

A Brief Sketch of Time-Geography as 'An Archipelago of Factories of Subjectivity'

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This paper will try to elucidate characteristics of the movement from a disciplinary society to a control society from the viewpoint of time-geography. Time-geography is a conceptual and analytical framework first proposed by the Swedish geographer Torsten Hägerstrand, and it is characterized by being able to map the time and space of human action regardless of scale. It also considers action patterns from looking at the various elements which constrain human action and their spatial nature. In this paper, utilizing the concept of 'domain' which is a part of that spatial nature, I will try to make clear the socio-spatial transformation (including the process of subjectification) that has arisen in the movement from a disciplinary society to a control society. And finally, positing 'the streets' as betweenness in the control society, I will also consider the creation of the 'outside' or of 'events' which elude control.

Concerning Time-Geography

Defining Basic Concepts

To begin with, let us sort out some of the basic thinking employed in time-geography. In time-geography, first of all various individuals are regarded as behavioral agents with certain goals who consume time by movement through

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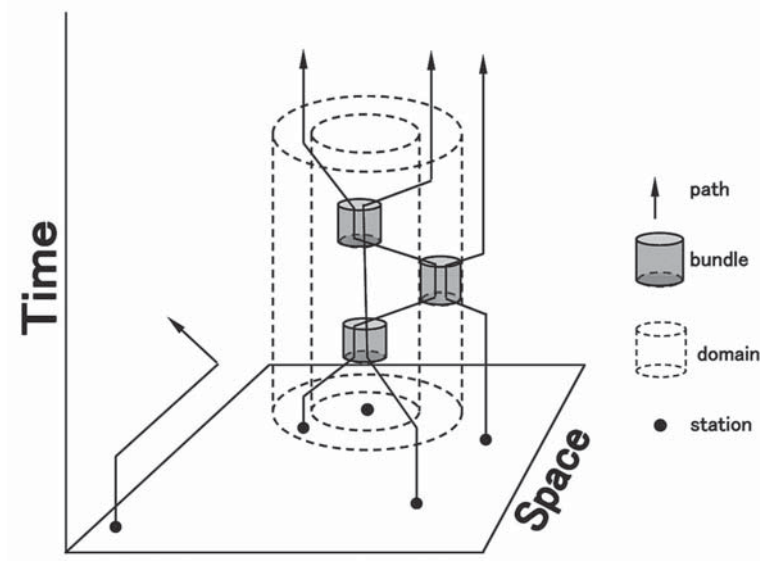


Fig. 1 Hägerstrand's Web-Model

space. Portraying in map-like fashion individual biography encompassing both the routine movements of daily life (for example, from home to workplace, to school, and back) and migrations at all stages over a lifetime (for example, from a childhood in the country to professional training in the city, marriage and moving to the suburbs, and retirement to the country) as 'life paths' in time and space is the network-shaped model that Hägerstrand developed (Fig. 1). He sought to explore the principles of time-space action through observation of such life histories (biographies).

Within this framework, time and space are seen as resources which multiple individuals must draw on in order to realize some sort of social 'project'. Thus, since human beings are living creatures and therefore cannot do without time for eating, sleeping, etc., the physicality of human beings, along with the

limitations of time and the 'friction of distance', naturally become constraints to physical movement. These are defined as 'capability constraints'. Sometimes they are distinguished between the former type which are called 'biological capability constraints' and the latter which are called 'physical capability constraints'.

These capability constraints define the upper limits of how far various individuals can reach as a 'prism' on the map. In these prisms are included an optimal 'daily-path' that penetrates through a distribution of the 'stations' which can be accessed (places where specific activities occur, such as labor in a factory or shopping in a shopping center), and the life-paths mentioned above are seen as being made up of a chain of such prisms.

Also, in the execution of social 'projects', it is always necessary for there to be a particular place, in other words a specific 'station', in order for social interaction between individuals or production or consumption to occur. Additionally, at such stations multiple time-space paths must come together (this coming together of paths is called a 'bundle'). These are called 'coupling constraints', and to explain them simply, in order to decide on management policies, a meeting has to be held and each of the people involved must be assembled in a single (or multiple) room(s); or in order for friends to chat, they must spend time in a coffee shop; these are two examples that are applicable. 'Coupling constraints' are not limited to those between individuals, but also trains or buses on a schedule, or the 'coupling' with machines or computers that one operates during working hours, can be understood as constraints. And it should be quite apparent that when under 'coupling constraints', it means not only movement in space, but also that time is consumed.

However, the various individuals do not necessarily have free access to all

the places within the prism. Thus, a passer-by on the street cannot simply choose to enter a club with a membership system, nor can a male student from another school freely go in and out of a women's college campus. Situations like this, where even though it is physically possible, conditions of access and conduct are regulated by law or rules, custom or social codes, are called 'authority constraints'. Incidentally, the specific time-space limits of authority constraints are called a 'domain'.

In this way, it can be understood in time-geography that the coming together of individual paths— in other words, 'bundles'— manifest themselves in a geographic pattern of 'stations' and 'domains' utilized for the execution and attainment of specific projects of individuals or groups, under mutually operative constraints.

De Certeau's Criticism of Representation

A number of criticisms have subsequently appeared to Hägerstrand's time-geography. For example, David Harvey, also a geographer, while conceding that time-geography and its mapping methods can play a useful role in illustrating "in what ways various individuals' daily lives are woven together in time and space", then goes on to dismiss it. Thus:

Hägerstrand's scheme is a useful descriptor of how the daily life of individuals unfolds in space and time. But it tells us nothing about how 'stations' and 'domains' are produced, or why the 'friction of distance' varies in the way it palpably does. It also leaves aside the question of how and why certain social projects and their characteristic 'coupling constraints' become hegemonic (why, for example, the factory system dominates, or is dominated by dispersed and artisanal forms of

production), and it makes no attempt to understand why certain social relations dominate others, or how meaning gets assigned to places, spaces, history, and time. Unfortunately, assembling massive empirical data on time-space biographies does not get at the answers to these broader questions, even though the record of such biographies forms a useful datum for considering the time-space dimension of social practice. (Harvey, 1989: 211-213)

In this way, Harvey criticized Hägerstrand's schema and set it in contrast to the socio-psychological approach and phenomenological approach to space and time of de Certeau, Gaston Bachelard, Pierre Bourdieu, and Michel Foucault. If Harvey were writing now, he would certainly also put Benjamin's name at the top of this list.

Putting that aside, one of those mentioned by Harvey, de Certeau, whether he may have known of Hägerstrand's 'time-geographic' model or not, made an attempt to 'represent' the time-space action of individuals using 'trajectories'. It is rather a long text, but since it includes some very important observations, I will quote it in full:

[In order to give an account of the practices of consumption] I have resorted to the category of "trajectory". It was intended to suggest a temporal movement through space, that is, the unity of a diachronic succession of points through which it passes, and not the figure that these points form on a space that is supposed to be synchronic or achronic. Indeed, this "representation" is insufficient, precisely because a trajectory is drawn, and time and movement are thus reduced to a line that can be seized as a whole by the eye and read in a single moment, as one projects

onto a map the path taken by someone walking through a city. However useful this “flattening out” may be, it transforms the temporal articulation of places into a spatial sequence of points. A graph takes the place of an operation. A reversible sign (one that can be read in both directions, once it is projected onto a map) is substituted for a practice indissociable from particular moments and “opportunities,” and thus irreversible (one cannot go backward in time, or have another chance at missed opportunities). It is thus a mark in place of acts, a relic in place of performances: it is only their remainder, the sign of their erasure. Such a projection postulate that it is possible to take the one (the mark) for the other (operations articulated on occasions). This is a *quid pro quo* typical of the reductions which a functionalist administration of space must make in order to be effective. (de Certeau, 1984: 35)

Harvey’s criticism is important, but it must be said that it is too broad. On the other hand, de Certeau’s observations on the ‘representation’ of trajectories seems to penetrate the core of the matter. If various individuals and their activity are reduced to a single line, we cannot know anything about them, whether they are male or female, old people or children. In a ‘time-geography’ which throws out all differences and simply substitutes only ‘trajectories’ in recreating and representing the spatial movement and time consumption of various individuals, he senses the odor of ‘spatial control’.

Going forward with this argument, de Certeau himself chose to proceed “depending on a model other than this one”. Having made this decision, what he thought “shows us the most appropriate basic schema” is the well-known distinction between ‘tactics’ and ‘strategy’. It is quite an interesting fact that de Certeau’s tactics and strategy argument is what served to spark criticism of the

time-geographic framework. The current author, taking the concept of 'tactics' as a clue, has previously presented the very natural argument of searching out opportunities to seize spatial freedom while sauntering along the street, but here I would like to take exception to Hägerstrand's time-geography and explore in a different direction.

Bundles and Domains

de Certeau's behavior theory converges on the creativity of walking in the city, in other words the execution of action in space that is represented by walking along the street. In spite of the previous discussion about 'trajectories', that has been limited to what in time-geography are called 'paths', and other elements have not been discussed, at least not directly. Well then, keeping de Certeau in mind, how about moving the focus of the discussion here to 'stations'? In other words, keeping in mind walking as execution in space, lay aside the tactical argument, and pay attention to the strategy argument over the spaces which form bundles— which are also areas to which authority has extended (in other words, domains).

As briefly explained in the first passage of this section, 'stations' are places where time is consumed for the purpose of executing certain social (communal or cooperative) 'projects' that are accompanied by almost no spatial movement— in other words, while remaining in one place. In many cases these are some sort of facility, or more specifically a certain built environment. Stations allow for the formation of 'bundles', or conversely are spaces where 'coupling constraints' are chiefly operative.

Here let us refer again to Fig. 1. 'Bundles' show situations where there is 'coupling' of various individuals (in other words, multiple paths) based on specific projects at a specific station. The point that we need to pay attention

to here is 'specific projects'. For example, let us imagine the following scene: in business, a coffee shop in the lobby of a hotel is being used for a talk together with a business client. If we cast our eyes toward the surroundings, here and there pairs dressed in the same types of suits can be seen earnestly engaged in discussion with documents in their hands. Then, at an inconspicuous table in a corner, a man and woman pair are talking together with serious expressions..... By the front desk, travelers are coming and going incessantly, and a number of people can be seen waiting for someone.

Thus, in this case, the hotel lobby becomes a single 'station'. Many people are gathered there coincidentally for all kinds of purposes. From one point of view, we can think that all their individual paths are forming a 'bundle' in the single space of the hotel lobby. However, their purposes differ, and in other words, since no 'coupling constraints' are operating between them and the people sitting at other tables, they cannot be regarded as forming a single bundle. In another example, let us think about a train station or a bus used in commuting to school or work.

The train station is of course a 'station', but for most of the people using it, the 'coupling constraints' that are operating are between them and the station itself (or the trains they will ride) and not with the other passengers around them. It is the same with the passengers sitting on the bus. They are not under the operation of 'coupling constraints' with other passengers, but simply in the sense that they had to ride this particular bus. Consequently, if we return to the previous example of a hotel lobby, it can be understood as a situation where multiple 'bundles' coexist in a single station without sharing the same project.

However, we can also think of the lobby as a facility, in other words a 'domain', that is supported and presided over by the management of the hotel.

In actuality, certain manners and decorum are probably called for in the lobby, and in a luxury hotel the dress code is probably strict as well. In short, we can probably say that these multiple 'bundles' with differing projects, so long as they cohabit the same space, are under a common 'authority constraint'.

Domains as Strategic Spaces

If we think of it in this way, in a critique of time-geography based on de Certeau's points of argument, there is yet another prospect. That is that if we place the time-geographic web model at the nexus of the distinction between strategy and tactics that he employs, we can grasp anew the domain as a space for the exercise of strategy.

de Certeau defined 'strategy' as follows: "The first possible calculation (or operation) of power relations by an entity of will and power (an enterprise, an army, a city, an academic system, etc.) after becoming independent of its surroundings" (de Certeau, 1987: 100). What is significant in this definition is "independent of its surroundings", "able to draw a boundary line", "delineating 'one's own' from 'the surroundings', that is, setting aside a space of one's own power and will.....". It is premised on the existence of a 'specific space' with a clear boundary line separating the inside from the outside.

In *Empire*, Hardt and Negri write: "the spatial configuration of inside and outside itself.....seems to us a general and foundational characteristic of modern thought" (2001: 186-187). That this dialectic between inside and outside brings about inherent consequences in 'strategy' is de Certeau's position. From these various kinds of consequences, he picks out three to show us. They are "the victory of place over time", "a division of space that makes a single oversight possible", and the "triangle of space, knowledge, and power". The latter two are summarized along the lines of Foucault's main

arguments. The first consequence means a situation “physically embodied in absolute space and time”, or as in the built environment, once something has been built, the place acquires ‘durability’ in physical form (Harvey, 2007: 188).

de Certeau's ‘strategy’ can in this way be positioned as the nucleus of will and power for production of ‘delineated space’. Additionally, if we take into consideration the definition of ‘dispositive’ (which can also be expressed as mechanism, apparatus, or disposition) as “a general strategy underlying the enforcement of internal and self-generated discipline” (Negri and Hardt, 2003: 418), it is clear that de Certeau refined his concept of ‘strategy’ with Foucault’s ‘apparatus’ in mind. (In fact, he mentions this word at the beginning of his work). Thus, the concept of ‘strategy’ can be said to have aimed at the spatial arrangement characteristic of disciplinary societies (rather than control societies).

The discussion has come rather a long way round, but let us try to connect de Certeau’s argument to time-geography (though it is a bit wild). Not as tactics, but as strategy. It means nothing more than to regard domains as strategic spaces, and to replace ‘stations’ with the built environment of ‘dispositives’ (system and places)—jails, mental hospitals, cathedrals, barracks, schools, factories. In the sense that the inside and outside of these places are distinct, and that they are highly exclusionary, they can be thought of as forming domains where ‘authority constraints’ are highly exercised. For example, in imagining the contemporary city, we can see that our daily lives are managed according to the fabric of stations (domains) formed by the built environment in condominiums equipped with integrated security systems, in primary and middle educational facilities surrounded by high walls and fences, or in high security company compounds privately owned by enterprises.

The nature of time-geography is that our paths, from these daily-paths (one

day's path repeated continuously becomes aggregated as a weekly-path) up to biographical life-paths, can all be mapped. Then, when we look at the map pattern of an individual's life span, as in Fig. 1, how can we see the stations formed by 'bundles' or their domains?

The Time-Geography of 'Production of Subjectivity' – from disciplinary society to control society

Foucault associated disciplinary societies with the eighteenth and nineteenth centuries; they reach their apogee at the beginning of the twentieth century. They operate by organizing major sites of confinement. Individuals are always going from one closed site to another, each with its own laws: first of all the family, then school ("you're not at home, you know"), then the barracks ("you're not at school, you know"), then the factory, hospital from time to time, maybe prison…… (Deleuze, 1995: 177)

…… the institutions provide above all a discrete place (the home, the chapel, the classroom, the shop floor) where the production of subjectivity is enacted. The various institutions of modern society should be viewed as an archipelago of factories of subjectivity. In the course of a life, an individual passes linearly into and out of these various institutions (from the school to the barracks to the factory) and is formed by them. (Hardt and Negri, 2001: 196)

The above arguments of Deleuze, together with those of Hardt and Negri who had Deleuze in mind, have the effect of shaking up concepts of normal

time-geography. Various forms of the 'ideological state apparatus' are arranged in modern space/time and urban space/life courses. Following this assessment, factories producing subjectivity are precisely stations formed of 'bundles', and moreover they embody domains where the force of 'authority constraints' is predominant. In such cases, in disciplinary societies the network models of time-geography must be regarded as maps of the patterns of the time-space arrangement of an archipelago producing subjectivity. Quite aptly, as if they were suggesting reciprocity with the system, Hardt and Negri used the word 'place' (and also put it in italics), and they explained the function assigned to these spaces as follows:

.....within the walls of each institution the individual is at least partially shielded from the forces of the other institutions; in the convent one is normally safe from the apparatus of the family, at home one is normally out of reach of factory discipline. This clearly delimited place of the institutions is reflected in the regular and fixed form of the subjectivities produced. (Hardt and Negri, 2001: 196)

As de Certeau correctly pointed out, the production of delineated space is premised on the existence of places where the various social systems that are 'strategy' exercise their power, and in them 'subjectification' or the 'logic of subordination' is also operative. The conditions of this production of subjectivity are such that "in all places and times in the course of life, one is accompanied by fairly defined multiple identities— at home, one is a mother, in the factory a laborer, in a shop a consumer, in a hospital a patient....." (Negri and Hardt, 2003: 419-420).

However, Deleuze has said: "We're moving away from disciplinary society",

and “we're definitely moving toward a ‘control’ society” (Deleuze, 2007: 350). In response to this, Hardt and Negri point out that when a society moves towards becoming an ‘empire’ it is accompanied by a movement from a disciplinary society to a control society, and with that the conditions for production of subjectivity change:

……the place of the production of subjectivity is no longer defined in this same way [discrete place]. The crisis means, in other words, that today the enclosures that used to define the limited space of the institutions have broken down so that the logic that once functioned primarily within the institutional walls now spreads across the entire social terrain. Inside and outside are becoming indistinguishable. (Hardt and Negri, 2001: 196)

What is this logic that functioned within the institutions? To repeat, it is the logic of subjectification equalling subordination. Let us continue the quotation:

The production of subjectivity in imperial society tends not to be limited to any specific places. One is always still in the family, always still in school, always still in prison, and so forth. In the general breakdown, then, the functioning of the institutions is both more intensive and more extensive. (Hardt and Negri 2001: 197)

Here they are observing the fact that boundaries that separate inside and outside are collapsing and ‘control and surveillance’ are extending over the entire area. The subjectivity that is being produced is no longer something confined to a particular identity. Rather, it is something that pertains to all identities, even while outside various institutions/places, and because of this it

is being produced as “a subjectivity ruled over far more forcefully than within the logic of a disciplinary society”.

Going back to time-geography, we can express this in the following way. In disciplinary society where the boundaries between outside and inside are clear, the stations, where institution equals place (mostly these are particular built environments) and their sphere of control are roughly the same. However, in a control society, while the ‘authority constraints’ of a particular area are strengthened internally, at the same time they expand widely over external areas. We should think of this not as the disciplinary society being replaced by the control society, but rather as the former recedes into the background, through the circuits of control and surveillance becoming omnipresent, it compliments the formation of the control society. In this case, the forms of ‘authority’, like those of the subject, will take on a compound structure. Because of this, one will be unable to ask which form of control belongs to which station, in fact that question will be meaningless.

In the web model, the situation where the compound domains of control extend to all areas of time and space— that is the control society.

The Streets as an betweenness

An archipelago of factories producing subjectivity— that is how one can think of the archipelago of domains. However, just as the word ‘archipelago’ indicates, they are not continuous land (at least not physically). Just as the sea forms a smooth space between each island, between the various domains where authority constraints are operative there exist ‘betweenness’. Finally, I would like to consider the ‘betweenness’ or spatio-temporality one domain and another. This also means questioning the spatiality of ‘paths’ that has been left

pending in this paper.

As we have already seen, in the disciplinary society the inside and the outside are clearly separated by boundaries. There is certainly an 'outside' from the various institutions/places that are domains. Or, if seen from multiple institutions/places, at the same time it is 'the outside', it is also a border area. According to Hardt and Negri, these 'outsides' are not simply external spaces. Since these are places where the activities of various individuals are exposed to the scrutiny of others, but at the same time may gain the approval of others, 'the outside' becomes precisely the 'place proper to politics', and at times can even be where a 'new space of liberation' is constructed. (Hardt and Negri, 2001: 188).

Normally, in time-geography, what characterizes the intervals between one station and another are trajectories marked as 'movement'. These are places where movement occurs (strangely to say), that is streets and highways and other transport facilities. These are spaces with a high degree of public character that have little relationship to the process of subjectification in disciplinary society (at first glance). What we need to pay attention to is that the mistake which de Certeau points out of replacing execution with a marker annihilates the meaning of the space (it is not formulated as a problem), or in other words that even in the space of opinions the effect of 'functionalistic control' becomes predominant. While de Certeau focused on execution in order to avoid that, the person who called attention to the space itself was Henri Lefebvre. In his book of essays entitled *Seeing From the Window*, he observed the streets, which exists as a transportation space (from a functionalist view), to be an 'void' between one domain and another of the modern city (incidentally, at that time another 'betweenness' he mentioned was the spatial margin beyond his field of vision).

Here, in emulation of Lefebvre, I would like to posit ‘the streets’ as the ‘betweenness’ in the archipelago. The fact that de Certeau looked for a prime example of ‘execution in space’ to ‘walking’, that Michel Foucault discussed the technology of the self based on Benjamin’s theory of *flâneur*, or that many other thinkers search for the possibility of ‘freedom’ on the streets— is that not because the streets are an ‘betweenness’? The events of May 1968 actualized the streets as an opening and in an instant dramatized their ‘outside’ character.

However, in the control society, the domains have become total and already there are no margins that could act as ‘betweenness’ (or so it seems). Hardt and Negri as well point out that public spaces that were the places proper to politics are being extinguished:

In the process of postmodernization, however, such public spaces are increasingly becoming privatized. The urban landscape is shifting from the modern focus on the common square and the public encounter to the closed spaces of malls, freeways, and gated communities. (Hardt and Negri, 2001: 188)

Again, it goes without saying that the process of privatization of public space is not unrelated to the internal strengthening of domains of control and their parallel expansion outward. In the midst of this, how can ‘the outside’ be created or constructed? Or, where are ‘the streets’? For example, in mentioning Jacques Rancière’s talk about “the activities of demonstrators and those on the barricades in making literature out of the city’s transport routes as ‘public spaces’” (Rancière, 2005: 61), the following comment by Harvey is forceful supporting argument:

It is all fine and good, for example, to evoke relational conceptions such as the proletariat in motion or the multitude rising up. But no one knows what any of that means until real bodies go into the absolute spaces of the streets of Seattle, Quebec City and Genoa at a particular moment in absolute time. (Harvey 2006: 147)

When the domain of control becomes total, then there are no more openings. Isn't it just because that is the case that 'the streets' as an opening, 'the streets' as the 'place proper to politics' can appear in that space-time, in the act of representing one's own body (physical existence) in absolute space and time? The roads which I can see looking out the window of my room are not 'the streets'. They are dormant streets, they are a space that is the raw material that has the potential to become 'the streets'.

Conclusion

Formerly, Deleuze, in response to a question of Negri's about the 'processes of subjectification', answered as follows: "They (the processes of subjectification) have a real rebellious spontaneity" (1995: 176). He went on to say: "One might equally well speak of new kinds of event, rather than processes of subjectification". These 'events' that Deleuze spoke of late in life help make us think again about the position of 'the streets' in the control society.

They (events) appear for a moment, and it's that moment that matters, it's the chance we must seize.we've quite lost the world, it's been taken from us. If you believe in the world you precipitate events, however

inconspicuous, that elude control, you engender new space-times, however small their surface or volume. ……Our ability to resist control, or our submission to it, has to be assessed at the level of our every move. We need both creativity and a people. (1995: 176)

The streets, which could stand for a physical and potential ‘outside’ from the domains of control, are rapidly changing their nature and disappearing. Let us here once again give the name ‘the streets’ to those disparate places where ‘events’ occur, and new time-spaces appear during the process of subjectification. But the mapping, etc. of the sites of these ‘events’ by time-geography methods should be nearly impossible.

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