualised scientific activity in terms of 'the immobilising (spatial) categories of the intellect':

For Bergson, the mind is by definition spatially oriented. But everything creative, expansive and teeming with energy is *not*. Hence, the intellect can never help us reach what is essential because it kills and fragments all that it touches ... We must, Bergson concluded, break out of the spatialisation imposed by mind in order to regain contact with the core of the truly living, which subsists only in the time dimension ... (pp. 62, 66; emphasis in the original)

As Deleuze (1988) persistently points out, this is to load the cards. Space and time here are not two equal but opposing tendencies; everything is stacked on the side of duration. This 'principal Bergsonian division: that between duration and space' (p. 31) provides its own way forward through its very imbalance. 'In Bergsonism, the difficulty seems to disappear. For by dividing the composite according to two tendencies, with only one showing the way in which a thing varies qualitatively in time, Bergson effectively gives himself the means of choosing the "right side" in each case' (p. 32).

In *Creative evolution* (Bergson, 1911/1975), the distinction between spatialisation and space is made effective. While retaining the equation between intellectualisation and spatialisation ('The more consciousness is intellectualized, the more is matter spatialized', p. 207), Bergson came to recognise also, at first in the form of a question, the duration in external things and this in turn pointed to a radical change in the potential conceptualisation of space. That recognition of the duration in external things and thus the interpenetration, though not the equivalence, of space and time is an important aspect of the argument in this book. It is what I am calling space as the dimension of multiple trajectories, a simultaneity of stories-so-far. Space as the dimension of a multiplicity of durations. The problem has been that the old chain of meaning – space–representation–stasis – continues to wield its power. The legacy lingers on.





Thus, for Ernesto Laclau (1990) the development of the argument is rather different from Bergson's but the conclusion is similar: 'space' is equivalent to representation which in turn is equivalent to ideological closure.¹ For Laclau spatialisation is equivalent to hegemonisation: the production of an ideological closure, a picture of the essentially dislocated world as somehow coherent. Thus:

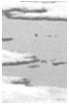
any representation of a dislocation involves its spatialization. The way to overcome the temporal, traumatic and unrepresentable nature of dislocation is to construct it as a moment in permanent structural relation with other moments, in which case the pure temporality of the 'event' is eliminated ... this spatial domesticization of time ... (p. 72)²

Laclau equates 'the crisis of all spatiality' (as a result of the assertion of dislocation's constitutive nature) with 'the ultimate impossibility of all representation' (p. 78) ... 'dislocation destroys all space and, as a result, the very possibility of representation' (p. 79), and so on. The pointers towards a potential reformulation are evident and exciting (if all space is destroyed...?), but they are not followed up, and the assumption of an equivalence between space and representation is unequivocal and insisted-upon.

In contrast yet again to Laclau, who rather tends just to *assume* that representation is spatialisation, de Certeau, who holds the same position, spells out in some detail his reasons why. They are very similar to Bergson's. For de Certeau, the emergence of writing (as distinct from orality) and of modern scientific method involved precisely the obliteration of temporal dynamic, the creation of a blank space (*un espace propre*) both of the object of knowledge and as a place for inscription, and the act of writing (on that space). These three processes are intimately associated. Narratives, stories, trajectories are all suppressed in the emergence of science as the writing of the world. And that process of writing, more generally of making a mark upon the blank space of a page, is what removes the dynamism of 'real life'. Thus, in his attempt, which is really the whole burden of his book, to invent ways of recapturing those narratives and stories (precisely to bring them back into some form of produced 'knowledge') he ruminates upon whether or not to use the word 'trajectory'. The term, he thinks,

suggests a movement, but it also involves a plane projection, a flattening out. It is a transcription. A graph (which the eye can master) is substituted for an operation; a line which can be reversed (i.e. read in both directions) does duty for an irreversible temporal series, a tracing for acts. To avoid this reduction, I resort to a distinction between *tactics* and *strategies*. (de Certeau, 1984, p. xviii-xix; emphasis in the original)

Now, this association of scientific writing with assumptions of reversibility, and a desire to hang out for irreversibility, harks back to the engagements which Bergson had with the science of his day. Science-writing takes the life out of



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processes, and renders them reversible; whereas real life is irreversible. A first reflection on this will be explored later: that we should no longer be fighting that battle against 'science' – both because Science is not a source of unimpugnable truth (though it is most certainly a powerful discourse), and because there are now plenty of scientists who would anyway no longer hold this position.

De Certeau continues:

However useful this 'flattening out' may be, it transforms the *temporal* articulation of places into a *spatial* sequence of points. (p. 35; emphasis in the original)

Moreover, the distinction de Certeau makes is once again related directly and explicitly to representation:

... the occasion – that indiscreet instant, that poison – has been controlled by the spatialization of [i.e. by] scientific discourse. As the constitution of a proper place, scientific writing ceaselessly reduces time, that fugitive element, to the normality of an observable and readable system. In this way, surprises are averted. Proper maintenance of the place eliminates these criminal tricks. (p. 89)

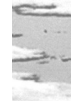
And finally he writes of:

... the (voracious) property that the geographical system has of being able to transform action into legibility, but in doing so it causes a way of being in the world to be forgotten. (p. 97)

Ironically, it is on the basis of this argument that de Certeau decides against the use of the term 'trajectory' and instead resorts to a distinction between tactics and strategy which cements into place precisely the dualism (including between space and time) with which the rest of the book is struggling.³

One way and another, then, all of these authors equate space and representation. It is a remarkably pervasive and unquestioned assumption, and it does indeed have an intuitive obviousness. But as already indicated perhaps this equation of representation and spatialisation is *not* something which should be taken for granted. At the very least its implacability and its repercussions might be disturbed. It is an extraordinarily important move. For what it does is to associate the spatial with stabilisation. Guilt by association. Spatial layout as a way of containing the temporal – both its terrors and its creative delights. Spatialisation, on this view, flattens the life out of time. I want, through the course of this book, to build an argument which will come to a very different conclusion.

To begin with, note that there are two things going on here: first, the argument that representation necessarily fixes, and therefore deadens and detracts from, the flow of life; and second, that the product of this process of deadening is space. The first proposition I would not entirely dispute, although the form in which it is customarily couched is presently being modified. However, it



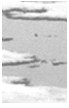
seems to me that there is no case at all for the second proposition: that there is an equivalence between space and representation. It is one of those accepted things that are by now so deeply embedded that they are rarely if ever questioned. Let us, then, question it.

In order to ground the discussion, it is necessary to establish some preliminary points.

First, it is important in itself to recognise that this way of thinking has a history. It derives, as do all positions, from social embeddedness and intellectual/scientific engagement. From the very earliest days of Western philosophy the capturing of time in a sequence of numbers has been thought of as its spatialisation. The appeal of this has already been acknowledged. The problem lies in the movement from spatialisation to characterisations of space. Citations tracing the persistence of that imagination could be numerous, and tedious. Perhaps just one, to give the essence of the case: Whitehead (1927/1985) writes of 'the presentational immediacy' of space which 'enables space to speak for the less accessible dimension of time, with differences in space being used as a surrogate for differences in time' (pp. 21–3). I shall suggest that one route of development for this now-hegemonic equation of space and representation may thread its way through nineteenth-century and early twentieth-century battles over the meaning of time. This is not, of course, in any way to 'criticise': such embeddedness is inevitable. It is merely to emphasise that this intellectual position is the product of a process: it is not somehow self-evident.

Second, even if we agree that representation indeed fixes and stabilises (though see below), what it so stabilises is not simply time, but space-time. Laclau writes of 'history's ultimate unrepresentability' (1990, p. 84; my emphasis), but what is really unrepresentable is not history conceived of as temporality but time-space (history/geography if you like). Indeed, two pages earlier he both half-recognises this (by referring to 'society') but then blows it by his use of space-terminology: 'Society, then, is ultimately unrepresentable: any representation – and thus any space – is an attempt to constitute society, not to state what it is' (p. 82). It would be better to recognise that 'society' is both temporal and spatial, and to drop entirely that definition of representation as space. What is at issue, in the production of representations, is not the spatialisation of time (understood as the rendering of time as space), but the representation of time-space. What we conceptualise (divide up into organs, put it how you will) is not just time but space-time. In the arguments of Bergson and de Certeau too the issue is formulated as though the lively world which is there to be represented (conceptualised/written down) is only temporal. It certainly *is* temporal; but it is spatial too. And 'representation' is an attempt to capture both aspects of that world.

Third, it is easy to see how representation can be understood as a form of spatialisation. That business of laying things out side by side; indeed the production of a simultaneity, a discrete multiplicity. (On this basis space would also be easy to represent, if that were merely what space was.) So Bergson

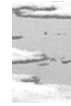


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writes of substituting the path for the journey, de Certeau of substituting a tracing for acts. But consider. In de Certeau's formulation, a tracing is itself a representation; it is not 'space'. The map is not the territory. Alternatively, what Bergson writes is: 'You substitute the path for the journey, and because the journey is subtended by the path you think the two coincide' (1911, p. 248). We may, here, though it is set within a wider discussion of representation, take the path to be a real path (not a representation/conceptualisation). It is not the map; it is the territory itself. But then a territory is integrally spatio-temporal. The path is not a static instantaneity. Indeed, we can now draw out Laclau's own conclusions. All space, he writes as we have seen, is dislocated. A first consequence is Laclau's own point: that there is a crisis of representation (in the sense that it must be recognised as constitutive rather than mimetic). But a second consequence is that space itself, the space of the world, far from being equivalent to representation, must be *unrepresentable* in that latter, mimetic, sense.

This historically significant way of imagining space/spatialisation not only derives from an assumption that space is to be defined as a lack of temporality (holding time still) but also has contributed substantially to its continuing to be thought of in that way. It has reinforced the imagination of the spatial as petrification and as a safe haven from the temporal, and – in the images which it almost inevitably invokes of the flat horizontality of the page – it further makes 'self-evident' the notion of space as a surface. All these imaginaries not only diminish our understanding of spatiality but, through that, they even make more difficult the project which was central to all of these authors: that of opening up temporality itself.

Now, there have in recent years been challenges both to representation as any kind of 'mirror of nature' (Rorty, 1979; and many others) and as an attempt to de-temporalise. On the latter, Deleuze and Guattari, for instance, argue that a concept should express an event, a happening, rather than a de-temporalised essence and (drawing indeed on Bergson) argue against any notion of a tripartite division between reality, representation and subjectivity. Here what we might have called representation is no longer a process of fixing, but an element in a continuous production; a part of it all, and itself constantly becoming. This is a position which rejects a strict separation between world and text and which understands scientific activity as being just that – an activity, a practice, an embedded engagement *in* the world of which it is a part. Not representation but experimentation. It is an argument which has been made by many (for instance Ingold, 1993; Thrift, 1996) across a range of disciplines. Together with the notion of the text/representation as itself an open disseminatory network, it at least begins to question the understanding of scientific practice as representation-as-stabilisation in that sense. The geographers Natter and Jones (1993) trace parallels between the histories of representation and space, suggesting that the post-structuralist critique of representation-as-mirror could be re-enacted as a parallel critique of space. As the text has been destabilised in



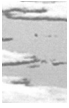
literary theory so space might be destabilised in geography (and indeed in wider social theory).

The issue is complex, however. For if scientific/intellectual activity is indeed to be understood as an active and productive engagement in/of the world it is none the less a *particular kind* of practice, a specific form of engagement/production in which it is hard to deny (to absolve ourselves from the responsibility for?) *any* element of representation (see also Latour, 1999b; Stengers, 1997), even if it is, quite certainly, productive and experimental rather than simply mimetic, and an embodied knowledge rather than a mediation. It does not, however, have to be conceived of as producing a space, nor its characteristics carried over to inflect our implicit imaginations of space. For to do so is to rob space of those characteristics of freedom (Bergson), dislocation (Laclau) and surprise (de Certeau) which are essential to open it up to the political.



It is peculiar that space is so widely imagined as 'conquering time'. It seems in general to be perceived that space is somehow a lesser dimension than time: one with less gravitas and magnificence, it is the material/phenomenal rather than the abstract; it is being rather than becoming and so forth; and it is feminine rather than masculine (see, for instance, Bondi, 1990; Massey, 1992a; Rose, 1993). It is the subordinated category, almost the residual category, the not-A to time's A, counterpositionally defined simply by a lack of temporality, and widely seen as, within modernity, having suffered from de-prioritisation in relation to time.

And yet this denigrated dimension is so often seen as conquering time. For Laclau, 'Through dislocation time is overcome by space. But while we can speak of the hegemonization of time by space (through repetition), it must be emphasized that the opposite is not possible: time cannot hegemonize anything, since it is a pure effect of dislocation' (1990, p. 42). For de Certeau, 'the "proper" is a victory of space over time' (1984, p. xix). The victory is of course one of 'representation' over 'reality', of stabilisation over life, where space is equated with representation and stabilisation (and therefore time, one is forced to presume, with reality and life). The language of victory reinforces an imagination of enmity between the two. But life is spatial as well as temporal. Walker (1993), writing of international relations theory, argues that 'modern accounts of history and temporality have been guided by attempts to capture the passing moment within a spatial order' (pp. 4-5). He points to that 'fixing of temporality within spatial categories that has been so crucial in the construction of the most influential traditions of Western philosophy and socio-political thought' (p. 4). Likewise in anthropology Fabian (1983) has developed at length an argument that a core, and debilitating, assumption of that discipline has been its spatialisation of time: 'the temporal discourse of



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anthropology as it was formed decisively under the paradigm of evolutionism rested on a conception of Time that was not only secularized and naturalized but also thoroughly spatialized' (p. 16).

Thus the supposedly weaker term of a dualism obliterates the positive characteristics of the stronger one, the privileged signifier. And it does this through the conflation of the spatial with representation. Space conquers time by being set up as the *representation of history/life/the real world*. On this reading space is an order imposed upon the inherent life of the real. (Spatial) order obliterates (temporal) dislocation. Spatial immobility quietens temporal becoming. It is, though, the most dismal of pyrrhic victories. For in the very moment of its conquering triumph 'space' is reduced to stasis. The very life, and certainly the politics, are taken out of it.

(A reliance on science? 1)

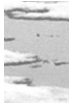
Sotto voce through much of that story of the connotational connection of representation with space has run another thread: that of the relationship between this connection and conceptualisations of 'science'.

The most evident relationship is where 'science' stands for the whole process of representation (the trace rather than the journey), and thus in fact for intellectual knowledge in general. The whole business of conceptualisation; the intellectual rather than the lived or the intuitive.

But the engagement with science was also more immediately and specifically with the natural sciences. Bergson's practice, in particular, had deep roots in the historical development of the natural sciences and in their complex relationship with philosophy. Time and free will plunges straight in as Bergson does battle with the ascendant psychophysics of his day. It is clearly that which has provoked him, motivated him into his present argument. And there were other wrestlings, too, with Riemann over the nature of multiplicities, and most famously over the implications of the new relativity theory. In other words, the definition of space was caught up in the broader dialogue between the 'natural' and 'human' sciences. That was one of the encounters through which 'space' became sedimented into a particular chain of meanings. It is true once again today: people reach to the natural sciences in their efforts to conceptualise the new spaces of our times. Bergson's story, however, points to some of the difficulties of that strategy.

Bergson's concern was with the nature of time; through 'duration' he was emphasising its continuity, its irreversibility, its openness. However, as Prigogine and Stengers (1984) document, the development of science (and in particular physics) from Newton through to and including Einstein and (some versions of) quantum mechanics operates with a notion of reversible time. Processes are reversible and there is no meaningful distinction between past and future. There have been arguments, both within science and between 'science' (in that specific form) and its doubters, but the notion of the non-reversibility of time was a hard one to establish. Timeless processes do not generate a notion of open historical time. Behind that powerful model of 'science' as 'physics in the guise of classical mechanics' is an assumption about time that deprives it of its openness; reduces its possibility of being truly historical. This is the case not only in the concept of fully timeless processes, but also in closed equilibrium systems, where the future is given, contained within the initial conditions – it is closed.

While this was accepted by many within philosophy (and indeed this form of physics, as classical mechanics, was widely adopted as a model for science – and even knowledge – in general) there were other strands of philosophy which struggled against it.⁴ 'Science's' vision flew in the face of what these critical philosophers understood of the



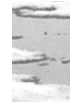
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world. A long history of the development of ideas about time (and thus, as a by-product, implicit or explicit, about space) was set in train.

The question inevitably arose of how to reconcile Science's view of the world (as static, recurring, a-temporal) with the apparently plain fact of human experience of the difference between past and future, of a very distinct, and irreversible, temporality. The hard sciences were obdurate. As Prigogine and Stengers write, the difficulty of getting 'science' to recognise an irreversible temporality 'led to discouragement and to the feeling that, in the end, the whole concept of irreversibility has a subjective origin' (1984, p. 16). 'That kind' of temporality, in other words, if it doesn't exist in Nature, must be a product of human consciousness (ignore for the minute the dualisms in play here – they were part of what constituted the blockage that had to be overcome). As Prigogine and Stengers put it, at that historical moment the choice seemed to be either to accept the pronouncements of classical science or to resort to a metaphysical philosophy based on the human experiential production of time. Both Bergson and Whitehead, among others, according to Prigogine and Stengers took the latter route. And thus there developed a whole discourse around the 'philosophy of time' which stood on the ground of individual experience. (Some of the problems must have been evident: Whose human mind are we talking about here? What kind of human mind? And how can we reconcile it anyway with what 'science' was saying about the world? But at this point in the dialogue between science and other thinkers maybe there seemed no other way out.) Bergson, it is important to say again, was subsequently to broaden his position and to argue that temporal irreversibility is fundamental to the order of things themselves.

There was, however, another question. For these 'nomad' philosophers were not interested only in some formal distinction between past and future. Rather, as we have seen, what was crucial was that the future must be open, must be there to be made. Thus, concepts of equilibrium, developed in the context of closed isolated systems, may have a notion of 'time' in them in the sense that things happen, but it is a time, a change, (a future), which is already given in the initial conditions.⁵ It is not a genuinely open future of possibilities, of creation. It was precisely in trying to struggle free of such constraints that Bergson wrote 'time is invention or nothing at all' (1959, p. 784) and that Whitehead argued that there was a creativity in nature 'whereby the actual world has its character of temporal passage to novelty' (1978, no page number, cited in Prigogine, 1997, p. 59). What was at issue in these engagements was not just a need to account for 'human experience' but also a determination not to submit to determinism. The argument was about keeping history open.

Perhaps, therefore, we might understand some of the philosophical preoccupation with time, and the nature of that preoccupation, as being at least in part bound up with the struggle over the meaning of classical science. Maybe the misreading of space, its relegation to the outer darkness of fixity and closure, came about in part because of social scientists' and philosophers' reactions to natural science's intransigence on the matter of time. It was as a result of science's intransigence that some philosophers sought a way around its propositions. If time was to be asserted as open and creative, then that business that science got up to, pinning things down (writing them down) and taking the life out of them, must be its opposite – which they called 'space'.



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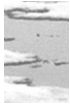
The evolution of this story-line is indeed the burden of much of Prigogine and Stengers' book *Order out of chaos*. But what Prigogine and Stengers do not do is to draw out the ramifications of this history for the conceptualisation of space. Through Western knowledge-systems, they argue, runs a dichotomy. In one corner classical science with its commitment to time-reversibility, to determinism, to the (supposed) stasis of Being. In the other corner, social science and philosophy engaging in notions of temporality, probability and the indeterminism of Becoming. However, what Prigogine and Stengers also argue is that (some of) natural science is now changing (or, at least, that it must now change) its own view of time: that new reconceptualisations of physics lead towards the recognition of an open and fully historical notion of time. So natural science itself must change, and is indeed beginning to do so: 'The results of nonequilibrium thermodynamics are close to the views expressed by Bergson and Whitehead. Nature is indeed related to the creation of unpredictable novelty, where the possible is richer than the real' (Prigogine, 1997, p. 72).

This latter view is now recited to the point of tedium. My point here is that its history has implications for the question which Prigogine and Stengers do not take up – the one about space. For what their reading of new developments in natural sciences means, is that the science against which Bergson and others constructed their ideas no longer has to be combated: 'the limitations Bergson criticized are beginning to be overcome, not by abandoning the scientific approach or abstract thinking but by perceiving the limitations of the concepts of classical dynamics and by discovering new formulations valid in more general situations' (Prigogine and Stengers, 1984, p. 93). This must also mean that, insofar as it was influenced by the battle it was waging at the time, some of the impetus for Bergson's own earlier formulations has now dissolved.

To begin with, there may be no need to assert the irreversibility and openness of time through recourse to some idealisation of human subjectivity (see also Grosz, 2001). As Prigogine puts it, 'Figuratively speaking, matter at equilibrium is "blind", but with the arrow of time, it begins to "see"'. Without this new coherence due to irreversible, nonequilibrium processes, life on earth would be impossible to envision. The claim that the arrow of time is "only phenomenological", or subjective, is therefore absurd' (1997, p. 3). Indeed, not only is it absurd it is impossible, for '[i]f the world were formed by stable dynamical systems, it would be radically different from the one we observe around us. It would be a static, predictable world, but we would not be here to make the predictions' (1997, p. 55). Most significantly at this point, however: the implication is that we are not obliged to follow the conclusions of this line of argument which relate to space.

Henri Bergson was a 'nomad' in his day, part of what is now hailed as 'an orphan line of thinkers', which includes Lucretius, Hume, Spinoza, Nietzsche and Bergson and on which Deleuze has powerfully drawn (Massumi, 1988, p. x).⁶ But some of the debates in relation to which Bergson ranged his arguments have now shifted, or are shifting. Today it seems that in his engagement with the dominant science as it then was, the very dynamics of his nomadism served to generate thoughts which were unfortunately to confine the conceptualisation of space.

That story of Bergson's engagement with science, and the wider debates both within philosophy and between natural scientists and a range of critical philosophers, is full of pointers for today. Bergson's was a real engagement with those sciences: aware, critical,



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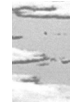
argumentative, as well as constructively adding to them, providing ontological counterparts (Deleuze, 1988). Today again debates about space (among many other things) are frequently infused with references to natural science and to mathematics. Sometimes this is again an intervention, a proposal about the direction of science (Deleuze may be seen in this light). Often, though, it is not now a questioning relationship, nor one which takes seriously the new imaginations emerging from those sciences, to debate with them or to add to them, as Bergson did. Rather, now, the dominant tendency seems to be to borrow imaginations (fine) but also to claim their legitimacy through references to natural science. On what basis, now, do the social sciences and humanities so casually and so frequently litter their writings with references to fractals, to quanta and to complexity theory?

The frustration of Bergson, and of other philosophers, derived not only from the specifics of what natural scientists were arguing about time, but also from the emerging role and status of those sciences and especially of physics within the conventions and practice of knowledge-production as a whole. In the long history stemming from Newtonian mechanics there has developed a mutual commitment and admiration between science-as-physics and philosophy-as-positivism/analytical philosophy. Such philosophy, for which all single titles seem hopelessly inadequate but which was immensely powerful in its reverberating effects, especially in its early days and in the writings of people such as Carnap (1937), maintained that 'science' was the only road to knowledge and that there was only one true scientific method. It committed itself to (its understandings of) objectivity, the empirical method and epistemological monism (which essentially incorporated a reductionism-to-physics). The story is well known. In spite of subsequent debates, and later writings such as those of Kuhn, this relation of mutual admiration is still powerful.

And it has led both to an imagined hierarchy among the sciences (with physics at one end and, say, cultural studies and humanities at the other) and to a phenomenon of physics envy among a range of scientific practices which aim to ape, but find they cannot, the protocols of physics. Physical geographers (sometimes) think they are more 'scientific' than human geographers.⁷ Neoclassical economics has striven to distinguish itself from other social sciences, to give itself as much as possible the appearance of a 'hard' science (the consequences of this in limiting its potential as a form of knowledge would be comical were they not, in their effects through analysis and policy, so tragic). Geologists suffer from physics envy: 'the sense of inferiority concerning the status of geology as compared with other, "harder" sciences ...' (Frodeman, 1995, p. 961; see also Simpson, 1963). And so do biologists: 'a sense of inferiority, of "physics envy" (which may perhaps be why these days many molecular biologists try to behave as if they are physicists!)' (Rose, 1997, p. 9). It is an envy that is deeply embedded. And it still, including in our ways of conceptualising space, goes on.

Yet the Bergson story, set in an era of the establishment of physics' pomp, also points to some of the reasons why this notion of a hierarchy of sciences might be challenged.

Most evidently, the established status of physics, of its methodology and its truth claims, is based on an image of that discipline that is now out of date. Physics itself has been changing. The physics of which Prigogine writes, along with many other branches of that discipline, do not fit that Newtonian-mechanics-derived model at all.⁸



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Moreover, with the benefit of being able to look back at the Bergson story with a little historical distance, what intrigues is that some of the most serious questions about openness, the nature of history and the conceptualisation of time, were being raised by philosophers. Natural scientists, on the whole, dug in their heels, ruled the questions out of court. Physics is not always 'in the lead'; we cannot appeal to it for some grounding for other (merely social, merely human) theories (Stengers, 1997). In the Bergson story maybe natural science could with benefit have listened to and learned from philosophy and social science. Thus Elizabeth Grosz, in exploring a similar theme, has written that:

Bergson ... frequently remarked on the subordination of temporality to spatiality, and consequently the scientific misrepresentation of duration. Time has been represented in literature and poetry more frequently and ably than in science. Questions about mutability and eternity are raised in philosophical speculation long before they were addressed scientifically, their stimulus coming from theology as much as from mechanics. (Grosz, 1995, p. 98)

One could cite a multitude of examples. Kroeber understands the poet Shelley confronting, and accepting, randomness and openness, in a way in which 'the most enlightened science of Shelley's day', which 'was still basically mechanistic', could not even approach (Kroeber, 1994, pp. 106-7). Mazis sees 'science' catching up with philosopher Merleau-Ponty: 'This sense of a world, made up of open systems interacting as self-ordering phenomena within a temporal flow, brings science to an ontology like that articulated by Merleau-Ponty' (1999, p. 232). As Deleuze (1995) has it, the influences can flow both ways and 'no special status should be assigned to any particular field, whether philosophy, science, art, or literature' (p. 30). Hayles (1999) makes the same argument about the relationship between science and literature. The whole business of the relationship between natural and human sciences must be understood historically, not as a one-way flow of true science to lesser practices of knowledge production, but as an exchange, a complicated, difficult, but definitely multi-directional, relationship.

All of this disturbs the ground of some of social science's current and highly contradictory relationship to the natural sciences. References to the natural sciences cannot be mobilised as some kind of final corroboration, nor as resort to a higher court whose forms of knowledge-production give them an authority to which on occasions it is convenient to appeal. In the era of classical science, and on the issue of time, social science and philosophy were clearly reaching for questions which the dominant natural scientists of their day simply did not grasp. Moreover (and in case you were tempted to point to an inconsistency here) my citing of Prigogine (Nobel Prize winner in a natural science, etc) is not done in the manner of reference to the unimpugnable authority of 'science', for there are as many fierce debates amongst natural scientists about these matters as there are amongst philosophers and social scientists. Rather, it is simply to demonstrate that, on this subject of time (and therefore I would argue, space), we no longer have to battle against 'a science' which appears monolithically to say the opposite.