

The Social Construction of Space and Time: A Relational Theory

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I want first to situate my argument against the background of the main project I am currently working on, which concerns the fundamental meanings of three words—space, place and environment. These are very important words, words that are being discussed in many disciplines now, words that are becoming central to social and literary theory as well as words of considerable political importance. Now it also happens that almost everything that geographers do and have done can be looked at in terms of these three words. From time to time, geographers have taken one of these three words and sought to construct the whole discipline around it. For example, the word space has given rise to the idea of geography as a purely spatial science, the word place, if you put it back into the context of an older word 'region' is a very traditional idea of what the central core of geography should be and this has recently revived in a variety of new guises such as discussions of 'locality' and 'place' as well as in the idea of a so-called 'new' regional geography. And the world environment has for long captured the attention of geographers, particularly those with physical interests, who have focussed on those processes that shape the physical and biological landscape of the earth around us, particularly as a consequence of human action. Here, too, we find geographers who have sought to define geography as a study of "man and the land" or, if you want to avoid the gender bias of that term, the relationship between human occupancy and environmental change.

My central argument is that geography as a discipline has to understand itself as working with all three of these concepts simultaneously and in relationship to each other, and any attempt to pull the discipline exclusively into one or other corner is doomed to limit its achievements if not to outright failure.

This argument is particularly important today because, as I have mentioned, these three concepts have become increasingly important in social and literary theory. I for one find myself increasingly called upon by my colleagues in the humanities, history and the social sciences, to tell them what it is that we know about

these three concepts and do we have something special to say that they do not already understand. My answer to that question is 'yes,' that we do have something special to say but that this cannot be understood in isolation from what has long been said, though often without noticing it, in the social sciences and humanities as well. So it is for this reason that I decided to try to spell out, in the book I am now working on, exactly how we should think about these three concepts and exactly how we should understand the relations between them both in the constitution of geography as a discipline as well as the way they may operate in social and literary theory.

Today since I have only limited time, I will concentrate only on the first of these concepts, *space*, about which it is very difficult to speak without invoking the concept of time. But I hope you will get some sense from my talk, as well as from the discussion, concerning the particular way in which I want to connect the understanding of space with that of place and environment.

The central thesis I want to put forward is that of the social construction of space and time. This is an idea that I have been working with for more than twenty years now, it is an idea that can be found in the work of Lefebvre, it is an idea that goes back to the sociologist Durkheim and one that has innumerable expressions in the works of anthropologists, sociologists, historians, archaeologists as well as geographers. In fact in nearly all the social sciences and humanities, the idea of the social construction of space and time is widespread and generally accepted. So there is nothing specifically geographical about the proposition.

But what do we understand exactly by this idea? We certainly understand, that different societies construct very specific conceptions of space and time. Furthermore, the actual manner of construction of space and time is important to look at if only to understand how we, in our own contemporary circumstances, are actively constructing and supporting certain notions of space and time rather than others. To give you one simple example, the hour was invented in the thirteenth century, the minute and the second were seventeenth century

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inventions and it is only recently that we have come to talk about nano-seconds. The same thing has occurred with the metric of space. So those measures of space and time which we now treat as natural conditions of our existence were in fact the historical product of a very specific set of historical social processes achieved within a specific kind of society.

This leads me immediately to make four particular statements about the social construction of space and time.

1. Even though we are dealing with a social construction we are not dealing with something purely subjective or ideal, that is outside of the material world in which we have our existence. What in effect we do is to take some one particular feature of that material world and treat it as if it is *the* way in which to understand time and space. For example, if we are considering a hunting gathering society, then notions of space and time are largely dictated by the biological rhythms that govern the reproduction of the species being hunted and gathered, and their rhythms of temporal and spatial movement. The development of mechanical knowledge and capitalist technology from the sixteenth century on in Europe entailed a quite new and different set of ideas about space and time.

2. The second point derives from the first. Nature does not present us automatically with a natural measure of space and time but offers a wide range of possibilities from which we can select. The fact that society chooses one out of many such possibilities is what matters and that choice is largely a product of myth and of culture (in which I include the culture of science itself) at the same time as it strongly attaches to the way in which a particular society makes its livelihood in its material environment.

3. To say that something is socially constructed does not mean it is subjective and arbitrary. A particular societal choice of what is space and time is fundamental to how the whole of that society works and it therefore operates in relationship to individuals with the full force of objective fact from which no one individual can escape without severe penalty. As a simple example, many of you probably came here by train. Think of the train timetable. Think what the world would be like if the driver, the signalmen, the passengers all made up their own minds each and individually and subjectively as to what was space and time. You can quickly see that all of us are strictly disciplined into the notion of an objective structure of space and time that allows the trains to run and you and I to catch them. The German sociologist

Simmel, writing at the beginning of this century, came up with a wonderful figure: imagine what would happen, he wrote, if all the clocks in the city went wrong by only one hour—what total chaos would ensue!

4. The particular way in which space and time get determined is very closely bound up with the power structures and social relations, particular modes of production and consumption, existing in a given society. Therefore the determination of what is space and what is time is not politically neutral but is politically embedded in a certain structure of power relations. To regard a particular version of space and time as 'natural' is to accept the social order that embodies it as also 'natural' and therefore incapable of change.

But societies have and do change. Such changes have always been associated with changes in the ways in which space and time get constituted. And that poses the problem of not only documenting the different historical and geographical ways in which time and space have been constituted, but also understanding exactly how such changes occur.

There are two ways in which I like to think about such changes. The first case concerns one in which a dominant society imposes its particular conception of space and time on a subservient society. The example I would appeal to here would be the settlement of the United States by the European colonists and their encounter with Native American Indian groups. The latter held particular conceptions of space and time connected with their own economy, to the seasonality of their resource base, the seasonality of movement of fish and game, the availability of fruits and other products. The conception of space and time was very special to them and was totally different from that of the colonial settlers. The latter bounded the land, cut it into spaces and had property rights to those spaces in perpetuity. This was a very European conception of space and time. Native Americans moved across the land and had no conception of bounding the land in this way. Native Americans named the land in ways that were full of environmental meanings, like this is the meadow where deer gather in spring, this is where the fish run, this is where the beavers work. The settlers named the land as their space, as Johnstown or as Kings county, reflecting an act of possession of space in perpetuity. The whole manner of identification and bounding of the land and the conception of rights to the land was superimposed on Native American society and of course it destroyed that society because it was a conception of space and time totally at odds with the Native American

way of life.

Recognition of this has produced the radical thought on the part of Native Americans and some radical activists in Europe that if you wish to challenge power relations in our own society then maybe one of the things to do is to start to treat of space and time in a radically different way, moving over space in disruptive ways disrespectful of property rights. There is a group in Britain, long-term unemployed young people for the most part, who are called travellers who move around the country at will, living at whatever they can do or off whatever they can find as they move, and this has proved so threatening to bourgeois society that the government has introduced a most terrifyingly repressive criminal justice bill that says that anyone who travels in that space and time will be subject to criminal penalties. Notice, once again, how dissidence from the prevailing idea of space and time often carries with it severe social sanctions.

But this brings me to the second way in which changes in conceptions of space and time can occur. This really arises from contestation within a society, between different segments of a society in terms of their particular objectives and concerns. What this leads to is the idea that space and time, in our own society in particular, is really to be understood not as homogeneous but as heterogeneous and variegated in special ways. Consider some examples:

1. There is a difference between a finance capitalist operating in financial markets and an industrial producer. The former moves currency around the world very fast, responding to speculative pressures here and there across spaces designated as dollars, yen or deutschmarks and with a time-horizon of nanoseconds. An industrial producer has a different time horizon, not unlimited of course because most producers limit their thoughts about the future, depending on their product, to five, ten or at most twenty years but they also operate with a different conception of spaces as localities of production, marketing, resources, and communities that offer them opportunities and services. So we have two notions of space and time at work even within the capitalist logic itself and, as is well known, these different notions are often at odds with each other producing conflicts if not crises within capitalism itself.

2. Consider the chapter in Marx's *Capital* on "the working day." The capitalist there says that he is interested in procuring a full day's labor for a sum that will allow the laborer to return to work the next day, but the worker says that he thinks about his working

life and says by working me that way you will shorten my working life to which the capitalist in effect replies, I can't and don't care about your working life it is only your working day that can matter to me. Again two different time horizons of political-economic action and activity which lie at the source of conflicts over the working day, the working week, the working year, the working lifetime. These conflicts have been one of the huge struggles waged throughout the history of capitalism and it has been a struggle over the very conception of time itself. The struggle over the micro-spatiality of surveillance of the activities of workers, not only in the work place but also in the realm of consumption and politics has likewise been of great significance as has the perpetual struggle over the differential spatial mobility of capital that gives it (when needed) a power over workers by threatening to move operations elsewhere if workers do not submit to the necessary discipline.

3. Space and time are also often gendered in all sorts of intriguing ways. This varies from the realm of myth where you will find the idea frequently expressed of "Father Time" engaging in activities with respect to "Mother Earth" often depicted as an active male principle operating on a passive female principle, to something more tangible such as the gender biases implicit in urban planning and design theories. Marion Roberts has pointed out in a recent book on *Living in a Man-Made World*, for example, how the whole Abercrombie plan for Greater London rested upon a certain supposition concerning the role of women in the family, as suburban housewives raising kids and very active in the kitchen. As this plan was put into effect it made it very difficult for women to escape those spatial confines and to the degree that they did they had to pay a penalty of isolation and relative exclusion because of the way the spaces had been planned. The changing role of women, as they entered the labor market in greater numbers and as families broke up, created a lot of stresses because a new order of spatiotemporality on the part of women was in collision with an older order implanted in the built environment and therefore very hard to change.

4. The conflict that occurs between economists and ecologists over what is the proper time horizon for the exploitation of a resource or making land use decisions offers yet another example of how different interests generate different conceptions of space and time. The market, represented by the neoclassical economists these days, looks to the future only via the discount rate which at most has a time horizon of twenty years though it is

often as short as a seven or eight, whereas the ecologists have a much longer conception of time, arguing that sustainability must be achieved in perpetuity, into an indefinite future.

The point here is to see that all of these conflicts are effectively conflicts over the nature of time and space and the social manner in which space and time are constructed. An answer to the question: what is the space and time at work here, has profound impacts on what will happen in particular places and how environments will be used and transformed.

I want to argue then that the question "what is space and what is time" is highly contested in our society in many ways, so even though there may be a dominant notion as to what space and time are, a dominant notion given by the market and the railway timetable example, there are abundant signs of diverse oppositions and heterogeneous conceptions that perpetually exist as threats to that dominant notion and the social relations it embodies.

At this point in my presentation I am faced with a critical decision as to which direction to take my argument. I can either take it back towards what I will call the metaphysical roots of the particular ideas of space and time that I am talking about, or I can take it into the practical world and ask what has been driving the changes in the sense of space and time that have occurred in the last twenty years or so and what the impacts have been on people, places, cities and environments. In fact I am going to do a bit of both.

I take up the metaphysical question first. There are three dominant ideas about the nature of space and time. The absolute theory is largely associated with classical mechanics and the name of Newton. The relative theory is strongly associated with Einstein's theories. The third is the relational conception which goes back to Leibniz but which also has a more contemporary representative in the philosophical work of Alfred North Whitehead; and I am also going to argue that Henri Lefebvre is firmly in this tradition.

Under the absolute conception, space and time are regarded as existing independent of any of the processes operating within them. Space and time are material frameworks (having independent existence) within which such processes occur. Given what I have said about the social construction and the resultant heterogeneity of constructed spaces and times, obviously Newton is of little use. I can understand Newton as creating one particular construction of the idea of space and time of great utility to mechanics and engineering

science closely connected with the technological practices of a modernising capitalism. I can even in this way understand, given the success of those practices, how the Newtonian view became hegemonic and dominant, particularly when neatly modified and stripped of its contradictions through the genius of Kant's interventions.

Under the relative view, space and time still have independent reality and existence, but in this case the space and time metrics warp and change depending upon the nature of matter, its density and character. But this still does not permit of a multiplicity of spaces and times of the sort that I have been talking about in the realm of contested social practices. So Einstein does not help either.

This leaves me with the relational views of Leibniz and Whitehead in which it is understood that each process produces its own space and time. This relational view is the only one that is consistent with the argument I have been setting out. There is a marvelous correspondence between Leibniz and Clarke. The latter was a close colleague of Newton and it is understood that Newton monitored the correspondence so in effect we have a correspondence between Newton and Leibniz mediated by Clarke. Leibniz's objection to Newton was that the absolute theory made it seem as if God was located in space and time and that therefore space and time existed prior to God—this generated an intense theological argument. And to prove his point Leibniz invented what he called "possible worlds" characterised by completely different processes generating completely different notions of space and time to those that actually existed and that Newton had correctly observed. The point was to show (a) that space and time had no independent existence apart from processes and (b) that God had chosen the best of all possible worlds in designing the actual world we live in. Although we live in a world characterised by one space and time in actuality, it was one out of many possible worlds of space and time chosen by God.

So Leibniz envisaged the idealist possibility of a multiplicity of spaces and times even though there was in practice only one. If, as a materialist Marxist, I secularise Leibniz's notion then I would not say that God chose a particular space and time as the best of all possible worlds, but we would say that a multiplicity of interests and processes are defining a heterogeneity of spaces and time out of which one gets chosen as dominant to reflect the interests of dominant powers. Instead of being ideal, these possible worlds are real.

Since Leibniz is usually regarded as one of the founding figures of German idealism, a tradition against which Marx revolted, then this appears as a well-trodden path for a Marxian analyst such as myself to take, in turning Leibniz's idealism into a practical realism.

I am fortunately (or unfortunately) supported in this idea through the work of Alfred North Whitehead who developed a realist position distinctive from Leibniz in insisting that there are a multiplicity of spaces and times at work in the actual world rather than a singular conception. The task of science was to grapple with that multiplicity, discovering its origins in the study of diverse processes rather than assuming with Newton and to some degree Einstein that there was a singular spatiotemporality that could somehow be measured. Space and time are, as with Leibniz, contingent upon process. A multiplicity of processes can in principle be thought of as determining a multiplicity of spatiotemporalities. But Whitehead also understood that this was an impossible formulation and that it had to be modified in a crucial way through the idea of what he called "cogredience." By this he meant that processes often necessarily hang together in ways that make them interdependent and if that is the case then the space and time so defined has also to hang together in a much more unified configuration. So for Whitehead the definition of what is space and time boiled down to a study of how different processes relate and generate cogredience and coherence. This was rendered analogous to communication so that processes that were in communication with each other would define a dominant notion of space and time. This idea of communication makes it possible here to link into the work of Habermas who, through his theory of communicative action starts to define an idea of the formation of certain spatial and temporal orderings in the world being generated out of human communicative action.

Now both Leibniz and Whitehead are much more complicated in their arguments than this. But I do think I have said enough to show that there is a case for seeing the relational metaphysical views they advance as in principle, though with obvious modifications, coherent with the general argument I have been presenting about the social construction of and social conflict over the definitions of space and time. A metaphysical basis can be found, therefore, for the arguments I have been developing. This was, furthermore, the kind of metaphysical basis of which Henri Lefebvre was particularly aware, most conspicuously through his knowledge of Leibniz. So it is possible to look at how

Lefebvre is picking up on this relational idea through his work on the production of space.

But if this kind of argument is correct then we are pushed to identify and define the dominant processes at work, the communicative processes in Habermas's terms, that are defining space and time for us in contemporary society. And here I have a fairly simple solution. I reach back for my favorite book, *The Limits to Capital* and ask the question what is capitalism doing to space and time and what has capitalism done to space and time historically. And we quickly see that capitalism has been revolutionary with respect to space and time perpetually redefining them according to new needs and requirements.

One of the crucial magnitudes that all capitalists are interested in is turnover time, how fast can you turn your capital over and get back a profit. And if you look at the history of capitalist technological innovations you will find that many of them are precisely about trying to speed up the circulation of capital and to accelerate the turnover of capital. Innovations in production techniques, in marketing and consumption, in finance, and the like, have accomplished this task. Where would capitalism be if it still had the same turnover time as it had some one hundred years ago? The answer is that it would have long ceased to exist. Accelerating turnover time by technological innovations produces speed up, so that all of us find ourselves living a life that is moving ever faster. Now this condition is not unique to this phase of capitalism. It was as true of the nineteenth century as now. There have been successive phases of speeding up and going faster that have had crucial social, political and economic impacts. Of course in Britain now this process goes under the charming name of 'Japanisation' since you have been particularly good at it.

But capitalists are also interested in something else which Marx called the annihilation of space through time. This means that the perpetual reduction of spatial barriers is vital to capitalist development of accumulation. Again this is not something new to this phase of capitalism for it has been going on for many years. There is a whole history of capitalist innovations that have been precisely about overcoming spatial barriers and once again you have there, when coupled with those attached to accelerating turnover, much of the history of capitalist innovation in general in a nutshell. The effect is to compress space so that space become less and less of a significant barrier to communicative action so that the reduction of spatial barriers produces as it were its

own new spatiotemporality. The net effect is to produce what I call time-space compression. And associated with that time space compression are processes of creative destruction operating to destroy certain kinds of life that attach to certain spatiotemporal rhythms while creating entirely new modes of life in which the new notions of spatiotemporality are embedded.

This dominant and singular process, I want to argue, produces, fragmented effects, fragmented according to positionality within the labor market, positionality within the capitalist economic system, positionality with respect to different locations and activities, thereby affecting patterns of place development and environmental uses. So the total effects of time-space compression are highly fragmented; by way of conclusion I want to give you just one example of how this process of fragmentation works.

In Baltimore, the history of deindustrialisation and destruction of much of the manufacturing base, a general story of manufacturing in the United States with which you are probably very familiar, has been countered by a new investment strategy built around the idea of tourist development, the production of spectacles and entertainments and cultural facilities, the development of a convention trade and hotel industry, office activities as well as retail activities of all sorts. Quite a lot of jobs have been created by this new strategy but I want to look very briefly at the spatiotemporality of that job creation and what it means for a significant segment of the workforce. The Baltimore metropolitan area has 2.2 million people, the city has between six and seven hundred thousand people and we find that some 100,000 people passed through the temporary employment agencies hands in the city in 1993. I put it this way because the temporary agencies in the city do not exhaust temporary agencies in the metropolitan area but nor are their activities confined only within the city boundary. However you look at it, a very significant portion of the Baltimore labor force is now in temporary employment.

Most of these jobs are connected to the service sector, the new employment. When a theorist like Lyotard talks about postmodernism in terms of the temporary contract in everything, he mainly refers to personal relationships and professional and intellectual allegiances rather than to this sort of temporary contract that effects so many people in the workforce in Baltimore. But this temporary workforce contract is now fundamental to much of the new employment in both Britain and the United States. We have looked at the employment conditions operative

in key segments of the Baltimore economy built around this new service sector economy and the general picture that emerges is one of the construction of a new spatiotemporality in which people have no future, the best that they can hope is to get some money each day. There are few prospects of upward mobility or promotion, of higher incomes in the future. Workers are locked into a time system in which each day repeats itself without any prospect of a change. Ideas that used to be important about the work ethic, of deferred gratification are completely eliminated by a day-to-day and hand-to-mouth existence that does not allow for the construction of that longer term temporal behavior. By the same token, most of the new workers are trapped within a minimum wage structure that confines them to a certain spatiality of living opportunities at best in the more derelict and impoverished zones of the city, where services are poor and quality of life severely compromised. Furthermore many of them work at night, cannot afford a taxi home and dare not, particularly the many of them who are women, dare to brave the streets at night to walk home. Indeed most of the people engaged here are African American and women, binding together race, class and gender into a particular configuration of entrapment in space and time.

So we are witnessing the construction of a certain kind of spatiotemporality within a whole segment of Baltimore that is very different from the spatiotemporality of many of the managers who work in the offices downtown and live in the suburbs. The point here is that we have one single process, coherent in itself, that is nevertheless producing a fragmentation of spatiotemporality within the population of the city. Every now and again someone says this is a terrible situation and we should try to do something about it but no one seems to know exactly how. But it also turns out to be extremely hard to organise workers living in that kind of spatiotemporal world because organisers who try to work with them find it extremely difficult because they speak a language that is inconsistent with the space and the time, as given in the material processes that govern the lives of the workers.

One of the task of any radical movement it seems to me is to tackle that question of how to confront that space and time with an alternative possible world, as Leibniz would put it, and define that not just as some ideal construction but as a realist set of possibilities of the sort that Whitehead allows. Changes are always being wrought in space and time around us. Can we, as radical theorists and political beings, grasp that nettle

of changing space and time relations and seek to direct it in different ways? That seems to me to be an entirely relevant question and one that is unavoidable for contemporary geographers.

Answers to questions from the audience

Question: How difficult has it been to bring geographical perspectives into Marxism?

Answer: The first observation I would make is that it has proved much easier to bring Marxism into geography than to take geography into Marxism. There is an interesting problem here and I think that it is best specified by Raymond Williams, a British cultural theorist who grew up in Wales. He launched the idea of what he called "militant particularism" the idea that it was in a particular place and a particular time when a particular struggle gave rise to a conception of socialism that was thought to have universal possibilities. What Williams suggested was that all socialist struggles begin as militant particularist struggles that move on to make universal claims. The difficulty of course is that the universalistic claims that make sense to the coalminers of south Wales don't necessarily make sense to rural peasants in Nicaragua so that there has always been a tension within the socialist movement between militant particularism and universal solidarity as the basis for universalist claims and programs. The difficulty as I see it now is that during the post war period strong and well-organised communist parties almost invariably used the rhetoric of universality and it was therefore always threatening and uncomfortable for them to be taken back to the idea that their politics were grounded in militant particularist origins and that there may be something problematic for them about imposing their universalisms upon highly divergent and differentiated geographical traditions. So it was threatening to the communist movement to consider the geographical fragmentations that lay at its origins and the geography that ought to be imported into its politics as it moved towards broader conditions of power.

My own political conclusion to that is not to avoid making universal claims: you have to make them whatever you do if you want to do anything. But it is important always to recognise the particularistic origins of universal claims and recognise the potential for injustice and the dangers that arise from imposing such supposedly universal claims on the particularities of others. Put in the language of today's talk, I think the communist movement never had a very good grasp of

the spaceplace dialectic and if it had had a much better grasp of that it might have done a much better job than it did.

Question: How does your approach differ from that of Doreen Massey?

Answer: The difference between Doreen Massey and myself is that she wrote *Spatial Divisions of Labor* and I wrote *Limits to Capital*. They are very different books. *Spatial Divisions of Labor* was not set in the sort of theoretical background that was fundamental to *Limits* which was a book based straight in Marx's political economy. If there was a theoretical grounding to Massey's work, and I was not sure I could really identify it, it lay with the structuralism of Althusser, rather than with Marx. Now there is a tendency among many people to think that Althusser equals Marx. There are many people who have read Althusser very carefully without knowing Marx. If anything I worked the other way round, since I read Marx very carefully and dabbled a little in Althusser and didn't particularly like it as general theory though there were many insights to be gained from reading him. So if you want to see the difference it would be between my own particular grounding in Marxian political economy and the Althousserian trajectory that Massey and many others moved into, which is the idea that having accepted the relative autonomy of this or that segment of society you can then move on to the idea of the relative autonomy of almost everything. What I started to see in Massey's work, rightly or wrongly, was this relative autonomy notion pushing her geographical analysis back into a kind of old fashioned regional geography without her hardly noticing it. And in any case, the attacks in her book mounted against any kind of "logic of capital" argument suggested a break on her part with any kind of commitment to theorising based in Marx's *Capital*—which was, of course, exactly the kind of theorising upon which I was resting my own work. This created a considerable breach between us. I think since then she has moved back somewhat to a rather more theoretically informed position so that in her recent writings on place, space, locality she has articulated a line that I would certainly find much less objectionable. But she has since found that feminism is a much more convenient stick to beat on me with, so she has switched to that track.

If I can add one other point. If you look at my own work I think you will find here an intense concern to try to build an understanding of space and time into some theory of capitalist accumulation. The idea of the

capitalist production of space and time become integrated into how I'm constructing my own version of Marxian political economy. You will not find that concern in Massey. The spaces within which divisions of labor occur are in her case given rather than produced. Space is reduced to a framework for her analysis rather than a framework itself continuously produced and re-produced by political economic processes.

Question: How does the deconstruction of metanarratives effect your work?

Answer: Let me pick up one piece of the question and go back to the idea of universal values—which often get expressed as masternarratives stating universal values—resting in particular claims. Consider one universal value—social justice—in which I have been interested for a long time. Now we can all be in favor of a just society. The difficulty here, as many deconstructionists and postmodernists have correctly pointed out, is that the justice that gets specified is almost invariably that of some ruling political order. This is an idea that goes back to Plato where he has Thrasymachus say that justice is whatever the ruling class says it is. So if some universal claim of justice is made and made operative then you often create particular injustices for particular places and peoples. Now on this point the postmodernists are correct. After all many colonised peoples have suffered from the white man's justice, women from patriarchal justice, workers from the capitalist justice, people of color from a white racist justice. So what you are then left with is the idea that no universal claim for justice can be made. But at this point I part company from the postmodern style of argument because as Engels long ago pointed out, though justice is always an expression of political power for itself, this also means that the overthrow of that social order requires definition of an alternative sense of justice to which many people can subscribe as part of their political project. What this means is that any oppositional form of justice to the hegemonic bourgeois market-based form of justice must negotiate among many different positionalities—colonised peoples, feminist movements, all of them different militant particularisms to try to create some solidary sense of justice around which a major political movement can cohere. Now as soon as you talk that kind of language then a lot of those who are postmodern, say you can't do that. My answer is that I do that, and we should all do so albeit with the recognition of the dangers that come from applying some universal judgement of value across a

highly differentiated geographical and social space. The nature of the problem raised by postmodernism is a good question but the answer is futile and meaningless, ending up in endless deconstructions to the point where you end up deconstructing yourself—which is fine if that is what you want to do but that is not particularly what I would want to do.

Question: How and why exactly do changes in space and time occur?

Answer: These are very interesting questions. The easiest example, as I suggested in the talk, is that in which coercion and force is used to impose some new conception. But that is not the most interesting case. The most interesting situations arise out of the very subtle ways in which behaviors get organised and orchestrated in a seemingly voluntary way, even through such things as aesthetic judgements. And to be honest I don't know quite how it happens and that is one of the things we should be looking at very carefully because to understand how it happens is also to find out how it can be transformed.

Once we have accepted a certain time-space construction it becomes rather difficult to change it unless there is some strong coercion or some strong compulsion working on you. I think about this in terms of my own biography. I can remember a time when I started as an academic when to write more than two books in a lifetime was thought to be a bit greedy, pushy and even unscholarly. Now, if you don't write a book every other year people think you died. The word processor comes along, a machine that is supposed to help lighten the load of labor, and suddenly you find if you want to get promotion in American universities you have to raise the number of articles you publish each year from say, two to five. Everyone rushes around frantic for new ideas and things to say, though just as often people take paragraphs from one article and merge them with pieces from another and so create a third article. Even I find myself doing that under pressure. These are the sorts of things that we find happening to us defining a situation to which we have to respond. Maybe I'm nostalgic for some lost golden era, but I remember a time during the 1960s when I had much more time to think things through and I certainly find that nowadays I have very little time to reflect at length on things in deep rather than superficial ways. So we find ourselves pushed by circumstances operating within academia into a faster pace of production. But pressures are also put from outside. Governments, such as in

Thatcher's Britain, start to insist upon a certain productivity, of output measured in numbers of articles and activities. We had to fill out more and more forms explaining what we have done and if you had not done all the things that some bureaucrat says you are supposed to do then you don't get your rewards. The effect is that I live a lifestyle that is much more frenetic and faster than twenty years ago.

This was the result of a social process which I really was not conscious of and whose rules of the game have changed. In some respects this process has been fun so when you have the energy and the adrenalin is running it is invigorating; you write five articles and it feels great. The problem arises when other things happen like you feel tired, you have a kid or you don't feel up to it quite. Those processes are there, they have existed in my lifetime and I am sure you can find examples in your own. But it is important to recognise how we internalise the pressures, the changing sense of space and time, without often noticing it. But these are very good questions and we should pay careful attention to them.

Question: How has the work of Anthony Giddens related to your own?

Answer: The relationship to the work of Giddens arises out of an episodic reading of his work. I sometimes have found that very helpful and sometimes infuriating. One of the things I learned from Giddens is that if you want to become well-known then you label things, then you become well known because of the labels you have put on things. Giddens is one of the most astute namers of things and concepts in social theory. But if you ask what those names mean you often find very fragile explanations and sometimes very little depth. If you are concerned about spatiotemporality, for example, then to name something like "time-space distanciation" often seems to explain a phenomena but it does so by merely naming it. But if you go on to ask what is this time-space distanciation, where did it come from, what is its theoretical prouning, then you often

find not much depth of understanding of processes. But he is very astute as an observer and he reads extensively and synthetically with a great deal of intelligence. He absorbs ideas quickly and transforms them often in very creative ways. So I have occasionally drawn some stimulus from this. He occasionally refers to my work but in recent years he has avoided that. This may be connected with some of the theses I have been advancing and their connection back to Marxism (which he is often hostile to). I personally find also that if you push questions like what is money or what is time and space into the heart of Giddens theory then that thoery starts to come apart. I have learned to judge how good graduate students are by how quickly they move on from Giddens as a vital introductory set of ideas back to the originals from which Giddens draws, such as Marx and Weber or Durkheim. And I think this is a general judgement. I had occasion last year to travel Britain interviewing many people for a series of BBC programs on cities and I often talked with sociologists and I was in the habit of asking them what they thought of Giddens. They all of them said the same thing: that there came a point where they stopped reading him. The date varied according to which particular text they found unfulfilling. Often the thought was there that Giddens' arguments were becoming predictable and repetitive, but also that at some point the lack of depth was troubling. Yet there was also a general recognition and appreciaton of the importance of his contribution, particularly in focusing attention on the relations between structure and agency and the importance of the ontological and epistemological status of the structure-agency debate. I find myself concurring with that judgement. I found his early work most interesting but have gotten very little out of reading him after the Critique of Historical Materialism.

(This article is based on the lecture at the symposium on socioeconomic geography held at the general meeting of the Association of the Japanese Geographers on 15 October 1994 at Nagoya University.)

空間と時間の社会的構成

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地理学者は、「空間」、「場所」、「環境」のどれか1つを取り出して学問を構築しようとしてきたが、本当は3つの概念を同時に相関的に扱わねばならない。ただ本日は、このうち「空間」を中心にし、空間と時間の社会的構成について話したい。

異なる社会は各々に個性ある時空概念を構築する。社会的構成は物質世界の外にある純粋な主観でなく、物質世界の様相において時空を理解するやり方である。時空の尺度を選択するのは自然でなく社会である。この選択は社会の作用にとり基礎的・個人にとり客観的事実で、個人がなされた選択から逃れると罰をうける。決定された時空様式は生産・消費様式や権力と結びつき、時空様式を中立とみると社会変革の可能性の否定になる。

社会変容は構成された時空の変容と結びつく。支配的社会はそれ固有の時空概念を従属的社会におしつける。ここから、時空様式の変革から社会を変革しようとする思想と行動が生まれた。時空概念は社会諸部分の相異なる目的や関心により変容し、異なる時空性は互いに葛藤する。例えば、数十年の将来を利子率だけでみる新古典派経済学者と無限の将来にわたる持続性を説く環境論者で時空性は異なる。男女の旧い分業に基づく時空性に基づき計画された都市と、そこに住み社会で働く女性をもつ時空性とは矛盾をきたす。

空間と時間について、ニュートンの「絶対」、アインシュタインの「相対」、ライプニッツやルフェーブルの「相関」の3概念がある。「絶対」では、時空がその中で作用する過程から独立な物質的枠組とみなされる。「相対」では、依然独立とされる時空の尺度がその物的性質に応じ変化するが、時空の多元性を許容しない。これまでの議論と整合的なのは、各過程が自らの時空を生産するという「相関」である。ライプニッツは、ニュートン

の同僚クラークとの論争で案出した「可能な諸世界」の考えを説いた。マルクス主義唯物論者として私はこれを世俗化し、利害と過程の多元性が諸空間の不均質性を規定し、この諸空間のなかから支配的権力がもつ利害を反映した時空が選びだされる、としたい。

この考え方は、現実における時空の多元性を強調するホワイトヘッドと共通している。彼にあって空間と時間は、異なる諸過程が関連しあって生み出される「一体性」、ならびに共存せざるを得ない諸過程の相互依存から空間と時間の共存とその統一された編成が出てくる「生成性」生成の研究により定義される。コミュニケートしあう諸過程はある支配的な空間と時間の考えを規定するから、これはコミュニケーションと類義となる。

現代社会の空間と時間についてみると、『資本の限界』で論じたように、資本主義は19世紀以来永続して革命的で、回転期間と資本流通の高速化が技術革新により達成されてきた。また、空間がコミュニケーションによってもつ障害は一層減少し、時間・空間の圧縮が生じた。これにより同時に、旧い時空リズムは創造的に破壊され全く新しい時空性をもった生活様式が生まれる。だが、この支配的過程がもつ効果は、場所の発展や環境利用のパターンに影響する労働市場や資本主義の経済システム内部における位置や立地などの位置性によって断片化され、時間・空間の圧縮全体の効果が断片化される。内的に整合性あるたった1つの過程が、都市人口内部などに断片化された時空性をもたらすのである。

ラディカル運動の任務の1つは、現在を変革した先にある世界がもつ時空に直面する問題に取り組み、現実的な可能性として規定することである。移りゆく時空の諸関係にそれと違う方向付けを与える課題は、今日の地理学者に避けがたく緊要である。(水岡不二雄)

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