RENT THEORY AND THE PRICE OF URBAN LAND

Spatial organization in a capitalist economy

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This dissertation is the account of an inquiry into the spatial organization in the modern urban agglomeration, It starts out from the view that 'location' and 'space' acquire a meaning only as a support for economic activities, and conversely, the economic laws governing production and consumption become incomplete unless they account from their very inception for the territorial dimension of the economy. Such reciprocai determination between the 'spatial' and the 'economic' is integrated within the urban process through the payment for a location in the urban space as a necessary condition to all economic activity. This leads the inquiry to centre upon the price of the land, the form in which the paynent for location materializes in contemporary capitalism.

A first part of the dissertation deals with a critique of rent theory, in which land price is seen as the capitalized form of land rent. An historical interpretation shows that both society and the economy have been so thoroughly transformed since the origins of rent theory in the seventeenth century, that none of the assumptions of the latter bears any relevance to the modern market economy of our day. Land price cannot therefore be derived from land rent, and must be analysed directly as an independent concept in its own right.

The second part develops the concepts of location and space as deriving from the rise of conmodity production. In particular the analysis of the effect of competition on the transformation of the techniques of production is extended to include the role of location in the latter. Then the price of location becones a result of the same competition which regulates production and it is incorporated into the cost-price of commodities. The limits to market regulation are reached, however, when it comes to production of space itself that cannot be performed without state intervention. Accordingly, the analysis of the urban process must explore the limits and the interaction of market regulation and planning in spatial organization.

The last part deals with the conditions under which the balance between the use of economic and extra-economic means of regulation is achieved under specific historical circumstances and regimes of growth. Planning is seen precisely as the state activity aimed at a co-ordination of the forces of market competition and the interventions through land use zoning, taxation and public entreprise . The price of the land becomes the pivot of the articulation of market and state regulation in spatial organization, an articulation in turn dominated by the stage of development of the antagonism between corrmodity form and direce production of use values. Thus in the account of the price of the location economic analysis must be complemented by historical interpretation.

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This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration.

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* not numbered

PREFACE

When I went to live in São Paulo proceeding from Budapest, then Paris, it was already a biggish sort of city ——with a population of three and a half million by 1959— and growing rapidly. To study architecture was an encouraging prospect and after graduating from the Faculty of Architecture and Urbanism I threw myself enthusiastically into urban planning,feeling somehow that as the whole fabric of society was at work in cities, an understanding of the former would also lead to understanding the latter. After working on everything from development projects to master plans in scores of Brazilian cities in the heyday of urban planning, I became specialized in 'modelling', that is, the building of models supposed to simulate urban growth. With time, and while the cities doubled and trebled in size, my enthusiasm was giving place to struggle for an understanding of them, however. It soon became clear that the price of urban land played a central role among the processes which rule over urban change, but attempts to build a proper representation of land rent into simulation models proved unfruitful. Having realized that the failure of these attempts - in Brazil or elsewhere - was due to those

models being built on a vaguely defined basis borrowed from neo-classical economic doctrines, I turned to other approaches, looking forward to reformulating the 'basis' of urban modelling. In particular, I expected a contribution from classical political economy, especially as after Marx's critique (by the mid-1970s the 'revival of marxism' was well under way). However, Brazilian cities, including S§b Paulo, made self-evident what was also true, even if less apparent in less rapidly growing urban agglomerations, namely, that the movements of the price of urban land were not explainable on the basis of any extant theory in the current of political economy, either in its 'classical' form or in view of the Marxian criticism, any more than on the basis of theories within the current of urban economics as derived from 'mainstream' economics.

Particularly striking was why some distant suburban areas, over 30 and 40 km away from the centre, as in Cotia and Itapecerica, commanded an unusually high price, about five times that of the surrounding sea of workers' periphery and as high as in areas half that distance from the centre, if the only distinctive feature of these areas was that they were being bought up by the well-to-do and the wealthy. No doubt in some years the same area would feature improved infrastructures, tree-lined streets, landscaping and the like and <u>then</u> the price differential could be explained away by referring to such 'attractiveness' or spatial differentiation resulting in higher demand etc, but at the initial stage of this process, the price of the land was clearly commanding rather than

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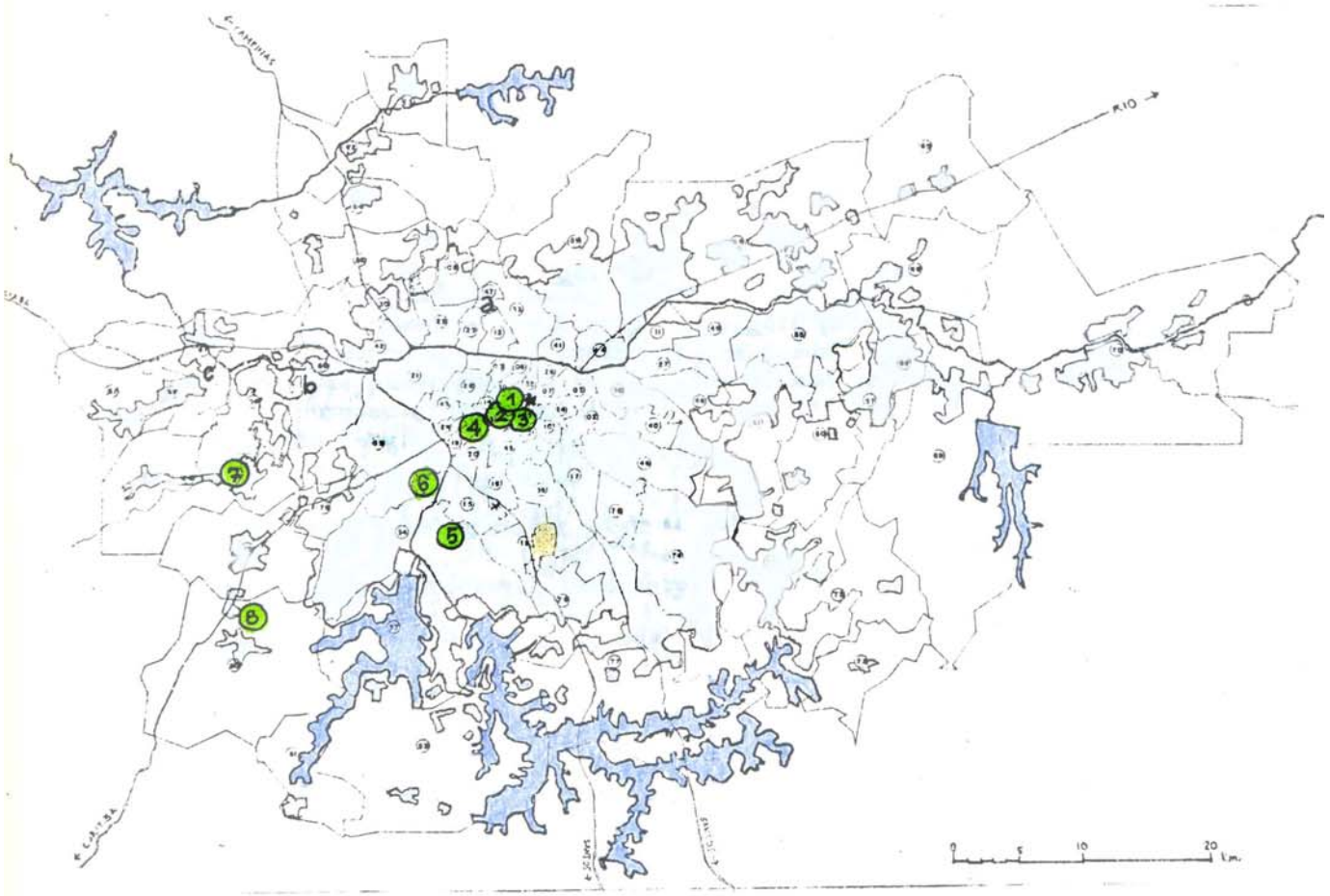
(1) See Figure overleaf.



LEGEND

1 Campos Elíseos 1900
2 Pacaembu 3 Higienópolis 1910-20
4 Jardins Europa, América 1930-50
5 Santo Amaro 6 Morumby 1960
7 Cotia 8 Itapecerica

Urbanized area in 1977

HISTORICAL LOCALIZATION OF UPPER CLASS DISTRICTS IN SÃO PAULO

following the differentiation of these areas. The realization that those districts were being reserved, as it were, to become future upper class residential districts precisely through the high land prices which prevented other users from settling there, was a starting point to the thesis of this dissertation.

> According to this thesis, land prices are not the capitalized form of a rent which is a would-be excess profit pocketed by landowners, nor are they the result of some interplay between supply and demand. Rather, land price is one of the means of organisation of space, which, along with other means of space organi-zation such as legal, inductive and coercive measures undertaken by the State, helps both production and use of urban space according to the needs of the dominant mode of production in the economy and according to the purpose of reproduction of the dominant structure of society.

I came to England with the plan to substantiate the above.[5] (2) This dissertation, structured into three parts, is the account of the four years of work that followed.

* * *

Rent theory still stood in the way to the price of urban land. In its Ricardian version it could have been simply discarded for its underlying assumption of equilibrium and the connected marginalist approach, were it not for its lasting success throughout the history of Political Economy and that had survived through to contemporary currents of economic analysis, including marxist ones. As it is,

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(2) At the time, the same was probably couched in more tentative terms. The above quote is taken from a paper written after a year into the research (Deák, 1982:5).

some interpretation of such a staying power had to be given, all the more so that Marx can be seen as anything but a 'marginalist' and yet he also finally accepted the category 'capitalist ground rent', and his inconclusive critique of rent theory only added new categories — those of absolute and monopoly rent — which further increased the resilience of rent theory. And then, if Marx himself failed in his assault on rent theory, this again had to be explained lest we remain on weak ground for a new start towards the account of the price of the land. The task so defined demanded not so much a critique as rather an historical interpretation of rent theory. This is the subject of Part I.

Marx has also left another misleading legacy apart from rent theory, namely, the notion that England is the 'model country' in the development of capitalism, in the sense that as capitalism would spread worldwide, other countries would follow a development along the English pattern. Although this view has since been successfully challenged as regards 'peripheral countries' as opposed to those at the 'core' of worldwide accumulation, the same is still by and large adhered to as regards the countries today at the core. In contra-distinction to this view, a periodization of capitalism according to early and mature stages, accompanied respectively by predominantly extensive, and predominantly intensive accumulation, allows for regarding England as unique rather than as a model, a country to which the early stage of capitalism was restricted and whose development would be followed nowhere else. When capitalism spread over the world through a number of centres of accumulation, it was already in its mature stage. Germany, Japan, France and the United States

followed specific development paths, distinct notably from the one opened by England. In what concerns us specifically, the rent form never developed in those countries as an historical form of payment for location, having directly taken the price form, at a time too, when spatial organization of both production of commodities and of the reproduction of society became a concern. This perspective opens the way to the building of some simple categories that form a basis of an analysis of spatial organization of production in contemporary capitalism, such as location and space as economic categories, the transformation of the individual process of production and technical progress, the latter being the driving force behind intensive accumulation, and the nature, the extent and limitations of the role of the State as an antagonistic complement to market regulation of commodity production and the production of space. This is the subject of the second Part II.

The Third Part makes use of the concepts developed in the previous part for an outline of the concrete process of spatial regulation of production. Economic analysis is pushed as far as it can go in the account of the transformation of production on land till we encounter the limits of market regulation. These limits lead in turn to an interpretation of the historical emergence of the conditions of planning and state intervention. The commodity form and state intervention becomes inextricably interwoven to give rise to the urban process, being in fact the concrete materialization of the totality of life and which in capitalism is dominated by the stage of development of the antagonism between the commodity form and collective production. This part concludes with an outline of the

respective limits, and the necessary complementarity, of historical interpretation and of economic analysis in the account of the urban process.

* * *

The starting point of the thesis developed here was provided by the urban process as experienced in São Paulo, the main centre of accumulation in Brazil. The fact that this country has only just reached the stage of intensive accumulation, at a stage too when at the worldwide core of capitalism this stage is well into its final phase of development, makes São Paulo and naturally other urban agglomerations in countries at similar stages of development, particularly favourable ground for observation of the urban process, where rapid expansion/concentration is combined with an advanced stage of development of the antagonism market/state regulation. An outline of some features of this process is given in Appendix as an illustration. At the other end of the spectrum of historical stages of development within contemporary nation states, England remains a unique country, conserving as it does, many of the structural forms developed in the early stage of capitalism not to be found elsewhere. These features thus highlight the specificity of the evolution followed by both this country and others. Rent theory in particular, the theory of 'capitalist ground rent[1], was born in England, and it becomes incomprehensible except in the light of the history of this country. While rent theory could probably be laid to rest anywhere, its epitaph could only be written here so that it

is properly buried and gives place for urban analysis.

Rent theory is dead, long live political economy ... — so long, that is, as the production of use values is dominated by the production of values, and social relations are reified, so that a science is needed to discover them behind the appearances.

CD.

King's College
and the Martin Centre

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PART I: AN HISTORICAL INTERPRETATION OF RENT THEORY

Since the early 1970s a great deal of work has been invested into reviewing the different forms of rent theory, scrutinising their internal consistency (but less frequently, their assumptions) or exploring the eventual potential for their application in urban analysis. It is generally felt that land rent theory is somehow crucial to the analysis of the urban process, and successive failures to construe a relationship between land rents and organisation of space in contemporary capitalism have lead to the multiplication of new efforts to do so. I suggest that we may regard this approach as exhausted, and that it is now time to rely on all this work, develop its ultimate consequences and take a further step towards the critique of the theory of land rent, keeping in mind the analysis of contemporary capitalism. Rather than analysing rent theory in its different forms, we turn to the analysis of the historical existence of the latter. In other words, instead of focusing on

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(1) A short list of such works may include Alquier (1971), Lojkine (1971), Lipietz (1974), Harvey (1974), Edel (1975), Broadbent (1977), Rey and Manzanilla (1980) and Harvey (1982) in a broadly Marxist approach, and Rey et al. (1980) and Scott (1980) within the trend following Straffa's reconstruction of Ricardian theory.

what the specific forms of rent theory are, we shall focus on how those specific forms came into existence and why have they enjoyed status of theory in the corresponding stage of the evolution of capitalism. In doing so, we will seek elements as regards the extent to which rent theory - and with it, the category of land rent itself - is relevant in the current stage of evolution of capitalism, that is to say, for contemporary urban analysis. More importantly, if an explanation of the historical success of rent theory in spite of its increasingly apparent weakness can be found, then we may finally lay rent theory to rest, and address the question: If rent theory is the analysis of production in an environment given by nature, at the early stage of capitalist development, how can organization of production be theorized in an historically produced environment - that is, in space produced by social labour - at a stage of fully developed capitalism.

The most influential form of capitalist land rent was given by Ricardo (2) through his theory of differential rent expounded in his Principles. Ricardo himself called it the "true doctrine of rent" and as such was it accepted in Policial Economy. In fact, the concept of differential rent came to dominate land rent theory throughout the history thereof, even in the light of Marx's critique of it or in the recent attempts to produce renewed versions and urban applications. Chapters 1 and 2 focus on the specificity of both the main forms - Ricardian and Marxian, respectively - of rent theory as related to their respective historical contexts. Chapter 3 develops the results of the

(2) In fact, it is only in this sense that one can speak of a 'Ricardian[1] theory of rent, which had been elaborated upon by several earlier authors and contemporaries of Ricardo some of whom will be referred to below.

foregoing interpretation into a preliminary formulation of the question of spatial organization of production in contemporary capitalism.

1 RICARDIAN THEORY OF RENT

1 RICARDIAN THEORY OF RENT

> Corn is not high because a rent is paid, but a rent is paid because corn is high.
>
> Ricardo (1)

Even before Ricardo several versions of land rent theory had been put forth. Some of those, such as Adam Smith's (1776) and James Anderson's (1777), if they appeared in cruder formulations, they also contained some quite powerful insights missing in Ricardo's theory. The reasons why these versions did not achieve status in Political Economy shed light on the reasons why Ricardo's own did. These reasons lie in the evolution of the social formation existing in England, (2)

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(1) Principles, p.38. Compare with Anderson (1777): "It is not(...) the rent of the land that determines the price of its produce, but it is the price of its produce which determines the rent of the land" (quoted in Marx, TSV 11:145) - References to Marx's Theories of surplus value and Capital will be abbreviated to TSV and Cap respectively, followed by the Roman number of the relevant volume. Page references are made to the Lawrence & Wishart editions in both cases, unless indicated as Cap I (P) which refers to the Penguin/Harmondsworth edition of Volume I of Capital.

(2) A comparison between the "Historical conditions for the development of the theory of rent by Anderson and Ricardo" may also be found in Marx, TSV 11:236. It is quite at odds with some points which follow here, one such important point regarding precisely the role of landownership as it appeared to Marx, but it does

being itself a result of the way in which the English revolution had been fought out a century earlier.(3)

1.1 THE ENGLISH REVOLUTION

> This government has a monarchical appearance because there is a King, but at bottom it is very far from being a monarchy.
>
> The French Ambassador in London, 1660

The peculiar feature of the bourgeois revolution in England is that the ascendent bourgeoisie were able to break up the obsolete feudal institutions in their contest with the previously dominant landowner class without entering into an alliance with the dominated classes. Consequently", their victory (1640, 1649) was not so sweeping as for instance in the case of the later French Revolution, and accordingly, the class of landlords was not anniquilated. On the basis of a compromise, the latter were happy to share power under the domination of the

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(cont.) begin by stressing the fact that the two theories relate to two distinct historical periods: "Ricardo was first of all concerned with the period 1770-1815, which came approximately within his own experience", while "Anderson...was concerned with the eighteenth century, at the close of which he was writing" (p.236) and further, that both authors' theories are specific to England, as radically different from Prussia and indeed, any other part of Europe (p.237).

(3) The account of the English revolution below follows the interpretation prevalent among (Marxist) historians prior to the debate on the transition from feudalism to capitalism (Hilton, ed. 1976) and prevalent also in classical Political Economy and in the contemporary debate on rent theory. The broader view on the transition is introduced from Chapter 4 onwards only. The main thrust of Marxist historians in the 1930s and the 1940s, af.ter so many decades of the passing of. political economy, was to show that there was an English (bourgeois) revolution - and that it was not in 1688 (see opening paragraph of Hill's 1940 essay).

bourgeoisie.(4) Further erosion of their power as a class was gradual and took successive centuries. But coming back to the seventeenth century: the Civil War, in Morton's words,

> was one waged between two minorities. Whole classes, the tenant farmers and wage earners specially, stood outside and fought only if conscripted. (...) It was essentially a war between two would-be ruling classes and the lowest strata of the population took little or no part in it.

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(4) Rey (1973, or for a quick reference, see Brewer, 1980:189-91) goes as far in his articulation of modes of production scheme as to propose a view which stresses common interest - a "fundamental convergence of interests" (Rey, 1973:60) - rather than antagonism between the old and the new dominant classes. Such a view makes it difficult to account for the intense struggles going on from the Wars of the Roses up to the Civil War which accompanied the rise of the bourgeoisie in England, and yet more difficult to account for the French Revolution. On the other hand, granted the historical antagonism, some (short or medium-term) common interest between the two dominant classes in England must be recognised or the compromise would not have been possible. We return to this question and make further reference to a more interesting aspect of Rey's 'articulation' scheme regarding the class structure in early capitalism in section 2.5 below.*

(5) This is precisely the subject going throughout the first two Chapters, as it is one of the central issues related to the theory of rent. A similar idea is exposed in McDougall (1979): "In Britain, the 'bourgeois revolution' and the political domination of capital wasnot achieved at some great turning point of history but was gradually established" (p.370). However, it is to overstate the point than to say that there was no revolutionary period (if not 'point[1], of course) in Britain and this may be the reason of McDougall's placing the "gradual decline of the landed interest" rather belatedly in the nineteenth century (id.ibid.). See also Chapter 2, note (31) on Ball (1981).

(6) Morton (1938), pp.237-8. Morton is one of the first to have shown that the course of events taken in England is not the work of general rules of history only (like 'transition from feudalism to capitalism') but is also specific to England, as it is shown by the alternative course taken by France in the same historical epoch. There, bourgeoisie was not yet sufficiently strong to take'State power at a time when the landed aristocracy has already proved unable to administer, let alone develop, France's huge colonial empire comparable (and even greater) in size than England's own. Feudalism then gave place there to bureaucratic despotism (very much like in the rest of Europe) which lasted for more than a century. (See op.cit., p.226). The old class had already lived enough but the new class was still wearing its children's shoes.

The landowner class, defeated in their defence of the feudal institutions, were ready to compromise whereby they had only to gain, that is, part of their lost power. The occasion came in 1660 when "a new compromise between the landowners and the upper classes in the towns" was reached because, on the other hand, the years following the Civil Wars have also shown that the bourgeoisie was not yet strong enough to rule alone and for the time being, would have to accept dual domination:

> the urban middle classes had proved too weak by themselves to afford a basis for a government and the Restoration of 1660 was in effect a re-combination of class forces to establish a government more in harmony with the real distribution of strength. (op.cit., p.272)

The compromise of 1660 was again adjusted and more importantly, the state appratus perfected accordingly --that is, feudal institutions were eliminated and substituted by others, better adapted to the needs of, and controlled by, the bourgeoisie-- in the "Revolution" of 1688, when the bourgeois revolution in England may be said to have been completed. In particular, the institutional basis of land ownership had been fundamentally transformed, from feudal into 'modern private property':

> (T)he landowners freed themselves from all the feudal dues owed by them to the Crown...by this action, Marx says, they 'vindicated for themselves the rights of modern private property to which they had only a feudal title'.(7)

a transformation which, of course, suited the bourgeoisie still better, for it created at once the conditions to the separation of the labourer

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(7) That is, in the Restoration which accompanied the 1660 compromise, *op.cit.*, p.273.

(on land) from his means of production,[8] and the conditions of the direct access of the bourgeoisie to land.

1.2 ANDERSON AND SMITH

> Smith's [inconsistencies]...are based on the simultaneous employment of categories drawn from the rude, feudal and capitalist organizations of society.
>
> Ben Fine, 1980

The century or so which followed may be summed up in terms of class struggle as the dual domination of the class of landlords and of the bourgeoisie over the dominated classes of peasants, yeomen, craftsmen etc., the greater part of which were gradually depossessed of their means of production and thereby transformed into wage earners, thus creating the conditions for the industrial revolution. This is the society which presented itself to Adam Smith (1776) and Jemes Anderson (1777). Two important features of it, of special interest for us here, are that 1) it was a society in transition from feudalist to capitalist, and 2) a strong alliance between landlords and bourgeoisie prevailed. Under these circumstances, on the one hand, it is only natural that the conditions in which surplus product was appropriated in the form of rent were not so clear in Adam Smith's day, or --in broader terms of Political Economy-- that in The Wealth of Nations coexist elements

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(8) A point stressed by, for instance, Murray (Murray, 1977, pp.113-4 and Murray, 1978, p.11), following Marx. The institutional basis of private property in land would not be sufficient, by itself, to effect the depossession of peasants from land. It was complemented accordingly by ruthless application of sheer force which accompanied the enclosures in the century and a half or so which followed. But the way to the enclosures was opened by the transformation of landownership from feudal class ownership into modern private property.

referring to 'rude' society (drawn from history), to feudalism (inherited from the Physiocrats) and to fully developed capitalism (a result of powerful abstraction.[9] On the other hand, it is not surprising either that even Smith's or Anderson's insights regarding the nature of rent were not developed or made use of, even though agriculture had grown to be the most important of English industries, yielding nearly half of the national product.[10] The question of land rent was unimportant, for the distribution of the surplus product between allies was not at stake. The latter, or more precisely, the bourgeois side, were busy with matters more important such as the formation of a proletariat, the conquest of Ireland and Scotland, as well as with external wars mainly against the France of Louis XIV then against Holland and that eventually resulted in a build-up of colonial possessions, a starting point to the would-be British Empire.[11] Meanwhile, behind the

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(9) See for example, Fine's interpretation of the threefold nature of Smith's theory of value (Fine, 1980, p. 142 ss_). The transitional nature of Smith's historical epoch is also the reason of his consciousness of historical transformations just as conversely, the ahistorical nature of Ricardo's thought stems from the fact that he witnessed a stage of consolidation of capitalism as the dominant mode of production or, what is to say the same, of the bourgeoisie as a dominant class (see below).

(10) Deane & Cole (1967):157. Capitalist production has been spreading fast into agriculture (see note 8 above) and the latter trebled its exports in the first two thirds of the nineteenth century, from about 160,000 qrs to nearly half a million qrs yearly by 1765 (Morton, 1938, p.324). In the same period, prices were stable around 35*s* a quarter.

(11) See Morton (op.cit., p.306). In a straightforward formulation, Colonel Liddel Hart wrote: "England was [but] an indirect participant in the Seven Years' War (1756-63), [and] made her contribution and took her profits indirectly. While the Armies of Europe were exhausting themselves and their states in direct action, small detachments of England were turning this weakness to advantage by acquiring the British Empire." (Hart, 1941, p. 112). There can be little doubt but that this uniquely farsighted approach was inspired by England's bourgeoisie, to whom the colonies were acquiring, by the eve of the industrial revolution, a significance far beyond the hitherto traditional way of seeing them as a source of riches obtainable through simple plunder.

walls erected by protective barriers that all but barred imports while stimulating exports (Hill, 1967:18Lss_), English manufactures were slowly gathering strength - a process that would lead later to the industrial revolution and to the increased weight of industrial capital.

1.3 RICARDO

> Ricardo's abstract formulae [were] but the faithful expression of the spectacle presented by the history of his own time: a duel was being fought under his eyes between two societies.
>
> Élie Halévy (12)

A very different picture of society and of economy presented itself to David Ricardo less than half a century later. The Industrial Revolution was well under way and in fact, it was at its height by the time Ricardo published his Principles (1817). The newly designed machines were working at full capacity in the factories, operated by an abundant proletariat. But, and largely as a result of these same developments, corn prices had been on the rise since the latter third of the eighteenth century, putting pressure on wages and thereby on profits. On the other hand, Britain's dominance on the international scene was now unchallenged - Prussia and Russia were powers to be reckoned with, but their economy was not in a position to threaten, even in the slightest, the hegemony of British industry. Under these conditions, the question of the division of the surplus between the dominant classes came to the fore. The bourgeoisie increasingly felt that

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(12) As quoted in Semmel (1970), p.7 and merged from three pieces into one.

(13) Morton, p.328; Marx, *TSV II*:116,236.

their old allies were having an excessive share of it, and that the time has come to alter the terms of the alliance.

Economists on both sides of the class divide focused their attention on land rent, the economic form of the relation between the two dominant classes. "Splendid tournaments were held" (Capital 1:24) among the economists of the day. The amount of rent, in particular, was seen as the expression of the balance of power between landowners and capitalists insofar as rent was precisely the means of distributing the surplus between both classes. Ricardo, for one, clearly held that land rent was a transfer payment from one class --the capitalists-- to another -- the landowners ;(14) and this division of surplus was much less 'natural' for him than it had appeared to Adam Smith half a century earlier. Being a man of finance fully committed to the bourgeoisie, Ricardo developed his theory as a weapon(15) to be used on his side.

High rents were secured for landowners through the maintenance of high corn prices protected by duties on imports and Ricardo's theory provided a rationale to be used in the battle of the Corn Laws in favour of the abolition of import taxes. The fall of the protective barrier against cheaper American and North-Eastern European grain would reduce prices and with them the level of agricultural rents. Ricardo went even further to demonstrate that a tax on rent would not induce an increase in prices nor otherwise affect production, being solely a

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(14) "It is only one class profiting at the expense of another class" (op.cit., p.40*n*), a view that had been forwarded before him, too (cf. op.cit., p.273, or for a comprehensive review of contemporary writing, see Semmel, 1970).

(15) It is not implied that he was conscious of this. An individual's rationality develops through his experience as a result of his social position. Ricardo's theory may have appeared to him as the 'truth', just, as say, parson Malthus' own to himself.

further diminishment of the share of landlords in the surplus product. The English bourgeoisie which had just emerged strengthened from the Napoleonic Wars could now afford to make use of such a theory.

The period between Waterloo (1815) and the European Revolutions (1848) was, in England, a period during which, amidst intense political turmoil, the bourgeoisie, led now by industrial capitalists, took further important steps towards direct political control(16) and the introduction of the Free Trade system, which would lead to the worldwide hegemony of the English industry. It is also the period of the Corn Laws, enforced

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(16) "(T)he Industrial Revolution had reached a point at which the class it had engendered was becoming strong enough to dictate a new policy even before it had reached political power" - writes Morton of this period (p.386). The struggle for political power was carried out in the presence of awkward and ephemere class combinations, the intricacy of which led Trevelyan to the statement that "The political history of the period is bewildering to the student, and rich in paradoxical happenings" (quoted in Morton, as above). One of the main features of this transitional period which helped to add to its 'bewildering' complexity was that as a result of the Industrial Revolution, the initiative and the leadership of the bourgeoisie had passed from the merchants to the industrial capitalists and that the former frequently sided with the landlords - a fact that had led Marx to see the repeal of the Corn Laws and the other measures of the Free Trade legislation as a victory of industrial capitalists over the fraction of merchants, after which only was "(t)he complete rule of industrial capital...acknowledged by English merchant's capital and moneyed interest" (Cap. III:327*n*). Another is that in his struggle for power, bourgeoisie attempted - and succeeded - to rally the support of the industrial working class. To this purpose, among all other measures which composed the Free Trade legislation, the repeal of the Corn Laws was erected as a banner to win popular support. As soon as the Reform Bill passed to law (1832) strengthening the position of the bourgeoisie, this "alliance" was broken, but it helps to explain the intensity of working class agitation throughout the first decades of the nineteenth century, only a part of which was due to the strength and organisation of the working class themselves.

in 1815 and repealed in 1846 and - for a few temporary taxes that remained - three years later. Just how Ricardo's theory takes part in the struggle between bourgeoisie and landlords will be returned to after a brief account of the Ricardian theory of rent itself.

1.4 THE THEORY: DIFFERENTIAL RENT

> Ricardo's theory then has a beautiful simplicity precisely because of the purity of the abstract concept that he uses and the naivety with which he connects it to more complex concepts.
>
> Ben Fine (1982)

The theory itself --the theory of differential rent-- is a clear-cut construction set up at the price of considerable oversimplification as referred to earlier.[17] Ricardo starts out from two basic assumptions regarding agricultural production: the undisputable assumption of diminishing returns related to the concrete conditions of production

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(17) In the first paragraph of this Part I. A comparison between Smith's and Ricardo's underlying conceptions of Political Economy is provided in Fine (1982): "Due to the breadth of his knowledge and the wish to compare and contrast different stages of development of society and the forces that gave rise to a transition between stages, Smith draws upon a wealth of...historical material...as a means of posing and solving theoretical problems. Here is a complete contrast with Ricardo. Although Ricardo wishes to apply his analysis to important questions of the day, concerning taxation and free trade, it is the narrowness of the underlying sources of Ricardo's theory that is crucial (...) Ricardo's theory then has a beautiful simplicity because of the purity of the abstract concept [that is, labour-value] that he uses and the naivety with which he connects it to more complex concepts, as if or in the hope that they were not more complex", (p.22)

on land,[18] and the controversial assumption of marginal return equalizing investment related to decisions of the capitalist farmer prior to the existence of rent. The conditions of production are summed up in Fig. 1.1 below where three 'production functions' are shown according to three plots of land of different fertility[19] **A**, **B** and **C**, the latter being the worst land under cultivation. An (otherwise unspecified) initial investment (which, for sake of simplicity, we may

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(18) Undisputable, that is, as far as it applies to a given stage of development of production. It becomes an ahistorical abstraction if extended through time as production develops (see reference to the Ricardian account of the falling rate of profit in the following section and note (11) in Chap. 2). It is also quite irrelevant for the question of the existence of rent. In fact, while this assumption does correspond to the physical conditions of agricultural production (even if in the severely restricted case only, of a single crop on lands of different fertility) at a specific epoch and thus defines the rate of surplus according to capital investment, it does not imply the existence of rent and actually it says nothing about the division of surplus between landowners (rent) and capitalists (profit). It takes therefore further assumptions to derive rent, and it is here that, in Ricardo's case, his second assumption about the marginal return equalisation comes in. Ricardo left unclear what would prevent capitalists from investing further (once that in any case they will be left with the average rate of profit which is assumed prior to any assumption regarding agricultural production), this being precisely at the core of Marx's critique of Ricardian differential rent. The latter - Marx's critique - is not uncontentious either, as witnesses the controversy between Ball (1980) and Fine (1980b, see especially p. 330) and this is the reason why we call the marginal return equalizing assumption 'controversial' below. However, although we render Marx's critique of it in Section 2.2 below, we will not go into the controversy any further precisely because of the conclusion of this interpretation of the rent theory, namely, that the category of 'capitalist ground rent', having become obsolete is not relevant for an analysis of contemporary capitalism; and under the new assumptions upon which spatial organisation should be analysed (see Section 3.2), this particular question does not arise altogether.

(19) Meaning lesser costs of production, including transport cost to a market where the price is formed. See also note (21) below.

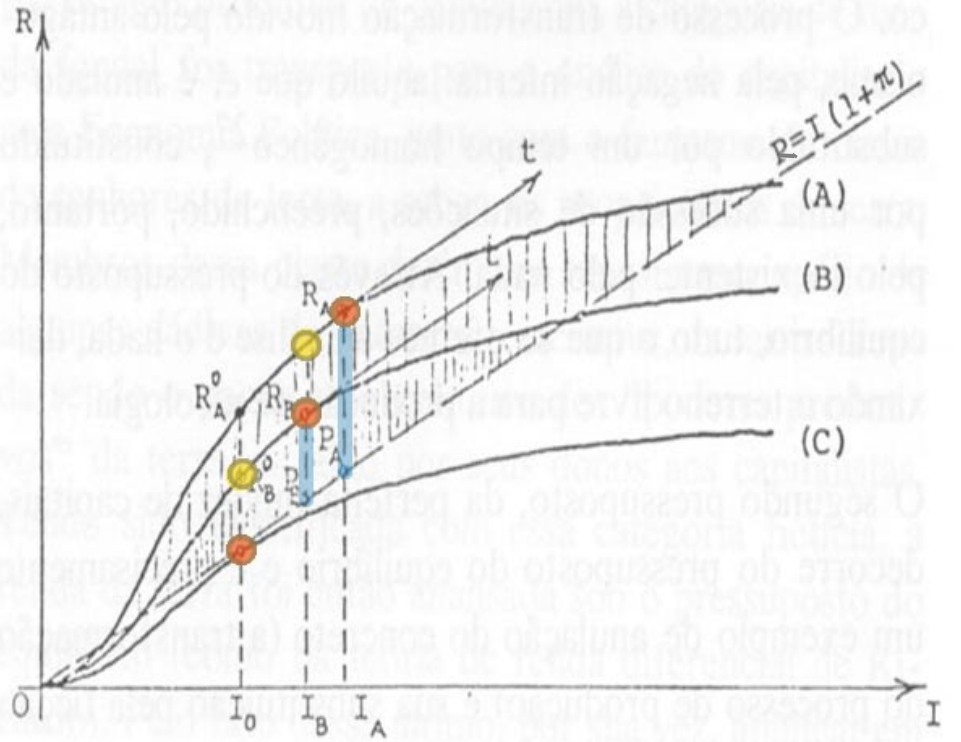

FIGURE 1.1- Ricardian differential rent: production functions of three plots of land of different fertilities **A**, **B** and **C**. Portion of total return falling within shaded area below each curve (as P_AR_A for investment I_A on land A) is 'excess profit', above the line $R = I(i+\pi)$, where **R** is return on investment **I** and π is the average rate of profit prevailing in the economy.

assume to be the profit rate maximizing and thereby necessary amount on the worst land, as I in Figure above) yields different profits on the different lands due precisely to their different fertilities. This profit on the worst land, which determines prices and will yield no rent, is equal to the average rate of profit, while profits are greater than this average --thence 'excess profits'-- on the better lands. Rent is paid for the right to cultivation of the better lands (because of competition between capitalist farmers) in an amount precisely equal to the respective excess profits. Capitalists are left with the average profit (rate) and landlords with the differential rent in this first form.

Ricardo then goes on to consider that in the progressive occupation of lands from the best to the worst, before investing on a worst land, additional capitals may be invested - as it "indeed, commonly happens" (op.cit., p.36) - on the best lands yielding a lesser, but still above average, profit, up to a point where (here is the marginal return equalizing assumption) the last unit of capital yields precisely the average profit, in a way that "the capital last employed pays no rent" (ibid., p.36). These points are shown in Figure 1.1 as R_A, R_B and R_C for each land, respectively. Again, rents correspond to the 'excess profits',(20) (in our Figure, $\overline{P_AR_A}$, $\overline{P_BR_B}$ and nought), and are the maximum rent payable. This is the final form of the Ricardian differential rent.(21)

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(20) Excess profit is a tricky name for an amount of money which will never exist as profit but only as rent and indeed, it exists only for this purpose, i.e. to become rent. It is, however, the generally accepted term in rent theory.

(21) This is a short indeed account of Ricardo's rent theory. Further references to it will be made in the following section on Marx's critique of the theory of rent. It should be seen however, having in addition to Ricardo's own account, the critique of Marx and some contemporary critiques, such as Ball (1977) and Frey et al. (1980), for example. In particular, a number of points are

Ricardo says nothing as to why the capitalists would not invest further on the best lands[22] and this is one of the crucial points of his whole theory, the discussion of which we retake in the next chapter on Marx's critique. The theory however, in this precise form and notwithstanding the controversial nature of the second assumption regarding **the** process of production on land (and indeed, rather even more because of the specific content of the latter - which allows for the precedence of production over the existence of rent) suited the bourgeoisie a la merveille, as we will try to assess now. "Ricardo - wrote Keynes - conquered England as completely as the Holy Inquisition conquered Spain", but there are reasons for this more specific than "a complex of suitabilities in the doctrine to the environment into which it was projected" that the master of kaleidics advanced hypothetically[23] - they only need spelling out.

(cont.) omitted here from Ricardo's argument, to which we may now make a brief reference. Firstly, of course, as was of use in Political Economy, he assumes competititon both among landlords and among capitalist farmers as well as equalization of the rate of profit. Land rent arises from the production of a single ('basic') crop. The order of occupation of lands for cultivation is from the best to the worst lands, as needs of agricultural production increase. Further, he painstakingly excludes from the category of rent the amount paid for permanent improvements on land (which would correspond to a part of what Marx called later differential rent II) which he sees as interest paid for that fixed capital, confining the category of rent to what is paid for the "original and indestructible powers of the soil" (op.cit., pp.33,34 etc.). On the other hand, he (correctly) includes the effects of localization, even though this is hardly an original or indestructible power of the land. These points and others, such as his concept of scarcity (of land) etc., however, do not interfere for now with our argument. Some of the above assumptions, though, especially average rate of profit, 'single crop' production and land as a 'natural resource', will be discussed in later sections.

(22) ...except for the reason one can imagine that they were forced to pay out the greatest possible rent, which left them no alternative. He only implies that they would not (invest further), even if rents were lowered, saying that they would then "live like gentlemen" instead (p.38), an important implication of this being that abolition of rents would not alter the conditions of production.

(23) Keynes (1936):32-3. The explanation quoted - where we recognise Keynes[1] peculiar language in which capitalism is "an economy of the type to which we are accustomed" (op.cit., p.232) - is introduced by "it must have been". - Kaleidics:A from 'Keynesian Kaleidics', coined by Shackle (1974), UP, Edinburgh.

1.5 THE APPEAL OF THE THEORY

> No reduction would take place in the price of corn although landlords should forego the whole of their rent. Such a measure would only enable some fanners to live like gentlemen-...
>
> Ricardo, Principles

We have seen what were the social relations and the social forces prevailing in Ricardo's time. As regards land rents proper, the appearances under which it manifested itself in the economy may be summed up in a few 'facts' to be accounted for by any theory of rent.(24)

Firstly, there was a land rent. Capitalists had to pay to the traditional owners, the landlords, for the right to use land for production - a necessary production, needed to feed the ever-increasing numbers of the proletariat and ultimately, to the reproduction of society. Secondly, different lands yielded different amounts of rent. 'Better' lands - either due to greater fertility or because more favourably located - yielded higher rents. Thirdly, even the worst lands yielded rent, however low, once brought into production. Only waste land did not (and could not) yield a rent. Finally, land rents seemed to rise as population increased and production developed.

Ricardo's theory accounts for an 'explanation' of all but the third of these phenomena. This is good enough; and even better if we consider that in the early nineteenth century agricultural production was

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(24) If one allows for the substitution of rent by price, the 'facts' to be explained are very much the same under contemporary capitalism (that is, in urbanism), apart from the fact that land is not paid for to landlords, which is the very reason of the substitution - but this is to put the car before the horse: we have not disposed of the category of rent as yet.

expanding even in Britain and that in her colonies and in America vast extensions were available for inclusion into cultivated land,[25] in a way that the 'worst land' - which yielded only a small rent anyway - could relatively easily be confused with neighbouring fallows which definitely did not afford rent. Thus, though discernible (a basis on which Anderson already mentioned, conceived the category of absolute rent half a century earlier), the smallest rents on the worst lands under production could be overlooked.

As we have seen, greater issues were at stake, namely, the Corn Laws which had erected (1815) a protective barrier - as a substitute for the one hitherto provided by Napoleon's own ban on trade with England - for the high priced home produced grain, in a move which turned out to be "the last clear-cut victory of the landowners as a class in England".[26] Now, according to Ricardo's theory and in his own interpretation, in an isolated country, production on the worst land regulates the price of corn. It is then reasonable to expect that if importation of cheaper grain is allowed, the worst lands will be driven out of production and 1) rents on the remaining lands in production will diminish because of lesser surplus profits obtainable (all production curves in Figure 1.1 above slide downwards due to a lesser

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(25) Ricardo and contemporaries were acutely aware of the conditions of production in the colonies and America: "I believe that as yet in every country...there is land of such a quality that it cannot yield a produce more than sufficiently valuable to replace the stock employed upon it, together with the profits ordinary and usual in that country [that is, it cannot yield rent]. In America, we all know that is the case..." (op.cit., pp.219-20, my note in square bracket). An interesting restriction in the assertion is "as yet", as though Ricardo had sensed that the state of affairs he was describing was nearing an end.

(26) Morton, op.cit., p.401. According to the law, imports were forbidden when prices fell below 50s_ a quarter, that is, in all but nine years when prices were at levels reached only in years of famine half a century earlier.

market price) and 2) wages may be kept lower as subsistance becomes cheaper.[27] Ricardo was not alone in this belief and as dispute continued for the abolition of the Corn Law which became one of the cornerstones of the struggle between landownership and industrial capital,[28] arguments multiplied on either side. It was estimated, for example, that the corn tariffs put a burden on manufacturers equivalent to £200,000 a year by 1837 and many "great manufacturers, thoughtful, calculating man of business", reckoned that [as a working day] "ten hours of labour would be quite sufficient, if the Corn Laws were abolished".[29] In a broader perspective, the importance of the subsistence cost may be further assessed through the evolution of increasingly heavy state subsidies to the maintenance of the proletariat. The Poor Rate, the earliest version of the 'welfare state', had appeared as early as the proletariat itself, but while its cost by 1750 stood at about £700,000, it increased rapidly to about £6m throughout the period 1810-34. Even if checked, as it should be, against the growth of the economy, in relative terms, therefore, the cost of the Poor Rates still doubled to about 16% of the value of exports during the same period, and trebled as a proportion of national income, from 0.7% to 2%.[30]

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(27) Wage: the price of the subsistence bundle of commodities, an important part of which is corn. Eventually, a third effect, whether or not expected, would follow from the first: the lands freed from wheat production would become available for, other crops. As it happened, cotton became an all-important new crop as soon as the Corn Laws were abolished.

(28) For reasons given in note (16) above.

(29) Contemporary estimates, cited in Marx, Cap.111:108-9.

(30) For the cost of the Poor Rates, see Morton (1938), p.341; for the value of English (British) exports, Dean & Cole (1967), pp. 320-1, 29; for national income, Dean & Cole (1967):156 and 282 for 1750 and 1810-30 respectively.

If the pressure of corn prices on wage was perceived as a burden in the present, it became a fatal menace when viewed in the long run. In Ricardo's theory the diminishing returns assumption may be (owing to the ahistorical nature of its method) extended to an application of it through time as production develops (as opposed to an application to a given stage of development considered above). As population increases and thereby the demand for corn, ever newer and worse lands should be brought under cultivation under worsening conditions of production, causing market price regulating price of production of corn (and with it, rents) to rise, which in turn would rise wages thus leading to diminishing profit rate and the economy would ultimately be brought to stagnation - whereby Ricardo's theory locates the cause of the tendency of the rate of profit to fall in the trend of the price of agricultural produce to increase. The tendency of the rate of profit to fall has been an ever-recurrent concern since Adam Smith and the most variegated explanations (and remedies) had been produced for it in Political Economy. The fact that Ricardo placed the main cause of the tendency of the rate of profit to fall in the tendency of corn prices to rise, helped to contrast the conflicting interests of landowners and capitalists and specifically, put the Corn Laws, the only purpose of which was precisely the maintenance of high corn prices, in the light of being a direct menace to the very survival of capitalist production. On the contrary, "there was no possible limit to the prosperity of England, if the ports were only thrown open to foreign corn" - voiced Torrens (1834) the general feeling on the bourgeois side.(31) In a way that Ricardo was both on the progressive

(31) Quoted in Semmel (1970), p.148. Further mention will be made below to the theme of empire-building, implied in Torrens' hint, as a way to avoid an impending stagnation.

and the winning side (the Corn Laws were to be repealed in 1846 and **1849)** and this, more than anything else, was the reason of the respectability attained by his theory.

Eventually, the repeal of the Corn Laws raised effects quite different **from** those widely anticipated.(32) Corn prices failed to fall - though very likely they would have risen further if the Corn Laws had not been repealed; and they became stable, too, as opposed to the wild oscillations they underwent owing to speculation in the previous period,(33) - and rents failed to diminish - though, again, this was due to the counterbalancing effect of drainage and other permanent improvements on the land financed by Government subsidies in the form of 'very low interest' loans the landowners were able to grant themselves in Parliament, as a compensation for their losses.(34) (Or was it still rent? Ricardo ought to say no, as they would clearly not be

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(32) But not by all. Contemporary politician Peel knew, for one, that "the belief common among landowners that vast stores of wheat were lying in the. Baltic granaries ready to be poured into England was a pure fantasy". He also "knew, what few people on either side knew, that the surplus for export in any country was still quite small and that the most the repeal of the Corn Laws would do would be to prevent an otherwise inevitable rise in prices which might have revolutionary consequences". (Morton, op.cit., p.403, my emphasis). As it happened, massive American grain export did not flood the English market until after 1874 (Engels, 1888, p.16).

(33) From under 40s_ to over 150£ a quarter (Morton, 1938, p.328).

(34) Marx, Cap.Ill:706,725; Morton, op.cit., pp.403-6). About this 'compensation': is hard not to remember again and again Massey & Catalano (1979)'s statement that the landowner class, "has, indeed, shown remarkable staying power" (p.186), or of Marx's own about "the amazing vitality of big landowners" (Cap.Ill, p.725). Some events considered so far do account for an explanation of the origin of this view, which however requires qualification, the central question being whether or not those "big landlords" as individuals still constituted a class and if not, when they had ceased to do so.

paid for the use of original or indestructible powers of the land). However, apart from the specific purpose of diminishing rents, the repeal of the Corn Laws was an important measure in the whole of the Free Trade legislation insofar as it allowed intensified agricultural production with freer access of capital to land and subordinating it further to industrial production. Nor was the cheapening of food the only or even the main benefit ensuing from the abolition of corn import duties. British industry was ready to export its products to markets all over the world but protection in other countries was an obstacle to this and Britain could conceivably not persuade her trading partners to lift their protective barriers while herself was maintaining one of her own, a situation which is ably summed up in Metternich's words to a British representative: "Take our corn and we will take your manufactures".(35) In short, Morton is the most correct in saying that

> the repeal of the Corn Laws must be regarded as part of the whole Free Trade legislation which helped to make the period between 1845 and 1875 the golden age of the manufacturers. (op.cit., p.405)

It is in this sense that, quite apart from the consistency or otherwise of his theory, Ricardo was "both practically and historically right". Rents stemming from the Corn Laws were a barrier to capital; rents arising from investment on land and intensified production were not.

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(35) As reported in the Parliament, PD 16.3.1837, quoted in Semmel (1970), p.149. Metternich: Chancellor of the Austrian Empire.

(36) As compared to Anderson and Malthus (the former, the 'originator' the latter, a 'plagiarist') who employed the same theory to defend the landowners' interest (see Marx, TSV.II, p.236 and 115).

Ricardo achieved . another more important purpose than to explain rent on the worst land. Again, price of agric ultural produce - according to his theory of differential rent - is regulated by the cost of production (labour + capital + average profit) on the worst land. Accordingly, taxation of better lands, or of rents, would merely reduce the transfer payment from capitalist to landowners, but would not induce an increase in food prices (thus 'putting a pressure[1] on wages). "A tax on land would affect rents only; it would fall wholly on the landlords" so goes the categorical assertion (Principles, p.110) which, under the historical circumstances i.e., the struggle between those latter and capitalists, amounts to a recommendation to introduce taxation on rent. Even though care should be taken, as he warns, to tax only what he calls rent, excluding the part which was commonly seen as rent but in fact is interest on fixed capital invested on land,(37) Ricardo reassures the reader that

> There can be little doubt but that if a tax were laid on rent, landlords would soon find a way to discriminate between what is paid to them for the use of the land, and that which is paid for the use of buildings, (p.Ill)

Thus the road was paved for the taxation on rents - and here Ricardo is more than only historically right. In fact, we can see taxes on rent as a way of re-directing part of the rent (lost for the purpose of accumulation) into the secondary or tertiary circuits of capital, a part which thus re-enters the accumulation process. Costs of circulation of commodities; military expenditure; investment in energy and transport infrastructure, subsidies to the reproduction of labour

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(37) Which cause 'permanent' improvement of the land - see also Note (21) above.

force (health, education etc.) and the maintenance of the state apparatus are some of the biggest items in these circuits, and which are found difficult or impossible to be produced by individual capitals. The necessary proportion of (unproductive) capital in these "secondary forms of utilization of surplus value"[38] - necessary, that is, to secure the general conditions of production, or in other words, to reproduce the means and the relations of production - is, in any epoch, historically determined. The part coming from rents (through taxation) would otherwise have to come from the productive sector, where accumulation takes place. Taxation of rent was therefore an issue most important for the bourgeoisie. Although this is to anticipate conclusions arrived at but further on, it may be in order to note here that this same question ceased to be one of central concern in politics after 1846 only precisely because landowners ceased to represent a force as a class[39] - which also means

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(38) Secondary circuit: fixed capital in built environment for production, consumption and transport; tertiary circuit: capital invested in science and technology, and in the processes of reproduction of labour power (education, health, cooptation and repression), as in Harvey (1978). This is essentially the same as what Sweezy (1972) has called "secondary forms of utilization of surplus value" (p.50), wherein he does not distinguish two circuits but does specify three main groups: the upkeep of the state apparatus, the incomes of unproductive workers and the 'expenses of circulation[1]. To both Sweezy's and Harvey's items, one should add the all-important (see, for example, Sweezy's own essay just referred to) military expenditures which help to maintain colonialist or imperialist domination and help to temporarily 'solve' the problem of realization of profits on over-accumulated excess capital through forced consumption.

(39) See also for example, Fine (1980): "With the repeal of the Corn Laws, the need [in 'mainstream' economics] to produce a theory of rent that distinguishes between capital and land vanishes. Each may be considered as a factor of production, even if land is seen in some sense as non-reproducible" (p.145). Instead, rent theory was generalized to the economy to give marginalism - a reason of the continued prestige of 'Ricardian economics' (see also next note).

that they ceased to exist as a class - even though as individuals **they** may have gathered or retained enormous wealth and even power. **But** they increasingly behaved as capitalists - was not the Duke of Bedford more of a capitalist than a 'remnant of the feudal landlords'? Over almost a century before 1846, however, taxation of rents had been the object of inter-class rivalry, and Ricardo's work (who put the word "taxation" into the title of his Principles) afforded a wealth of ammunition for the bourgeois side.

Finally, and returning to a point touched upon earlier on, one of the implications of the second assumption, i.e., of marginal return equalizing investment, is that the role of the class of landowners becomes blurred. Rent is the "excess profit" resulting from capitalist production on land under the basic assumptions, rather than a privilege resulting from the social force represented by a class which enjoys it in the society. In fact, ironically, given Ricardo's purpose to show the opposite, landowners appear almost as benefactors of the capitalist farmers, or else a happy accident of nature, who solve the otherwise insoluble problem of equalizing the profit rate for those latter - by appropriating the excess. But the failure to develop the role of the landowners too explicitly was far from bad for the rising bourgeoisie which soon would have to rule alone as a class and then the question of the division of the surplus would rather not be discussed. It is also to be noted that Ricardo never suggested or even hinted at the abolition of rent, discussing only the level of rents. These features of his theory (helped by the ahistorical nature of his method) potentially permitted for seeing later profits, too, as being a consequence and a condition of product-

ion in general rather than of capitalist production, and to orientate the discussion on wage - between capitalists and labourers - to be confined to a dispute over the level of wages, but never to be extended to question wage labour itself or, in other words, the social relation of which wage is the economic form.

Just how concerned the bourgeoisie was with a challenge to its power from below (and with finding the means to overcome that challenge) is reflected in an abundant stream of contemporary writing and parliamentary debate. Before the Reform Bill (1832), the bourgeoisie had rallied the 'people' against the aristocracy. After the passing of the Bill, this 'alliance' is dropped and the main concern becomes avoiding a confrontation, now with the working class. The quotation below reproduces the atmosphere of the time, taking E.G. Wakefield as a sample:

> An English social revolution, Wakefield warned, would be disastrous. (...) Yet there was a 'way of escape'; the solution was to 'render the English working class comfortable, satisfied and as wise, at least, as the working class in America... The first step is to raise wages.; How? ... by establishing a wide trading system and colonies. (...) To thwart an impending social revolution, Wakefield...proposed a broad program of empire-building, designed to increase British production and wealth enormously.,,....

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(40) We know that bourgeois economics after Ricardo took precisely this course and went, eventually, as far as to represent profits and wages (and rents, too - never mind these were not relevant any more, it adds up to a welcome confusion) as rewards to 'factors' of production. "With the turn towards apologetics, the Ricardian line became distorted and debased into a direct and vulgar apology for capitalism" (LukScs, 1938, p.119). This perspective is elucidative also with respect to the renewed interest in Ricardo's theory which recently gave rise to the "neo-Ricardian" current. (On the latter, see the first essay in Rowthorn, 1980 or Fine, 1980, pp. 133-8).

(41) Semmel (1970), pp. 88-90. His quotations are from E.G. Wakefield (1833) England and America, pp.120-7.

Wakefield also had a recommendation for Political Economy:

> 'The mere division of produce between capitalists and labourers is a matter of very small moment, when compared with the amount of the produce to be divided.* By dwelling upon the question of distribution, 'we make bad blood between the two classes'; by examining production, 'we may prove that masters and servants have one and the same interest'. (op.cit., p.90)

There can be no denying of the long-sightedness of both Wakefield's views and propositions. As is well known the latter were followed precisely by the course taken by events in Britain and met with complete success.(42) At the time therefore when such policies were brewed, if the fact that Ricardo's theory of rent provided a rationale for two important economic measures - that is, the repeal of the Corn Laws and taxation on rents - in the interest of the bourgeoisie against the landlords made the theory appealing enough for the rising bourgeoisie, the fact that it has done so without putting the role played by the class of landlords in production and distribution of the surplus into too sharp a relief or historical perspective, turned it into a most appealing theory, and its theoretical weak point ended up by affording not the least of the very reasons of its success.

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(42) As witnessed by the "sorrowful impressions...[of] an old Chartist" writing in 1870 (Hobsbawm, 1968:126) or by Engels, writing in an answer to Kautsky: "You ask me what the English workers think about colonial policy? Well, exactly the same as they think about politics in general. There is no workers' party here, there are only Conservatives and liberal Radicals, and the workers merrily share the feast of England: monopoly of the colonies and the world market." (Engels, 1882).

THE MARXIAN CRITIQUE OF RENT THEORY

2.1 The take-off of the Victorian Age

2.2 Marx on land rent

a) Differential rent

b) Absolute rent

c) Monopoly rent

2.3 Labour theory of value and fundamental assumptions

2.4 Marx and the class of landowners

2.5 The missing books of Capital

The Trinity Formula

Rey's contribution

Marx's method versus Marx

THE MARXIAN CRITIQUE OF THE THEORY OF RENT

> We shall be concerned with it [landed property] only in so far as a portion of the surplus-value produced by capital falls to the share of the landowner.
>
> The form of landed property which we shall consider here is a specific historical one, a form transformed through the influence of capital and the capitalist mode of production, either of feudal landownership or of small-peasant agriculture.
>
> Marx, Cap.Ill:614 (1)

A generation after Ricardo the transition from feudalism to capitalism in Britain had just been completed - in that the bourgeoisie had just acquired full political power - and this provides a starting point to an interpretation of both Marx's writing on rent and the obsolescence of rent theory itself. Let us start with an outline of the historical conditions of Marx's work on political economy.

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(1) In the Lawrence and Wishart (1972) edition Cas in previous English editions) the expression 'specific historical[1] reads a rather meaningless 'historically specific'. The correct translation of the German 'spezifisch historische Form is however 'specific historical', to appear first in the recent Penguin (1981) edition.

2.1 THE TAKE-OFF OF THE VICTORIAN AGE

> The Free Trade legislation helped to make the period between 1845 and 1875 the golden age of the **manufacturers**.
>
> **Morton,** 1938

When Marx, fleeing from the reaction which followed the revolutions of **1848** all over continental Europe, arrived in England in 1849, this country was beginning to reap the fruits of the 'industrial revolution[1] It was the beginning of the Victorian Age.

Fully developed capitalist relations of production were accompanied by an unprecedented development fo the productive forces and - under the banner of free trade - Britain was exporting the products of her industry and the capitalist mode of production itself to the whole world, bringing most parts of it under her domination in the process. Marx sat down for a new start, with respect to his early works, "reworking the new material"(2) with which the heartland of capitalism abundantly provided him. By the time, less than twenty eyars later, when he had completed most of his work on political economy and all of his work on land rent (by 1866), this 'golden age of the manufacturers' was still following an unbroken path of accumulation and of growth and expansion.(3) The first sporadic signs of crisis came by 1865 and

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(2) Marx (1859), Preface.

(3) See Morton (1938), p.4O4ss, or Engels (1888), who describes this same period thus: "the years immediately following the victory of Free Trade in England seemed to verify the most extravagant expectations founded upon that event. British commerce rose to a fabulous amount; the industrial monopoly of England on the market of the world seemed more firmly established than ever; ...new branches of industry grew up on every side. There was indeed, a severe crisis in 1857, but that was overcome, and the onward movement in trade and manufactures was in full swing again, until in 1866 a fresh panic occurred, a panic, this time, which seems to mark a new departure in the economic history of the world." (p.7).

it was not until after the Franco-Prussian War that this first phase of imperialism was plunged into the Great Depression which lasted a quarter century (1873-96).(4) "Free competition" ruled over and among (British) industrial capitalists and made technological innovations part of every-day life. Monopoly and finance capital were not yet in sight and - on the other hand - landowners still shone in the glory of their past power.

These are, in brief, some of the main peculiar features of the historical (and geographical) circumstances under which Marx's views on land rent and land ownership have developed.

2.2 MARX ON LAND RENT

> We assume, then, that agriculture is dominated by the capitalist mode of production, just as manufacture is.
>
> Marx, Cap.III—:614

Marx did not, properly speaking, elaborate a theory of rent, so as he has not built a theory of capitalist economy. His work is rather aimed at laying the foundations of a social and historical science, as opposed to Political Economy, to the critique of which he devoted most of his writings. If one may speak of a Marxian (his) theory of rent, it is to the extent that Marx's critique of earlier forms of theory,

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(4) Itoh (1977), p.9, Itoh (1980), pp.141-4 or Engels (1888, see note above).

(5) Cf. also Sweezy (1981): "at the time of writing Capital (the early 1860s) these changes were still only beginning to appear and very little empirical material was available on which to base an analysis." (p.59).

among which Ricardo's occupies a central place, but where those of Anderson, Rodbertus, Adam Smith, Maithus etc., are included, added to his own analyses (which are never conclusive in themselves) amount to a more or less coherent view of the conditions of production and appropriation of surplus in agriculture under developing capitalism. Taken as a whole, these elements of Marx's "theory" of rent are far more developed in both depth and detail than Ricardo's, the main difference between the two is however that for Marx rent is an historical rather than a natural form. The concept of 'capitalist ground rent' is developed in the perspective that feudalist rent, a social relation - because it is the dominant form of production and appropriation of surplus product - between serfs and landowners, was transformed under capitalism into a relation between capitalists and landowners - again, a social relation because it presides (together with the relation capital/wage between capitalist farmer and wage labourer) over both the production and appropriation of surplus in agriculture, the main industry at the early stage of capitalist development. (An immediate implication of this, upon which we shall dwell later on, is that the relevance of 'capitalist ground rent' as a category of analysis of an historically and geographically specific social formation is dependent upon the existence of the social relation between a class of capitalists and a class of landlords.)

As a consequence of the difference between their respective (historical and natural) concepts of the rent form, Marx's analysis tends towards a conclusion opposed to Ricardo's regarding the causal relationship between production and rents.(6) For Ricardo, rent was a consequence

(6) Marx's writing is far from being an unequivocal statement of this. In what follows, we shall consider first, in this section, Marx's analysis in its more straightforward development, to take later below (next three sections) on its internal contradictions and on the historical reasons of the latter.

of (capitalist, to him a natural mode of) production on land. By contrast, Marx's purpose in his analysis of differential rent is to show that it is sufficient to abandon the marginal return equalizing assumption and the causal relationship between production and rent is reversed: it is the existence of rent which forces (5) capitalists to underinvest and thereby to extract 'excess profits'.(7) A corollary of this is that differential rent does not explain either the level of rents or the existence of rent. Accordingly, Marx introduces additional categories of rent: in addition to splitting differential rent into 'differential rent I' and 'differential rent II', he considers the categories of 'absolute rent' and 'monopoly rent'.(8) We will presently summarise Marx's main argument on rent in a couple of pages - a task which could never be reasonably undertaken but for a good many earlier works and especially those referred to in the two preceding notes. It is crucial to note at the outset, that Marx's various categories of rent are not 'components' to be summed up to obtain some 'total rent'. They are, rather, *processes* related to production on land, which *may* give rise to rent, according to the prevailing relations of production and the corresponding development of production itself.

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(7) This point is developed in detail in Ball (1977) and Frey *et al.* (1980) --and challenged in Fine, 1980*b* (see Chap.1, fn.18 above).

(8) Murray's two-part paper (Murray, 1977, 78) is a valuable guide to Marx's categories of rent, in particular with respect to the categories of 'absolute rent' and 'monopoly rent', with a discussion within Marx's own framework. On the other hand, Rey (1973) provides a strikingly original critique -- and reformulation -- of Marx's derivation of absolute rent, to which further reference will be made especially in section 2.5 below.

a) Differential rent

> Under the law of landed property however, the equalization of the individual average price is prevented.
>
> Marx, Capital III(9)

Marx starts his analysis under the same general assumptions as Ricardo regarding capitalist production but drops both Ricardo's main assumptions specific to production on land. The first assumption (of diminishing returns) he substitutes with the study of three possible 'cases' of increasing, constant and diminishing returns of capital invested on land, respectively, while the second assumption (marginal return equalizing investment) is transformed into the result of the analysis of production in the third former case.

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(9) For easier reading in an epigraph, ... marks were dropped from the quotation, which should properly read: "Under the laws of landed property, however, ...(t)he equalization of the individual price...is...prevented." (p.735).

(10) "The assumption that the capitalist mode of production has encompassed agriculture implies that it rules over all spheres of production and bourgeois society, i.e., that its prerequisites, such as free competition among capitals, the possibility of transferring the latter from one production sphere to another, and a uniform level of average profit, are fully matured." (Marx, Cap.Ill, p.614).

(11) Which is the relevant case; (that is, insofar as differential rent is concerned); in this, Ricardo was correct. Interesting details are revealed in considering increased returns, but Marx's analysis is unnecessarily painstaking and confusing, and led others after him into confusion. The relevant view of increasing returns is in connection with the historical development of production (as opposed to a 'general equilibrium' state, the true context of differential rent). Rather than to an analysis of differential rent, therefore, the 'case' of increasing returns is relevant to a critique of Ricardo's explanation of the falling rate of profit (caused by diminishing returns as ever worse lands are brought into production).

In its simplest and most straightforward form, his argument goes like this. Lands of different 'fertility'(12) yield of course different returns for the same capital invested on them. If you stop here, you have differential rent I. But of course, additional capitals may then be applied to any land yielding a, though diminishing, however still greater than average profit return (only one such land, A, is represented in Figure 2.1 below), and that excess over average profit would increase the previous rent on the same lands, giving rise to differential rent II. If you stop investing at a point where the 'last investment[1] yields a return at precisely the average profit rate, as for I in Figure 2, you have a theory of 'complete' differential rent, including parts I and II (this is where Ricardo had stopped, as we have seen in the previous section). But again, of course, additional capitals may still further be invested on all but the worst land, now yielding returns at less than the average profit rate, 'eating up' the excess profits (and therefore, the rent payable) accumulated by 'previous' capitals up to a point M (on land A, see figure) where average return on total 1^ is equal to the average rate of profit (then you would have a theory of 'zero rent' or of non-rent). Capitalists have equalized the rate of profit of investments on lands of different fertility without the 'help' of the landowners.(13)

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(12) The concept of fertility here is about the same as Ricardo[1]s; but Marx stresses that in most cases, the natural basis of fertility is strongly transformed by men throughout history, in a way that the productive powers of the soil are neither 'original' nor 'indestructible[1]. In fact, his correspondence shows that the same idea was not alien to Ricardo either (as quoted further below, Chap.5, Jn.7, in fine) but it did remain absent from his theory of rent.

(13) It is to be noted that in the last case, although profit rate is (and likewise, prices) the same as before (i.e., in the Ricardian case), accumulation is faster because production is greater (for a same amount of capital invested on land). Of course, what in the previous case was paid out in the form of rent, and thus was lost for the purpose of accumulation, is now invested at the average rate of profit. This is to say

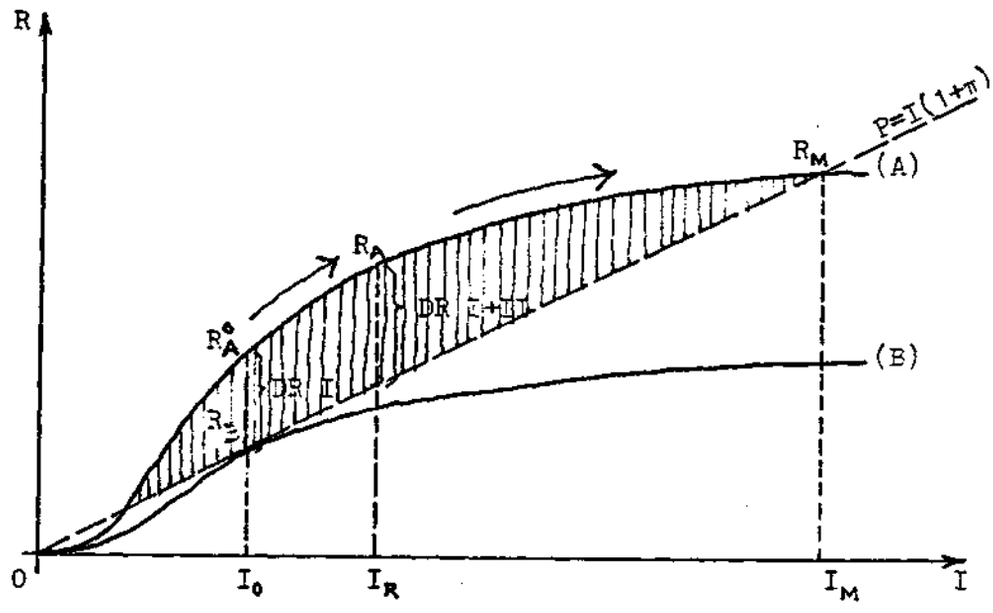

FIGURE 2.1- Marx's critique of differential rent. If the capitalist farmer was not forced to pay a rent, additional capitals might be invested on the best lands (here: land A) beyond the 'Ricardian' point I_R , now yielding returns at less than the average profit rate π , until reaching the investment I_M, which affords no rent and yields the average profit.

If this does not happen, Marx concludes, as in the quotation in epigraph above, it is because capitalists are prevented from so doing by the landowners who, due to their monopoly of land are able to force the farmer to pay rent for the right to produce on the land.

If, however, the payment of rent is forced upon capitalist farmers, rather than being an outcome of capitalist production, it follows that differential rent, and in particular, the Ricardian theory of rent is not an explanation either of the existence or of the level of rents. Other processes, however, according to Marx, may be at play and which could give rise to rents on land. To these processes correspond the categories of absolute and of monopoly rents.

b) Absolute rent

> But whether this absolute rent equals the whole excess of value over the price of production or just a part of it, the agricultural product will always be sold at a monopoly price.
>
> Marx, *Capital III*:762

(cont.) nothing of the fact that, were increase of production unnecessary, increased production on the best lands would drive part of the worst lands out of cultivation and the regulating price of production on the (now better than previously) worst land would fall, thereby allowing either real wages to rise (see Chap.l, fn.27) or the profit rate to increase, but easing the pressure of wage on the profit rate (or vice versa, which is the same) in either case. Such a reasoning is at the basis of the widely held view that 'land rent' hinders capitalist accumulation (even in our day) and therefore it should be finally 'abolished' somehow, e.g., through state ownership of land. The same reasoning, however, ignores the regulating function of the payment for land either in the form of rent or price in the localization of economic activities, so that an abolition of private property of land would imply ('other things' would not 'be equal') an absolute central planning to perform the role of spatial organization of production taken away from the price of the land - as will be discussed further below.

We have seen earlier that for some reason, Ricardo disregarded rent also on the worst land. Marx thought Ricardo had been forced to do this in order to preserve his labour theory of value:

> Ricardo abstracts from the question of absolute rent which he denies on theoretical grounds because he starts out from the false assumption that _if_ the value of commodities is determined by labour-time, the average price of commodities must equal their values. (*TSV II*:129)

To suppose that any landlord would let out his land for nothing in return, however, contradicts commonsense and Marx proceeds to offer a hypothetical 'solution' to Ricardo's problem, allowing thereby for the re-introduction (after Anderson) of the category of absolute rent. This is the main theme of the relatively short Chapter 45 of Capital III.(14)

A rent(15) can be paid also on the worst land only if the price of the commodity produced on that land is higher than its price of production.

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(14) As in the previous sub-section above, we shall concentrate here on the main line of argument consistent with the theory of rent. This is done at the price of considerable sacrifice, because more than in other chapters on rent, the 'main line' here is loose and the best insights to organization of production in space are conveyed precisely by the wealth of ideas in the same chapter inconsistent with the theory of rent. These insights, however, may only be fully appreciated from within an approach to the analysis of production on land which had already eliminated the concept of land rent, and we must therefore leave their exploration for a later occasion. Some of them will be merely alluded to in later sections.

(15) Rent: that is, as before, a deduction from excess returns (which otherwise would become 'excess profits'). In Marx's own formulation, "(t)he point is whether the rent paid on the worst soil enters into the price of the products of this soil ...as an element independent of the value of the commodity" (op.cit., p.758). "This, by no means, follows", proceeds Marx (we return to this rather crucial point further below), and concentrates on the alternative: price must be higher than the price of production.

Does this imply that the commodity is then sold at a price above its value? No, says Marx, jlf_ the organic composition of capital in the relevant sector of production (in this case, agriculture) is lower than the social average;[16] then production on land will yield returns at higher than average rate and rent can be paid out of the excess over normal profit. However, lower than average composition of capital in agriculture "would not in itself suffice to explain" the existence of absolute rent. Sectors with low organic composition obtain, of course, in industry as well but there, free circulation of capital among sectors prevents the formation of permanent excess profits in those sectors, distributing the total surplus among all industries proportionally to the respective capitals regardless of their composition through the price of production whereby the average rate of profit materializes.[17] "But *if* the reverse occurs, if capital meets an alien force which it can but partially, or not at all, overcome" (op.cit., p.761, my emphasis), excess surplus value would be transformed into permanent excess return (the very condition for the payment of rent). In agriculture, "(s)uch alien force and barrier are presented

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(16) Organic composition of capital: the ratio of *c^* (constant capital, or value of dead labour) to v. (variable capital or value of living labour or wages). Only living labour creates surplus value jj, so that at a uniform rate of exploitation s/v, the lower the organic composition of capital c/v, the higher is the rate of surplus s/(c+v) on total capital invested. In particular, where organic composition of capital c/v is below the social average, the rate of surplus is greater than the average profit rate or, what is to say the same, the value of the commodity is greater than its price of production.

(17) In a way that all sectors with lower than average organic composition of capital contribute to a common pool of surplus value wherefrom the sectors with higher composition of capital to draw on.

by landed property, when confronting capital in its endeavour to invest in land" (id, ibid.), thereby fulfilling the second condition for the existence of absolute rent, that is, a rent unrelated to the properties of the soil or to its location. This is the solution of Ricardo's problem of rent also on the worst land.

As already mentioned, it is a hypothetical solution.(18) Both conditions of the existence of absolute rent are introduced by 'if', and Marx himself makes strong explicit restrictions with respect to both. Regarding the first, i.e., low composition of capital in agriculture, he says at the outset that

> whether the composition of agricultural capital is lower than that of the average social capital in a specific country where capitalist production prevails, for instance England, is a question which can only be decided statistically, and for our purposes it is superfluous to go into it in detail. (op.cit., p.760)

This is further restricted later by the observation that, even if in any given historical epoch of a specific country agriculture were to have a lower than average organic composition, that situation can be historically reversed, for with the development of agriculture, composition of capital would tend to increase, though this trend should be compared to the corresponding change in industry (p.772). In addition to these observations comes the conclusive assertion:

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(18) I insist upon this fact because it has been widely overlooked. Lojkine (1971) to whom merit is due for having been among the first to attempt a systematic enquiry into the conditions for an urban land to exist, goes as far as to affirm the opposite: "Marx has proven in Capital that these two conditions [the same discussed above] do obtain in the sector of agricultural production." (p.89, my emphasis). His is indeed a hasty reading of Marx's cautious formulation.

> If the average composition of agricultural capital were equal to, or higher than, that of average social capital, then absolute rent...would disappear. (p.765)

The second condition, too, meets similarly restrictive statements: "For as soon as the land has been rented, landed property ceases to act as an absolute barrier against the investment of necessary capital" (p.764). This is reinforced further by the fact that control over production on land is contingent upon the period of contract, which "the landowners" can merely "seek to shorten...as much as possible" (p.619). In view of the numerous attempts to 'apply' land rent theory to contemporary urban analysis, we would miss an opportunity here if we did not pause and ask ourselves, what the consequences for rent would be if land were to be alienated, that is, bought and sold, as is consistent with the institution of 'modern landed property', a case, however, Marx repeatedly and explicitly refuses to admit. By the same token, with respect to the condition of low composition of capital, what would become of rents if the case in point is not just agricultural production, let alone a single 'basic' crop, but the whole spectrum of economic activities, all of which have to pay for location but some of them necessarily have higher than average organic composition of capital? We return to most of these points in later sections; let us now go back to the one remaining category: that of monopoly rent, also discussed briefly in Marx's chapter on absolute rent.

c) Monopoly rent

> (Absolute rent and differential rent are) the only normal forms of rent.
>
> Marx, *Capital III*

Absolute rent, as we have seen, is therefore conditional upon the fact that agricultural produce is sold at a price above its price of production but not above its value. The first of these conditions means that the price in question is a monopoly price. If it raises above value to an "actual monopoly price" (p.764), that gives rise to monopoly rent. This however can only exceptionally happen, adds Marx dismissing monopoly rent in just a few lines in Capital III, differential rent and absolute rent being "the only normal... forms of rent" (p.764). We may justifiably be startled. What would prevent a monopoly, once constituted to raise the price above the price of production, from raising it further, above value? The issue of course is relevant to the category of absolute rent as much as to monopoly rent since it refers to the only thing to distinguish the former from the latter and prevent the reduction of absolute rent to monopoly rent. Marx himself had raised this obvious question(19) some years earlier, in his 1861-63 Notebooks to be known as Theories of Surplus Value:

> But, it may be asked: If landed property gives the power to sell the product above its cost-price, at its value, why does it not equally well give the power to sell the product above its value, at an arbitrary monopoly price? (p.332)

The just over two-page long argument which follows is unconvincing and centres around the tendency of the market price of commodities towards the value of these latter. Marx drops it altogether in Capital,(20)

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(19) It has been also raised by many others after him, in an attempt either to 'reconcile' rent theory and labour theory of value (see, for example, note 27 below, in fine) or to 'prove' that labour theory of value is redundant or flawed. The next section points out that both the question and the related arguments bear relevance only insofar as the category of land rent is taken for granted, the latter being precisely the view disputed in the following sections of this Part I. We only pursue Marx's own reasoning here in the purpose of uncovering details of the method of his critique of rent theory.

(20) Unless we take into account a still shorter version of it (p.663) which Marx himself felt so inconclusive that he followed it with "At any rate...", a return to the definition and the statement already quoted about the exclusion of monopoly rent from the 'normal' forms of rent (p.664).

where instead, we find a last reference to monopoly rent in a later chapter, 'just to make sure[1], it would seem, when discussing the rather irrefutable proposition(21) that "Average profit plus rent are therefore, equal to the surplus-value". Whenever it comes to an 'abnormal' existence, monopoly rent will not be an exception to the above rule:

> Even monopoly rent... is at least part of the surplus-value of other commodities. (Cap.Ill;832-3)

which is of course the same as with monopoly profit, i.e. , an excess profit derived from monopoly price in the case of any commodity. But if on the one hand, this assertion leaves no doubt insofar as it says that if monopoly rent exists, its source is the pool of social surplus value, on the other hand, it does not demand either the existence or the non-existence of monopoly rent, nor does it give any clue regarding the conditions under which the latter would arise, as distinct from absolute rent.

2.3 LABOUR THEORY OF VALUE AND FUNDAMENTAL ASSUMPTIONS

> The point is whether the rent paid on the worst soil enters into the price of the products of the soil.
>
> Marx, Capital III

Even without entering into the discussion of absolute and monopoly rents, it remains for us here to point to the main underlying assumptions and to the relationship of these to the labour theory of value. To begin with we could say, paraphrasing Marx himself, that just as Ricardo

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(21) Irrefutable, that is, in so far as rents are not included in the price of production (see below).

denied the existence of rent also on the worst soil in order to preserve his theory of value, Marx admitted it and explained absolute (and monopoly) rent in function of his own value theory.

Firstly, by distinguishing between value and price of production (or cost-price) Marx solves 'Ricardo's problem' and the law of value allows absolute rent - a rent also on the worst land - to exist. Secondly, however, he then stretches the theory of value to say that absolute rent would be the only 'normal' form of rent (on the worst land) as opposed to monopoly rent. Thirdly - and this is an assumption prior to any other for the discussion of rent, and not only of absolute rent - he discards repeatedly the view that rent on the worst land may enter the price of production:

> The point is whether the rent paid on the worst soil enters into the price of the products of the soil... This by no means, necessarily follows. (Cap.III:758)

That it (or in fact, any form of rent) might do so, is ridiculed as an absurdity in TSV II, in a concluding phrase of the passage on such 'fellows' like Roscher, Thukydides and Say, to whom "nature as such has value":

> Since the land performs 'productive services', why should not the price of these 'services' be determined by demand and supply, just as the services performed by labour or capital? And since the 'land services' are in the possession of certain sellers, why should their article not have a market-price, in other words, why should not rent exist as an element of price? (p.133)

But why cannot rent (or price, for that matter) paid for land enter the price of the commodity 'agricultural produce'? Because, even

while recognizing that fertility is as much a product of social labour as a gift of nature(22) and the importance of accessibility as well, Marx holds firm to the 'classical' view that land is a natural resource and as such, it 'cannot have value[1], and therefore, it cannot enter the price of production as, say, constant capital. On the other hand, as soon as land - not as a natural resource, but as a location for production - is recognized as a social product,(23) the problems of the labour theory of value and absolute rent — along with the category of land rent itself — disappear.

A final point to mention is that in the chapter on absolute rent Marx, in a reference to Adam Smith, touches upon, but then loses his grip on, the question of different products on land (Cap.III;767), so that the theory of rent as before, continues to lack this aspect of production on land, the analysis of the latter being restricted to one 'dominant' crop on different lands.(24)

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(22) See, for example, referring directly to Ricardo's definitions: 'Firstly, the soil has no 'indestructible powers' ...Secondly it has no 'original' powers either, since the land is in no way 'original', but rather the product of an historical and natural process." (TSV II:245)

(23) That does not mean that in some cases a plot of land may not conserve a locational advantage remnant from its 'original and indestructible[1] properties (today that means almost exclusively, topography), then frequently referred to in urbanistic jargon as 'prime site'. These special cases, however, do not hold more importance for organization of space than, say, the famous case of a region producing a unique wine does for an economy. Such a site will indeed have a monopoly price, just as it happens with the unique wine.

(24) Marx did quote von Thünen (1826) once (Cap. 1:582 fn), but that was not in reference to the latter's approach to spatial organization. In a sense, von Thünen's starting point is diametrically opposed to that of classical land rent theory. He disregards differences in fertility between lands (so that the 'natural resource' concept is cleared away) retaining only accessibility as an element of differentiation, and then focuses the analysis on the cultivation of different products. On the other hand, von Th'unen shares with rent theory the concept of equilibrium and marginal analysis, and he fails to see production as a historical

The endeavour of this and the previous section was to render Marx's writing on rent in its most consistent (that is, with the concept of rent itself) form. A conclusion which emerges here is that, if in some respects Marx's critique of the rent theory does provide a more developed analysis than those of his predecessors, within the framework of that theory, of production on land, the same also leaves wide open breaches and the feeling that something went wrong with both the theory and Marx's critique of it. If so, what, and why? - these are the questions we seek to answer in the next section.

2.4 MARK AND THE CLASS OF LANDOWNERS

> ...I still don't see the dialectical transition from landed property to wage-labour clearly.
>
> Engels, Letter to Marx, April 9, 1858

Let us recall the nature of the sources which contain the bulk of Marx's writing on land rent. The third volume of Capital was edited by Engels eleven years after Marx's death starting from a rough draft[25] dating

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(contd.) process, whereby social relations are reduced to technical conditions of production, transformations to equilibria and conflicts to optimizations; these reductions being the very cornerstones of vulgar or 'neo-classical' economics (for a brief critique of von Thünen, see Zancheti, 1978, pp.26-43). Accordingly, Thünen's does turn to a 'fairly complex analysis', where such problems remain as the 'final resolution' of which is yet to seek (P. Hall's Introduction to the English edition of The isolated state, pp.xxxii; xxxix). These restrictions apply to von Thünen's method, but his starting point is at least as good as that of rent theory for urban analysis, where the question of production of a same (or worse, a single) product on different locations ('lands') is of secondary, if of any, importance compared to production of different products (in fact, of all commodities, services and dwellings) competing for the same locations.

(25) "In the case of the third volume [as opposed to the second, also edited by Engels] there was nothing to go by outside a first extremely incomplete draft." Engels' Preface, Cap.III, p.2).

from about 1865 and Theories of surplus value is actually a series of notebooks written through 1861-63. It is then only natural that one may encounter in the hundreds of pages on the subject, a number of hastily sketched conclusions, half-finished ideas or conflicting statements. The same applies to any subject treated in the works mentioned and nevertheless, the latter are most coherent with the whole of Marx's work which provides the most powerful analysis of capitalist society and perhaps even more importantly, the foundation of the method of historical and dialectical materialism, for both of which it is renowned. In the case of the specific subject of capitalist ground rent and therefore of landownership, however, more deeply seated problems permeate the analysis either than in the rest of Marx's work or than such as one could pass over on account of the unfinished nature of the sources just referred to.(26) These problems have their origin in

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(26) And even taking into account Engels' warning directed against hasty or greedy contemporary 'critics' of Marx in the second part of his Preface, such as to avoid "the false assumption that Marx wishes to define where he investigates, and that one might expect fixed> cut-to-measure, once and for all applicable definitions in Marx's works. It is self-evident that where things and their interrelations are conceived, not as fixed, but as changing, their mental images, the ideas, are likewise subject to change and transformation; and they...are developed in their historical or logical process of formation." (op.cit., p.14). By 'problems' here I mean contradiction in the concepts themselves, as opposed to contradictions which may exist in the process under analysis. For but one contrasting example, consider the chapters on the falling rate of profit (Part III), from the same volume, where a score of pages go for the exposition of the 'law as such' followed by nearly twice as much on countervailing forces and internal contradictions of the law. 'Contradictions' there are an expression of the dialectical view of a concrete process which works out under the effect of conflicting forces (it is not Marx's fault if some Marxists have tried to transform the 'law' into something . Engels warned, as quoted above, not to do). Here (in the case of rent) however, the contradictions lie in the concepts themselves. If the power of landowners and the rent relation are analysed insofar (p.615, quoted earlier) as capitalism dominates and is fully developed, then this analysis should not depend even upon the correctness of empirical observation or of historical interpretation of precisely how much domination had already been achieved in a specific historical stage of capitalism (see also next section, where we return to this point in some more detail).

Marx's indecisiveness with respect to the question of the historical existence of a class of landlords and consequently, to the nature of the ownership of land,(27) an indecision rooted in the 'specific historical' stage of capitalism he was given to analyse.

The main theses emerging from Marx's writings as we have followed them in the previous sections - that is, keeping to the main path, of the critique of the theory of rent and of the Ricardian position - are firstly, that ground rent is, just as is capital, a social relation and as such, historically determined; whereof follows, secondly, that land **rent** in capitalism ('capitalist ground rent') is not the result of capitalist production only but rather a consequence of the survival of precapitalist relations of production at a specific stage of development of capitalism.

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(27) Harvey (1982) too, senses that something went wrong with Marx's views on the rent theory. ("Rent, it is fair to say, troubled Marx deeply" is the opening phrase of his chapter on the theory of rent, p.330). He proposes that Marx's 'dilemmas' begin with his purpose to perform a critique of Ricardo without appearing to support Malthus, and end up in the incompatibility between the labour theory of value and the view that land is a natural resource (see above). But even though Harvey's aim is to construe a theory of organisation of space (Chap.12) in contemporary capitalism, he fails ito detect the final implication of the historical transformations in landed property ("The actual history of landed property under capitalism has been a confused and confusing affair", which "confusions are still with us" (p.346). This is one of the main reasons why (the other being the failure to introduce differentiation of the use of space into the analysis) the attempt still centres around "relative locational advantage" which, "under competititon...translates into excess profit" (p.389). This, of course, is the very idea at the basis of the concept of land rent and leads the attempt astray notwithstanding a wealth of valuable insights the same affords. In fact, Harvey makes explicitly his (ours?), Marx's problem: "And the theoretical challenge is to define a coherent theory of ground rent within the framework of value theory itself. This is the immediate [ie., of the chapter on rent] task at hand" (p.333), and the concept of land rent haunts his analysis throughout.

In sheer contradiction with these theses, Marx wrote:

> With the legal power of these persons [the landlords] to use and misuse certain portions of the globe, nothing is decided. The use of this power depends wholly upon economic conditions, which are independent of their will. (*Cap.III*:616)

or that

> its amount [of the ground rent] is by no means determined by the actions of its recipient, but is determined rather by the independent development of social labour in which the recipient takes no part.(28)

This is essentially the Ricardian proposition: rents follow from capitalist production. Further, we may read:

> capitalist mode of production...dissolves the connection between landownership and the land so thoroughly that the landowner may spend his whole life in Constantinople, while his estates lie in Scotland. (*id*. p.618)

Observe the contrast, with the participation of the capitalists in production (it would hardly be necessary to emphasise that of the workers) on which Marx writes and repeats, that

> I represent the capitalist as a necessary functionary of capitalist production, and indicate at length that he does not only 'deduct' or 'rob', but enforces the production of surplus-value and thus first helps to create what is to be deducted; &c.(29)

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(28) Op.cit., p.636. Note that these and the following are not just isolated quotations but the expression of an idea -- broadly related to the fact of domination of the capitalist mode of production in agriculture (and to the role of the landlord class) -- which runs throughout the introductory chapter on rent and thereafter in Capital III and the relevant parts of TSV II as well.

(29) From Marginal Notes of Adolf Wagner, quoted in Rosdolsky (1967) pp. 31-2. Rosdolsky's own analysis of Marx's thought on the landlord class and landownership will be commented upon in the next section.

Landowners are thus denied any role in the process of production and one wonders: what is the 'social relation' that can be built upon an absentee class and who would, say, introduce or enforce the Corn Laws for them?

These observations, taken together, constitute a second path in Marx's writing on production on land. The same, if they conflict with the concept of land rent, do originate in a concrete historical process. In Marx's time in England, capital did dominate agricultural production and moreover, as we have seen, the 'last clear-cut victory of the landowner class', the introduction of the Corn Laws in 1815, had been definitively offset by 1846 and 1849 in what consequently became the last stroke to the power of the landlords.(30) Now, what is a class without power and without a role? The conclusion is that there was no landowner class, and this implies that there was no land rent either any longer. In short, we could say that when capitalism finally established its domination over agriculture, production was to command rent - but then it was no longer rent. Marx did reach the first part of this conclusion; he failed to reach the second.

But why? Because transitions in society are the outcomes of antagonistic processes and take an a priori unforeseeable time. We can now see, as Morton did, from the perspective of a century, that 1849 brought the final blow to the class of landlords in England, but a mere fifteen years after that date it could as well turn out to have

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(30) That is, political (economic and legal) power, the institutional basis of which - feudal rights to land - having disappeared as long ago as 1660, as we have seen, and in Marx's own reckoning.

been just a setback and to assert the opposite at that time would necessarily have to be a prophecy. And, as we have seen, members of what was in the process of ceasing to exist as a class were able to grant themselves compensations and continued to show 'amazing vitality[1], and deeply rooted social habits, ideology and notion of privilege associated with the landlord class took another fifty years or so to die out.(31) And also, of course, the capitalist farmer still had to pay for the use of land, the same as any capitalist had to do so, to build a factory, or a labourer, to build a house - this being (as distinct from rent) i.e., that land be alienable, a private property, a necessary condition for capitalist production(32) - and that the amount of money paid for the use of land was not rent any longer was further obscured by the survival of the practice of leasing which, even if ever more in decline, extends into contemporary Great Britain.(33)

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(31) See, for example, Ball (1981): "Even during the nineteenth century landownership was a passport to the social pyramid, and to political power; a position that was not fundamentally altered until the end of the nineteenth century (...) Even capitalists, when they had made it, would often purchase land estates for the prestige they conferred" (p.166). Ball himself (as McDougall referred to in Chap.l, fn 5) seems to place the final erosion of the 'economic base[1] of the power of the landlords at the last turn of the century: "Economic necessity in fact led to the total rejection of the importance of the gentlemanly lifestyle peculiar to the landlords with the collapse of its economic base in the early years of this century" (ibid., p.167). In view of our argument here, however, what the second half of the nineteenth century saw was rather the extinction of the vestiges of an economic and political power which had already been lost.

(32) Necessary, that is, to 'free' the labourer from his means of production and therefore, of subsistence, so that he is forced to sell his labour power for wage; and to set the institutional basis for the elimination of the class of landlords through enabling capital to gain complete control of land simply by buying it.

(33) One is reminded, though, of the 'shrewd observation' of the French ambassador in London three centuries ago, who some months after the Restoration, wrote back to Louis XIV: "This government has a monarchical appearance because there is a King, but at bottom it is very far from being a monarchy" (quoted in Morton, 1938, p.273). In the same way, it is not because there are landlords that they constitute a class, or because lands are being leased that land rent as a transfer payment is a relevant category of analysis.

Passages abound in Marx's over five hundred pages on rent which could have led him, by themselves, to the abandonment of the concept of rent. In one of them, Marx actually includes the 'exchange value[1] of land into production costs (Grundrisse: 74-5) - which implies the outright rejection of the category 'rent[1]. Quite apart from this, however, monopoly price; time of leasing (Cap.III:619); critique of the marginal return equalizing assumption; cultivation of more than one crop; absentee landlords etc., are all subjects which lead to the limits of rent theory; and that Marx may have sensed those limits or was not satisfied with his analysis is witnessed by a recurrence of restrictive statements such as:

> In a systematic treatment of landed property, which is not within our scope, (this part of the landowner's revenue would have to be discussed at length)." (34)

or the opening phrase of Part VI, on rent:

> The analysis of landed property in its various historical forms is beyond the scope of this work. (35)

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(34) The part coming from permanent improvements on land, that, precisely the increasingly important part as spatial differentiation and concentration of productive activities develops (Cap.Ill:619, my parentheses).

(35) Op.cit., p.614. This declaration is partly belied by the chapter on the "Genesis of capitalist ground rent" which Engels placed as the lasj; chapter on rent in Part VI (it is third in the Notebooks after "Introduction" and "Absolute rent"; cf. Engels' Preface, p.7). This chapter furthers a great deal the setting of land rent in an historical perspective. In particular, it shows that in fact, feudal rent in its pure form - rent in labour - had been gradually transformed into rent in kind and finally dissolved into money rent even before the dissolution of feudal institutions. This latter, and the replacement of feudal rights to land by modern landed property, may then be seen as a mere consequence of transformations in the mode and the relations of production which had already taken place: only a serf can provide a rent in labour, but anyone can pay a money-rent, what opens an access for the capitalist to land.

But the inescapable fact is that the stage of capitalist development of his time did not allow Marx to see that, when seeking to analyse rent and landed property, he was in fact concentrating on things of the past. By 1865 transformations accelerated as capitalism entered the crisis of the Great Depression and Marx abandoned this line of analysis altogether, preparing for a new start which never materialized.[36] England had ceased to be that favourable ground for observation it had been hitherto, and it was not by accident that the field was left to vulgar economists and epigoni:

> Changes... generally operate a long time in secret before they suddenly make themselves violently felt on the surface. A clear survey of the economic history of a given period can never be attained contemporaneously, but only subsequently... (Engels, 1895, p.8)

It was well after Marx's death that the new stage of capitalism emerged by the turn of the century, after finance capital had overtaken from industrial capital the dominant role in accumulation, and colonialism had given place to imperialism. It is only after over two decades of the Great Depression had matured these transformations, that Hobson could produce Imperialism (1902), Hilferding Finance Capital (1910) and Lenin Imperialism, the highest stage of capitalism (1916).

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(36) "In the seventies Marx engaged in entirely new special studies for this part [VI] on ground-rent. For years he had studied... publications on landownership [in Russia] ... Owing to the variety of forms both of landownership and of exploitation of agricultural producers in Russia, this country was to play the same part dealing with ground-rent that England played in Book I in connection with industrial wage-labour. He was unfortunately denied the opportunity of carrying out this plan" (op.cit., p.7).

These transformations, as sensed by Engels even as the crisis was coming to its close, were so fundamental that the former thought it worth including a supplement to his edition of the third volume of Capital where he outlined some of its main features under the heading "The stock exchange" ('finance capital' is a word coined later on for the same thing). There, in connection with ownership of land specifically, Engels observed:

> The enormously expanded banks, especially in Germany under all sorts of bureaucratic names, more and more the holders of mortgages; with their shares the actual higher ownership of landed property is transferred to the stock exchange, and this is even more true when farms fall in the creditors' hands. (...) the time can be foreseen when England's and France's land will also be in the hands of the stock exchange. (37)

The direct acquisition of land by finance capital - a case which had been ruled out by Marx as exceptional and not corresponding to the full development of capitalist agriculture (38) - removed of course any

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(37) Engels (1895), in Cap.Ill, p.909. In Germany, the process was far more visible because that country, which in 1874 already ranked a close second to England in volume of trade (England: USS 3300m; Germany: 2325m; France: 1665m; US: 1245m, as given in Engels, 1888, p.5Jn_), had to compress the process of domination of land by capital - which in England had lasted two centuries - into one generation's time or two. The violent adjustments necessary for this achievement did not fail to provoke bitter contemporary controversy (Bullock, 1982, p.125ss) comparable to the debate over the Corn Laws earlier in England. For a reinterpretation of the stages of development of capitalism and the position of Germany as the 'model country' in the emerging new stage, see later chapters, especially sections 6.1 and 8.4.

(38) Cases in which "the landlord himself is a capitalist, or the capitalist is himself a landlord (...) occur in practice, but only as exceptions". In even stronger terms: "It is an absurd contradiction to start out with the differentiation under the capitalist mode of production between capital and land, farmers and landlords, and then to turn round and assume that landlords, as a rule, manage their own land..." (Cap.111:751). Note that the second alternative (that capitalists own the land) set out in the beginning is omitted here. The assertion would still be obviously true, but it would lead rather to the conclusion that

obstacle landed property may have posed to the access of capital for production on land. Indeed, as we shall discuss in the next Chapter, the transformations leading to monopoly capitalism by the end of the nineteenth century removed all the major conditions - class ownership of land, free competition, average rate of profit, and that land be a natural resource - under which land rent has traditionally been analysed. These changes however, we have seen, had barely begun by the time of Marx's writing. Historical conditions, by themselves, could not therefore provide the ground for Marx to dispense with the category of land rent or, what is the same, with the class of landowners themselves. But again, historical analysis must follow not only observation but dialectical logic as well, and dialectical logic imposed the necessity to do precisely that: insofar as the capitalist mode dominated production, there was no place for categories corresponding to social relations based on other surviving modes of production in the analysis. This necessity, if it did not lead Marx to drop the category of land rent altogether, it did lead him to a major alteration of the whole projected structure of Capital.

2.5 THE MISSING BOOKS OF CAPITAL

> Orthodoxy in Marxism today refers almost exclusively to the question of method.
>
> Lukács

When in 1857 Marx set out the structure of his planned work on Political Economy, he envisaged a sequence of six books. The first three would

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(cont.) if capitalists own the land, what becomes absurd is the starting assumption, i.e., "the differentiation under capitalist mode of production between capital and land, farmers and landlords", that is to say, the most deeply rooted assumption of the rent theory.

correspond to the three classes of (capitalist) society according to the Trinity Formula undisputed in Political Economy, being:

I On capital

II On landed property

III On wage labour

These would be followed by another three Books (IV On the State, V On foreign trade and VI On the world market and crises) corresponding to successive levels of expansion of the process of capitalist production at the national, international and the world scales, the latter being the very limit to the expansion whereby it leads to the question of crises which it would include. At first sight such a plan may seem as good as it possibly can be. One starts with the social forces which confront each other in the process of social reproduction and then proceeds to explore the limits of such process. Nonetheless, in 1865 Marx introduced a modification - which was to become final - and the six books were reduced to one, being

Capital.

The now single book on capital was to be divided into three volumes according to decreasing levels of abstraction, that is, capital as such, many capitals and concrete forms of capitalist (re-)production, respectively:

Vol. I Production process of capital

Vol. II Circulation process of capital

Vol. III Forms of the process as a whole,

followed by a fourth volume (to be known as Theories of surplus-value):

Vol. IV The history of the theory

dedicated to an historical interpretation of Political Economy.

The change is obviously a major one and it has been attracting surprisingly little attention. Still, the question has been raised now and then and Rosdolsky (1967) for one has devoted to it the second chapter of his The making of Marx's Capital which does provide a valuable formulation to start with. Our own main interest here will be the import of the change for an assessment of Marx's critique of rent theory.

As far as the specific content of both plans is concerned, the change amounts to the abandonment (or postponing?) of Books IV-VI of the first outline, the incorporation of Book II (on landed property) into Part VI of Volume III of Capital in the reduced form of "Capitalist ground rent" and the inclusion of the material of Book III (on wage labour) into Volume I.(39) Finally, Volume IV is an addition with respect to the original plan.

As to an interpretation of the change, let us begin with a brief account of Rosdolsky's explanation (op.cit., pp.23-55). Rosdolsky refers first to an interpretation offered by Grossman (p.23) from whom he quotes a conclusive passage:

> Whereas the articulation of the 1859 outline...is from the standpoint of the material to be dealt with..., the structure of the work in the final outline is from the standpoint of knowledge... (p.24fn)

Then he reports that Behrens, while "sharply criticizing" Grossman,

> actually comes up with this: - again, we render his quotation - 'If Marx originally set out from an external point of view...and followed the traditional classification of economics up to that time, he now

(39) For details of the alteration, see Rosdolsky (1867) pp. 10-23.

> constructed his work [i.e. according to the amended outline] along strictly scientific lines' (p.24)

Compared to Grossman's, says Rosdolsky in proceeding, "it is evident that Behrens[1] own explanation resembles it exactly". Arguably it does, but then Rosdolsky himself takes a surprising route. In his turn, he 'sharply criticizes' both Grossman's and Behrens[1] "superficial attempts" based on an "arbitrarily interpreted passage" (p.25) of Marx and who actually imply that "the abandonment of this [i.e. the old] outline amounted to breaking out of what was essentially a Vulgar Economic shell, which had imprisoned Marx until 1863!" (p.24). Then follows a long preparation to his own conclusion. It is true that it is also a careful dissection of Marx's struggle with the conceptualization of the role of the landlord class and with the critique of the Trinity Formula, and a most correct setting of the problem:

> ...as Marx himself stresses, the 'transition from capital to landed property' is to be understood in a double sense - both dialectically and historically. (p.36)

However, when Rosdolsky finally offers his own explanation ("One thing is certain. They are not the reasons suggested by Grossman and Behrens! Rather..."), what we read comes as a greater surprise yet in view of what preceded it:

> (Rather) the change in theoutline can be explained by reasons...that once Marx had accomplished the most fundamental part of his task - the analysis of industrial capital - the former structure of the work, which has served as a means of self-clarification, became superfluous. (p.53)

In other words, Rosdolsky forwards for a third time the very same argument as Grossman and Behrens.

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(40) Albeit founded on a quite sophisticated analysis in which Rosdolsky identifies the dialectical necessity of the change in the outline (see also below).

In fact, the argument is correct in a sense, but it is also incomplete. It reproduces Marx's contradiction between the historical and dialectical understandings of the transition from feudalism to capitalism but fails to resolve the contradiction because it stops short before a decision between the appearance of the historical existence, in fully developed capitalism, of a class of landlords and the dialectical necessity of the refusal, at the same time, of their existence.

The Trinity Formula

> ...wage labourers, capitalists and landowners, constitute then three big classes of modern society based upon the capitalist mode of production.
>
> Marx, Cap.III;885 (41)

At issue, then, is the class structure of both the early and the fully developed capitalist societies. To start with the crux of the matter, let us say at the outset that the dialectics of the transition from feudalism to capitalism and the misleading nature of the Trinity Formula become clear as soon as one introduces the peasant class into the analysis. A necessary introduction, too, for the landlord class is as inconceivable without a peasant class as the capitalist class is inconceivable without a worker class. As capital forms a dialectical unity with wage labour, so does (feudal) landownership form a dialectical unity with serf-labour, and as surplus-value is the form of appropriation of surplus labout of the wage-labourer by the capitalist, so is rent the form of appropriation of surplus labour of the serf by the landowner. This much we learn from Marx himself, of course, but if we redevelop from this starting point the analysis of the transition

(41) It is important, and yet more so in the context of our discussion here, that "Chap.LII: Classes" wherefrom this quotation is taken is a mere fragment in Marx's manuscript.

from feudalism to capitalism, it leads to an interpretation of the early capitalist society very different from his own.

We have seen that the period of one century and a half between the Civil Wars and the industrial revolution - the early stage of the rise of capitalism - was, in terms of class struggle, dominated by the transformation of peasants, yeomanry and craftsmen into proletariat by an alliance of the bourgeoisie and the landlords. In view of the starting point, the extinction of the landlord class necessarily proceeded apace - and this becomes only tragic but not untrue for the fact that the landlords were taking an active part in their own destruction. Through the part they were taking in the destruction of the peasant class, they were cutting the tree beneath themselves.(42) Individual landowners may or may not have been unaware of this, but even if they were not, the landlord class had no historical alternative but slower or faster necessary extinction.(43) This provides

(42) This does not exclude that they proceeded also in their direct self-destruction in long wars of dynastic struggle. "The Wars of the Roses were wars of extermination, every victory being followed by a crop of murders...Hence they were extremely destructive to the participants [that is, to 'the rival gangs of landlords'] though they hardly affected the country as a whole" (Morton, 1983:150).

(43) The historical and dialectical necessity which rules over the great social changes is the very matter of the great tragedies of world literature. As the Greek drama portrays the "tragic collision between the dying matriarchal order and the new patriarchal order" (LukScs, 1937:97), so is Shakespearean drama the portrayal of the decay of the feudal society which would give rise to bourgeois society. The tragedy is only enhanced when such portrayal does without a specific historical setting whereby it puts into relief the dialectical dimension and represents the collision (conflict) which accompanies the transformation in its 'pure state'. Thus while he created some of the greatest historical dramas, it is "in King Lear" that "Shakespeare creates the greatest and most moving tragedy of the break-up of the family qua human community [here: feudalism - CD.] known to world literature" (Op.cit., p.93). One of the major shortcomings of Rey's (1973) conception exposed in Les alliances de classes (discussed further below) is his failure to recognise the full import of the historical antagonism between feudalism and capitalism in the transition from the former to the latter (see also Chap.1, fn6 above).

a dialectical basis to the statement that the aftermath of the industrial revolution and the rise of Free Trade capitalism have completed the extinction of the landlord class as well as a precise meaning to the claim that henceforth 'fully developed' capitalist relations of production prevailed.

It also sheds a new light on Smith's correctly two-fold conception of rent, the one corresponding to (feudal) rent proper, as a part of a surplus, the other corresponding to 'capitalist' rent as a necessary part of the cost-price (price of production) of commodities produced for exchange on the market. Further, it also spells out how subsequent political economists including Ricardo and Marx, while correctly recognising in their own time fully developed capitalist relations of production, have failed to recognize the passing of the other feudal class as well along with the passing, which all recognized, of the peasant class, (Smith, in fact, 'recognized' it too early), a failure which gave rise to the Trinity Formula. In this three-classes structure, a class of capitalists oppose a class of wage labourers and together they constitute the potential which fuels the development of the productive forces, while a class of landowners hangs around and passively 'owns' the land without anything else to do for there is no peasant class. In this perspective, furthermore, the keeping to the Trinity Formula by any political economist cannot be seen as a mere misreading of history or of the concrete conditions of his own day, which would allow only for a simultaneous positing of both the peasant and the landlord classes at a stage of capitalist development in which both have already been superseded, or conversely, that is, for a failure to recognize the existence of both classes before they actually

became extinct. It is more than that, a misconception too, which implies the destruction of the dialectic structure of the society which preceded capitalism, that is, feudalism, in which the peasants and the landlords stood at either pole of the same - feudal - relations of production. Such a misconception is at the basis of rent theory, insofar as the latter approaches the payment for the land as the transfer of a part of the surplus produced by labour and enforced by capital to 'the' landowner, the only reason for.this transfer being that the latter have a property right to land. This is, however, further to confuse, on the one hand, 'private property of land' where any individual may own some land and which is specific to fully developed capitalist relations of production with on the other hand, 'landed property' which implies class ownership of land and is the form transformed of feudal lordship over land under bourgeois rights during the transition from feudalism to capitalism, that is, while the transition has not been completed.

Rey's contribution

> Thus, the parallel established by Marx seems to be cut short: behind the capitalist, personification of the capital, we have discovered the social relation which makes him act. Behind the landlord, personification of the land, we discover nothing.
>
> P. P. Rey (1973):55

A break with the Trinity Formula was first brought into connection with rent theory by P. P. Rey (Rey, 1973), in a contribution to the interpretation of the transition from feudalism to capitalism. This provides ex post facto a rather more solid conceptualization of 'capitalist

ground rent[1] than any previously existing. With a new life for the theory however, come the elements of its own supersession: in a sense, Rey's contribution is an epilogue to the history of rent theory.(44)

On the basis of the demand that an economic category (in this case, rent) ought to arise from social relations of production - as opposed to mere relations of distribution - Rey indicts Marx's conceptualization

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(44) Rey's contribution has been given surprisingly little recognition even in the rare cases in which reference is made to it. Murray (1977/8) merely refers to it in passing and then in connection not with absolute rent or landed property but with a rather loosely related question (of whether or not violence necessarily accompanies the expansion of capitalism into pre-capitalist areas - see op.cit., Part 11:16-7). Harvey (1982) refers briefly - and approvingly - to Rey's rather more relevant (to rent theory, that is) thesis of the articulation of modes of production only to disclaim immediately after any implication of such approval in the (his) acceptance of the corresponding (Rey's) conception of rent (op.cit., p.344). Brewer (1980) does more justice to Rey and devotes the greater part of a chapter (pp.182-207) to a summary and an assessment of Rey's scheme of articulation of modes of production and the place of rent theory (focused on absolute rent) in this. Still, he again is compelled to express reserves to Rey's analysis, the strongest reserve being conveyed not in the section entitled "A critique of Rey" (p.l98ss), but in a rather ellyptic statement according to which Rey's "theoretical austerity" which demands that a conceptualization of rent should be based on relations of production (rather than legal, or of distribution) "is characteristic of Marxists influenced by Althusser; the rest of us do not have to accept it" (p.189).

The reasons of such reserve towards or silence over Rey's contribution may stem from the (admitted - cf. the 1972 Postface, op.cit., p.171) fact that Rey's framework is structuralist rather than historical materialist, allied to his lack of familiarity with English history where - "England in this respect [i.e. the dissolution of the old economic relations of landed property] the model country for other continental countries" (Marx, Grundrisse:277) - the transition from feudalism to capitalism first took place. This induces Rey into a number of historical misinterpretations (see previous note), which severely restrict the supporting analysis and yields easy ground to those who out of orthodoxy towards Political Economy or Marx, or whatever other reason, are unwilling to accept the iconoclast break with the Trinity Formula.

of (absolute) rent as being unsatisfactory. Therefore, to allow for a definition of rent based on production relations, it is necessary to go back to feudal rent, and in order to allow for a rent in capitalism to exist at all, it is necessary to allow for the survival of feudal relations of production along with capitalist relations of production. Here is where Rey's main thesis comes in on the articulation of modes of production. In the case of the transition from feudalism to capitalism, this involves four classes rather than three (those of the Trinity Formula): a class of landowners in opposition to a class of peasants from which they are able to extract a rent (albeit in the form of money-rent) and a class of capitalists are opposed to a class of wage-labourers from which they extract surplus value. To the extent that capitalist production (i.e. wage labour) extends into agriculture, the capitalist must pay a rent to the landlord, a rent which the latter would otherwise be able to extract from the peasant. This rent is a transfer payment from capitalists to landowners, but nonetheless there is a "convergence of interests" (op.cit. , p.60) between these two classes in the depossession of both the dominated classes from their means of production, and rent provides the very articulation of the two modes of production. Thus the basis of rent in a production relation is restored:

> The 'capitalist[1] ground rent is a distribution relation of the capitalist mode of production, and this distribution is the result of a production relation of another mode of production to which capitalism is articulated, (op.cit., p.60)

Such conception focuses on absolute rent (Rey does not address himself to the question of differential rent altogether, implicitly assuming it as correct) only and actually Rey's main thrust is towards an account

of societies of neo-colonial states that does not concern us here. It could be said, in fact, that Rey creates a social formation that is consistent with rent theory, rather than formulating a rent theory based on the analysis of a specific stage of development of capitalism. However, the break with the Trinity Formula whose implications have been discussed earlier, shows that the concept of 'capitalist ground rent' implies a stage of transition of feudalism to capitalism and therefore cannot be applied to historical periods coming either before or after such a period of transition.

Marx's method versus Marx

> Marx wished to present Capital as a "dialectically articulated artistic whole".
>
> Marx, Letter to Engels, 31 July 1865 (45)

The appearance of the historical existence of the landlord class in Marx's day and the dialectically necessary refusal of the same are at the origin of the two paths followed by Marx in his critique of rent theory. The foregoing inquiry into the causes of Marx's amendment of the structure of Capital reveals the whole extent of the contradiction which persists between those two paths - a contradiction too, which runs through Political Economy in one form or another from Adam Smith to Ricardo and Marx.

However the amendment in which dialectical logic made landed property to disappear from the structure of Capital goes a long way towards a

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(45) Ernest Mandel in Cap.III (P):944.

recognition that the class of landlords have ceased to exist and that rent theory became obsolete. The same logic made, it is true, wage labour disappear as well as a separate element of the structure, but while labour has been moved towards the centre of the analysis to form along with capital - in a 'unity of the opposites[1] - the very core of Capital, landed property was relegated to the limbo of concrete forms of "the process as a whole" where, as we shall argue later on, it holds the place of an analysis of the spatial organization of production. Such modification of the structure of the Capital, and particularly the move of landed property away from the centre of the analysis may be seen in a way as a triumph of Marx's method over himself. What historical analysis did not - because it could not, in Marx's day - reveal, Marx's dialectical materialist method had imposed upon him. Such, too, is the meaning of LukScs' word as in the epigraph of this section, and one hundred years after Marx's death it becomes only more actual.

We also find here a new starting point to an analysis of spatial organization of production. For, as we have seen, Rosdolsky's interpretation is most correct to a point:

> the separate Books on landed property and wage labour could be given up, with their essential parts incorporated into the new work which only dealt with 'capital[1]. Both are to be found there, where they properly belong; (...) the Book on Wage-Labour goes directly into the production process of capital, i.e. into Volume I, [whereas] ...the Book on Landed Property in[to] Volume III...(Rosdolsky, 1967:54)

In view of the elimination of 'landed property' from fully developed capitalism however, there cannot be a 'Capitalist ground rent'. Still, the latter does hold the 'proper' place of an account of production on

'land'. Whilst natural environment ('land') is transformed in capitalism into a man-made – urban – environment, a product of social labour, rent theory must become an analysis of spatial organization to enter the account of 'The process of capitalist production as a whole'.

3 THE NON-CATEGORY OF URBAN RENT

3 THE NON-CATEGORY OF URBAN RENT

The close of the stage of the transition from feudalism to capitalism in England and further transformations ensuing from the spread of capitalism and the rise of new centres of accumulation demand that such categories of analysis as are specific to now superseded social relations be equally superseded in any analysis of contemporary society. We have seen that capitalist ground rent is one such category, and this leaves wide open the question of what are relevant categories and which are relevant assumptions upon which urban analysis may be construed. The following sections conclude the critique of rent theory and focus on the specific historical changes that shaped contemporary capitalism as against the assumptions of rent theory, in the purpose of opening the way to the introduction of new categories of analysis from the next Chapter onwards.

3.1 THE END OF THE HISTORY OF LAND RENT

> Categories are forms of being, characteristics of existence.
>
> Marx.[1]

The foregoing interpretation of the history of rent theory may be summarized as follows. On the one hand, the categories of absolute rent and monopoly rent point explicitly towards the fact that land rent was a social relation in which capitalists were forced to pay rent to a remanent class of landlords in the early stage of the development of capitalism in England until the victory of Free Trade by mid-nineteenth century, when industrial capital gains full control of the state apparatus. The same categories do not allow for an account of the level of rents — though one might infer immediately that the greater the power of the landlords with respect to the power of the capitalists, the greater rent will be, but that takes one to paths radically different from that of rent theory. Against this general background — that is, production on all land — on the other hand, the analysis performed focusing on the category of differential rent provides the limits within which rent might be imposed in the restricted case of a single crop economy on particular plots of land and the conditions of production thereby arising. In the last analysis, all that rent 'theory' can say about rents is therefore, that under class ownership of land a payment of rent is imposed upon capitalists for the use of land for production, this being imposed within the limits of rent payable according to location, better lands affording higher limits than worse lands — but it cannot produce an

(1) Quoted in Lukács (1978):1.

account of as much as the introduction of a new crop or in fact of any transformation in the use (from one product to another) of the land. Thus the particular level of rents, let alone the spatial distribution of productive activities or the production of space itself, are not even approachable starting out with the category of land rent. This is a limitation of little importance in Political Economy, the science of the rising English bourgeoisie of the eighteenth and early nineteenth centuries, for which not spatial organization of agricultural production, but class struggle was at stake. In particular, this bias of approach has obfuscated through^ out the fact that price of land does perform a production-organizing role, but which no (serious) economist was willing to concede to the landowners, for within the concept of land rent it is not possible to separate the role of the price of land from the role of the land-lord class.(2)

Under these conditions, it would be surprising indeed if a theory conceived in England, at a specific historical stage, that is, of the expansion of the capitalist mode – and relations – of production into agriculture, would be a useful approach for analysis of the process of production on land in any capitalist formation and in a stage of development as different from the aforesaid as is contemp-orary capitalism;(3) a theory, too, which quite apart from such

(2) As discussed earlier, because price of land is merely the capitalized form of rent and rent is the share of the landowner in the surplus, whereby price of the land and the landlord class are inseparably linked together. See also the discussion of the fundamental assumptions of rent theory, further below.

(3) Marx's designation of England as a 'model country' is in fact rather misleading. More correct would be to say that the early stage of development in England is unique rather than a model that would be followed by other countries. This is discussed in more detail further below (sections 6.1 and 6.3).

geographical and historical displacements implied in its contemporary 'application', hardly ever stood for more than a weapon in the ongoing political struggle even in its own geographical and historical context. Prussian farmers and scholars were estranged by the theory even in Ricardo's time;(4) there is no why should it prove more useful a tool of analysis when one turns to, say, the housing question in Britain, Chile or Nigeria, the regional and international movements of restructuring of capital in the 1970s, or else the transformations of the urban structures of contemporary Manchester, Tokyo of São Paulo. The conclusion towards which the foregoing interpretation leads is that such attempts at an 'application' of rent theory to 'urban analysis' — or spatial organization of production in contemporary capitalism — not only have been, but were bound to be fruitless because rent theory and the category of land rent itself are obsolete in the sense that they became ahistorical abstractions for they do not correspond to concrete prevailing modes *ox_* relations of production in contemporary capitalism. The construction 'urban land rent' is therefore a non-category, for 'urban' and 'rent' are related to distinct historical stages of capitalism. The joint use of both implies a historical displacement of at least one of those categories, insofar as 'urban' refers precisely to the spatial concentrations of activities in highly differentiated spaces, the study of which became a concern in the 1860s and 1870s (5) when capitalism was entering the crisis of which

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(4) Because of different specific historical conditions prevailing in Prussia and England — see TSV 11:236-40 or Chap.l, fn 5 above,

(5) Urbanism became necessary with concentration and differentiation of space and possible as capitalism was losing its anarchic nature, to be discussed at length in the remaining two Parts II and III.

it would emerge in a new stage of development. In this sense, and to conclude this interpretation of the history of rent theory, we could say that the history of land rent ends where the history of urbanism begins.[6]

However, if we abandon rent theory, a vacuum is left which must be filled if social reproduction is to be analysed. Since land is a private property, it can be bought and sold and therefore it commands a price. Such a price cannot be seen as the 'capitalized' form of rent in view of the supersession of the latter category. Instead, it must be accounted for directly as price. However, there is no specific social relation behind the price of the land other than private property — a precondition of the capital relation itself. The specificity of the price of land is in its relation to both production and utilization of space and in fact, it is governed by the requirement of organization of economic activities in space. There cannot be therefore an autonomous 'theory of land price' and land price may be studied only within a theory of organization of

(6) For this reason we do not discuss contemporary forms of rent theory. A word on the reasons why some forms of rent theory survive at all may however be of order. There are two main currents of 'rent theory' today: one in orthodox Marxist tradition ('applications' of 'Marx's theory of rent' fall into this current), and another in the so-called neo-Ricardian tradition (grouping 'urban applications' of Ricardian rent theory mainly as modernized by Sraffa, 1960, under the name of 'scarcity rent'); and the prestige of both currents comes from rather different sources. The Marxist current probably holds its prestige out of sheer respect and orthodoxy towards Marx, and maybe of lack of a better idea, whereas the neo-Ricardian current owes its success to a reason very similar to the reasons of the success of Ricardo's own theory discussed earlier: that is, due to its ahistorical nature it suits well the not-so-radical economists who sought refuge in "Marxism" after that, in the face of the current crisis which set in after the petering out of the post-war 'boom' in the 1960s, 'neo-classical' positions became increasingly untenable.

space to deal with the processes of production and utilization of locations for the reproduction of society.

3.2 THE ASSUMPTIONS OF RENT THEORY AND CONTEMPORARY CAPITALISM

> The [geographical] structure of local economies can be seen as a product of the combination of 'layers', of the successive imposition of new 'rounds of investment', representing in turn the successive roles the areas have played within the wider national and international divisions of labour.
>
> From Massey, 1979

The above formulation illustrates how strikingly different from rent theory an approach to organization of space may be. Let us take the assumptions of rent theory under closer examination from the point of view of their consistency with contemporary capitalism.

One of the first and foremost assumptions of rent theory is that land is a natural resource, therefore it has no value and therefore the price paid for it cannot enter the price of production of commodities produced on it. If this assumption, as we have seen, has led to inconsistencies in rent theory, because in fact it never corresponded to concrete relations of production for land always yielded a rent

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(7) Space is not a 'new dimension' of reproduction of society. Engels wrote that matter without movement is as inconceivable as movement without matter; it is only a corollary of this to say that material production without space is as inconceivable as matter without movement. But spatial organization of production became a concern and object of conscious action and theorizing only after spatial differentiation and concentration have reached the levels of intensity resulting in the process which has been referred to as urbanization, at a time, too, when a precondition of spatial organization, viz., planned intervention was coming into effect as a substitute for laissez-faire.

only insofar as it was a private property (if land were free, there could be no rent), it is yet farther removed from the conditions of the production process in contemporary capitalism. "Land" is paid for not as land, but rather as a location in a space produced by social labour. As this location is a necessary condition for production and appears in the form of private property in land, it commands a price.(8)

Equally fundamental is the assumption that rent is a transfer payment between two classes; namely, from capitalists to landowners, paid out of a locally produced surplus profit, As such, it is the expression of a social relation defined by the division of surplus between the dominant classes in early capitalism in England. We have seen that such conditions were peculiar to England and in fact in most countries the same never obtained — and do not obtain in contemporary Britain either, where no more than vestiges of class ownership of land remain.

Once these first two assumptions are removed, the payment for land can be seen as a price paid for a necessary condition of production, which enters the price of production of commodities, as for example do what

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(8) It is however crucial to note that the location is not reproducible and therefore it is not a commodity either, in a way that it is pointless to try to determine its value (and thereby to identify either the source or the level of its price). For what is produced is not a specific location but a set of interrelated locations as a whole, or space itself. — Another point to note here is that the blatant obsolescence of property rights in urban areas for the requirements of spatial organization has of late led to movements to reform those same rights. In the last two or three decades tentative reforms have been experienced by several countries, among which reforms the separation of the right to property of land and of the right to build is among the more advanced so far. It is easy to see that such reforms tend towards the dissolution of prevailing property rights in urban areas, as well as towards a clearer definition of the notion of 'location', as distinct from 'land'.

Marx has called the faux-frais of production or in fact, any secondary form of utilization of surplus-value.

Both the above assumptions relate mainly to the nature of location, of land and of landownership. Three further basic assumptions of rent theory relate to the process of capitalist production itself.

Rent theory regards rents as arising from the production of a single agricultural produce, or 'basic crop[1]. In Smith's and Anderson's time, when agriculture was far and away the largest English industry, yielding nearly half of total national income,(9) this assumption was at least plausible. After the 'industrial revolution' it ceased to be even that, and for contemporary analysis it is irrelevant.(10) The analysis of spatial distribution of production in contemporary capitalism must focus crucially on the production of different products and services, in fact, on the location of all activities, productive or otherwise (yet necessary for reproduction of society) within and among highly concentrated spatial configurations. To take a simple example, tomatoes must not arrive rotten at the market or they will not be produced; their price must therefore be as high as to enable tomatoes to outcompete in their quest for location such other products as may be necessary in order to fulfil that condition.(11)

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(9) See Chap 1, fn.12 above.

(10) As discussed earlier (e.g. in Chap 2, fn 24 etc.) - Note that the dropping of this assumption alone impairs both the category of absolute rent (based on low organic composition of capital in agriculture, the basic-crop-producing sector), and the category of differential rent (there can be no differential rent for different products, whereof each may have a different market price of its own).

(11) The concept of necessity has been rather absent from economic analysis. Consider, in contrast, Rowthorn's (1980) formulation defining natural price (or price of production), as being "the price which must be paid ... to guarantee the production of this commodity on some given scale." (pp.183-4), where we may infer that the 'given scale' is itself necessary. Further, if we add

Note that tomatoes will need to bid a higher price – and not equal, as has been hinted from Adam Smith to Marx(12) – than the competing use, for otherwise only a proportion of its bids will be successful and the whole (necessary) amount cannot find a location. In this process, the price of tomatoes comes into relation with the price of other commodities or services and the production of none can be taken in isolation (or as 'basic'). This leads immediately to the question of the relationship between the price of land and the price of commodities under competition and spatial division of labour. For the analysis of the specific ways in which the process of spatial division of labour works, it is necessary to turn to a fourth fundamental assumption of rent theory.

Free competition must be substituted by competition restricted by state intervention. "The old boasted freedom has reached the end of its tether and must itself announce its obvious, scandalous bankruptcy" – inserted Engels into the Third Volume of Capital

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that 'guarantee' must include location which in turn must be paid for, this provides a most powerful approach to spatial organization of production.

(12) (Cap.III;767). Such hint disregards not only the argument which follows, but also the cost of switching from one use to another - which means that rent theory implies in fact a further, unexplicit assumption, namely, of perfect fluidity of capitals.

The latter in its turn implies that the analysis is restricted to equilibrium states. This only gives another formulation to the claim that the 'theory' of differential rent and more generally, marginal analysis which is behind the former is necessarily ahistorical. It is not difficult to see that an approach to urban analysis which focuses on production in highly rigid capital context - the built environment - and on rapidly changing uses, must lay marginal analysis to rest. On the other hand, taking the rigidity of capitals into account opens the way for analysis of the processes and the speed of change, an account of vacant land and of interim uses (both being common features of the urban process) and so forth.

(pp.437-8) in 1894. If the notion of the 'anarchic nature' of capitalist production never meant total lack of intervention by the state in the working of 'the invisible hand', it must now be abandoned altogether. Again Engels, as early as in 1891, had already realized that capitalism could no longer be regarded as being planless. "This idea has become obsolete; once there are trusts, planlessness disappears."(13) As capitalism developed further, state intervention had been playing an expanding role in production,(14) to say nothing of its role in the reproduction of 'non-economic' conditions of production, many of which belong precisely to the realm of production of, and control of the utilization of, space for production. The role of the state comes thereby to the fore in any analysis of organization of space, in which apart from the regulation achieved bya (restricted) competition in a market through land prices, state intervention in its various forms plays a central part.

3.3 REWORKING THE NEW MATERIAL

> "Much about capitalism *is* unchanged since Marx's day", but there remain "features which most strikingly differentiate the capitalism of Marx's day from that of our own."
>
> Sweezy (1972)

The foregoing review of the assumptions of rent theory is a specification of the second part of Sweezy's view as in the epigraph

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(13) As quoted in Lenin (1969 ed):138.

(14) In Britain, 1984: "The top industrial mandarin (joint permanent secretary at the Department of Trade and Industry) yesterday admitted: 'We cannot afford to sit back and say we'll leave it entirely to market forces to decide what happens'". In 1981 this meant inter alia, a £1.3bn government subsidy to industry to help technological innovation. "We have to do

above,[15] from the standpoint of spatial organization. It also underscores the wealth of new material history has produced in the hundred years since Marx's death. There is a case then, rather than for reworking the old material inclusive of Marx's own writing and resulting in re-definitions and/or new names for old concepts, for doing precisely the same as Marx did when he was confronted with new material on his arrival to England: namely, to rework the new material. Of all areas of analysis of contemporary capitalism in current work, the theorizing of spatial organization is perhaps the less developed (to a great extent due precisely to the survival of the prestige of rent theory), and the place held by 'capitalist ground rent* in the analysis of the "forms of the process as a whole" (i.e, in Volume Three) is there to be occupied by the analysis of the role of spatial organization in that process. Such an analysis, however, requires new concepts. Particularly, price of land or, as it would be better to say, price of location,[16] is to be regarded as one of the means of organization of space along with such others as legal, inductive and coercive actions of the state, whereby space is socially both produced and utilized and under the twin processes of cooperation and conflict a hierarchical structure of land users is constituted in order to mould spatial differentiation according to the requirements of the reproduction process.

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this - went the explanation on - because we are competing with countries in Europe, Japan, and the United States which are doing precisely that," (Guardian, 22.9.1984:18)

(15) Op.cit., pp.38-9.

(16) Because from the point of view of both the production and the use of space, 'land' is not paid for (or produced) as land but as a location within a spatial structure.

There is an analogy here, between spatial regulation and the regulation of the production process. Just as economic regulation is achieved through a balance of market forces and planning, so is spatial regulation achieved through a balance between the same processes which materialize, respectively, in price of location and state intervention.(17) The analogy does not obtain by chance, since spatial regulation itself is a part of the process of production as a whole, and thereby it becomes subject to the same logic or laws of motion as the latter. Accordingly, the role of land prices and of state intervention in spatial regulation is ultimately subordinated to the development of the productive forces.

Apart from the increasing role of state intervention, whereby so far we implicitly meant intervention of the nation-state, another far reaching transformation now at work concerns precisely the role of the nation state within imperialism. Whatever the precise outcome of the current crisis, reproduction and restructuring of capital will

(17) It is of course the case that for a same diversification of space (that is, for a same intensity of regulation needed), the more organization of space is achieved through state intervention, the less is left to prices to organize - and prices may be lower - and conversely, the less direct intervention there is in spatial regulation, more responsibility in the latter falls on land prices - which then must show greater differentials and therefore must cover a greater range, in other words, they must be higher. A most striking contemporary example of this is provided by the case of the introduction of the 'New Economic Mechanism' in Hungary. In Budapest land prices had been stationary and low, almost nominal, for decades - location of activities (state-owned enterprises, but residential settlement as well) being regulated by strongly centralised planning, almost by decree. Then, in a few years after the NEM had been introduced in 1968, land prices in the capital increased tenfold, whereof the cause in the case of Budapest cannot be attributed to rapid growth (which does impose increased need for spatial regulation) either demographic or of production. A clear-cut explanation of the same increase is provided, however, by a mere description of the nature of the change brought in by the NEM, which was most ably summed up thus:

never again be a relatively autonomous process within nation-states as it had been in England, though hardly anywhere else, till capitalism reached the imperialist stage and if conditions of capitalist accumulation can be restored at all, it will be on the basis of transnational levels of planning and control. It might well be that then organization of space will have to be analysed under these premisses, where an international level will be superimposed to regional or local levels of spatial organization. Such transformations are now and still in the making and no account of the same can be produced by anticipation. Meanwhile, therefore, the national economic space remains the main object of spatial organization that provides, in turn, a framework for analysis of the price or urban land.

> "The essence of the Hungarian economic reform of 1968 can be briefly summed up as the introduction of indirect guidance through economic regulators (price, credit, fiscal and wage policy) in place of direct guidance of economic units by instructions." (Kemenes, 1981:583)

(On decentralization of planning, see also Dobb, 1970, esp. pp.47-50).

PART II: SPATIAL ORGANIZATION OF THE PRODUCTION PROCESS

The foregoing critique of rent theory has led us to a starting point for the analysis of land price and spatial regulation of the process of production and reproduction. Firstly, rather than a transfer of surplus? between classes, the payment for location (of which the most usual form is land price) is an instrument of spatial organization of production in the measure that the same production is governed by market. Secondly, such payment for location has been transformed since the early stages of capitalism from rent-form into price-form as capitalism evolved into its maturity and concomittantly urbanization developed, land price being only one, if the most common, of its possible forms. Thirdly, the payment associated with the local of production or consumption is a payment not for a ('monopolized') power of nature, but for a location within urban space which is itself an historical product, that is, a product of labour. A study of land price is therefore necessarily a study of spatial regulation of production, which develops the role of land price both in the process of production and consumption (at the local individual level) and in the process of accumulation (at the social level), while accounting

for the production or urban space itself within the accumulation process.

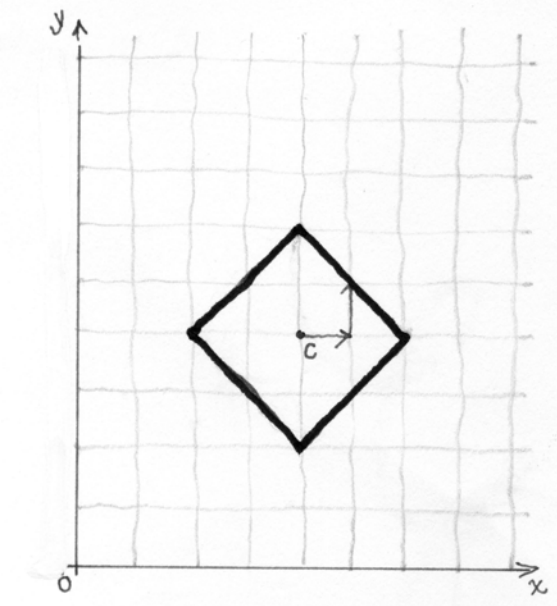
As the market price of commodities regulates the quantities and the techniques according to which those commodities will be produced, so the market price of location regulates where the same commodities will be produced. Since the market price of location enters the price of production of the commodities, price of location and price of commodities are determined simultaneously and spatial regulation and both quantitative and qualitative regulation of production are inextricably bound together. In other words, market price of all commodities is only determined together with an associated spatial distribution of production, and conversely, the price of location is only determined for a social demand as manifested in the market prices of all commodities to which it has given rise through the operation of the law of value ——that is, under the constraints of the requirements of labour, means of production and location of the production of commodities and the equalization of the rate of profit on capital —the form in which the requirements of production enter the production process. Thus a theory of capitalist regulation is incomplete without an account of the spatial regulation. But there cannot be a 'theory of spatial regulation' - to be appended to a 'theory of production as such', for space without a production process is as inconceivable as a production process without space. The approach to either 'production as such' or to spatial regulation of production must go through the process of production as a whole.

4. LOCATION AND SPACE : USE-VALUE AND VALUE

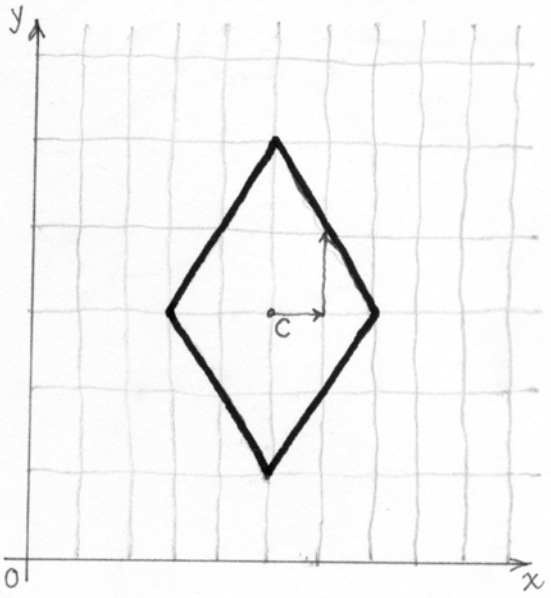
4.1 LOCATION AND SPACE

The concept of location and space derives from the social practice of production and reproduction within a social division of labour. Ali society needs a territory to live in; with social division of labour this territory is structured into space.[1] Individual activities i.e, processes of production and of reproduction require a location and the interaction between such activities connects the locations where the former take place accordingly. The simplest - the most abstract - representation of space is mathematical space. In mathematics a space is defined by the way in which distances between points are measured: a metric. In other words, space is made up by points - dimensionless locations -- related to each other in a specific way

(1) In primitive communism in which production is not individualized, the territory need not be structured into space. Of course members of the community do move from place to place within the territory, but the latter is used in its natural form and is not transfonned through labour; locations do not become individualized. This is what allows such communities to move from one territory to another under the effect of some external impulse, such as an aggression from another community or society or the mere seasonal variations of nature. Small numbers of such forms of society have survived up to our day, as for example some Indian groups living in the Amazonian region and that are still allowed a territory large enough to keep their native form of life.



$d = x + y$



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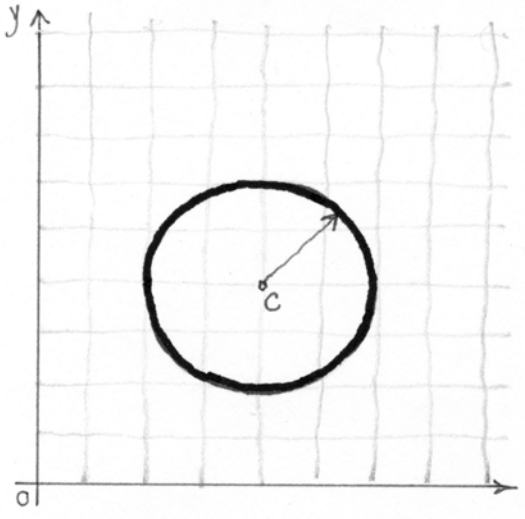
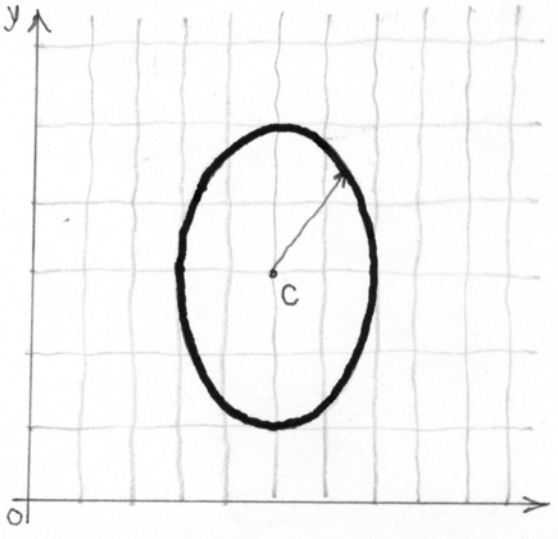


$d = (x^2 + y^2)^{\frac{1}{2}}$



$d = (ax^2 + y^2)^{\frac{1}{2}}$

FIGURE 4.1- Mathematical space

A space is defined by a metric, which is a representation of how to move from one point of the space to another. For the given metrics, the contours in thick line represent equidistant points from points C. Although thís is not their main purpose, the examples do correspond to models of quite usual concrete spatial structures: the orthogonal grid; the same in which one moves easier (say, faster) in one of the directions then along the other; the plain on which movement is free in all directions (the sea, air, or a desert); and the same on a slope along 0x.

described by the metric which defines it. Location and space are defined simultaneously, the constituent matter of space is the relationships between the locations in it, and the specificity of space consists in the specific way in which locations are related to each other.

In material world in which actual societies live, both the locations and the relationships between them which build up the economic space must materialize and for that, they must be produced. Locations, from "points" become finite, delimited extensions of territory, the elemental expression of which is the juridical form of property (or previously, feudal) ríghts - a plot of land, a built floorspace (factory, dwelling, office etc. unit) - materialized in a superstructure on, beneath or above the earth's surface.(2) Símilarly, relationships which make up economic space are paths, roads, wires, cables, pipes, aerials, satellites etc, by means of which material objects and people may be conveyed from location to location. These are physical structures - collectively an infrastructure - and must be buílt in order to come into existence. Only then a distance between two locations (in length, in time, in monetary cost), or the relationships between locations, or the structure of space, or ultimately space itself, do materialize. Econoraic space is a product of labour.

4.2 LOCATION AND SPACE IN CAPITALISM

Now the specificity of space in capitalism is best seen in the light

(2) Note that the simplest form of location, a plot of land, is already a social product materialized - even if we disregard the fence around it - in a written legal title, the concreteness of which was heavily felt by ali the small freeholders of England in the 17th century right after the abolition of feudal for the instítution of bourgeois (prívate property) rights to land (Hill, 1967:147).

of the transformations brought about by the supersession of the feudal **cede** of production by capitalist commodity production. In feudalism, the dichotomy country-town arised from the separation of production (in the country) and exchange/consumptíon (in the town) . The commodity-form was subordinated to the production for subsistence, **being** restricted to the excess product. The very existence of the coinmodity-forni - and of the class of merchants - depended on the existence of "separated markets and spheres of production" that made possible "buying cheap and selling dear" (Merrington 1975:177). The rise of capitalism is precisely the transformation process in which the commodity form becomes generalized and dominant, the production for subsistence and the production of excess as such (rent) are subsumed in the production of values in the form of commodities by wage labour under the command of capital, and exchange becomes an exchange of equivalents in a unified market. Thus whereas in feudalism the separation of production from exchange/consumption within a constellation of separated markets entailed the dichotomy town/country and the fractioning of the territory into a constellation of local spaces, capitalist commodity production within a unified market entails the reduction of the former town/country dichotomy and the reduction of the constellation of local spaces to a single space in which commodíties, labour and capital flow freely and at a scale great enough to support an autonomous process of accumulation - as that realized historically within the boundaries of the modern nation-state.

The unified market requires that its space is sufficiently homogenized by an infrastructure of transport and communications so that, although differentiation within space does persist,(3) its homogeneity ensures

(3) Differentiation and homogenization go hand in. hand - a partic-; ular location is different from any other only because they belong to the same space that is sufficiently homogeneous to include both — two locations not be(4)longing to the same space are not

that no independent regimes of autonomous accumulation (in what would be a de facto separate market) emerge in it. Such process of homogenization then overrides both the old distinction town/country and the multiplicity of towns and countries, that is, of local spaces. The town outgrows its walls behind which it guarded the wealth it did not produce. Many towns grew bigger than their walls before: that only prompted the building of new ones on a greater perimeter and they accumulated during the centuries a collection of concentric and successive rings of fortifications (Fig.2.4). But now no new wall will be built.(4) the "town", the "city" has no limits any more; in fact, there is no more city. There is a continuous space that is homogeneous because the locations within it are Ínterchangeable and therefore different from one another so that the same space is differentiated for being homogeneous. Both the homogeneity and the differentiation of space are incessantly moulded by the intervention of capital and labour. Each epoch adds a transformation and the 'natural' basis is buried ever deeper under an ever-increasing number of layers of historical transformation. (5) Town, country, forest, lake, flora and fauna become subjects for

(contd.) different, they do not compare. See also below and further, Section 4.5.

(4) The inutility, and evén disutility, of such fortifications around towns could not have been more graphically demonstrated than during the 1848 European revolutions in the siege of Vienna: the enemy - students, workers and sections of the middle classes of Vienna - was within the walls, and the troops of the Emperor without. Eleven years later the same city provided also an example of reinterpretation of 'security' in towns, in the competition brief of one of the first urban (re)development plans (see Section 8.4 on the emergence of planning), the Ringstrasse competition: "The influence of the army survived the fali of the fortifications....The competition brief itself required the retention of the barracks to the south of the old town and the planning of new ones in the north. Communications between these two military strong points had to be laid out on a generous scale to permit rapid troop movements." (Breitling, 1980:40).

(5) The following does not apply to "local" economies only - or else ali economy is local: "...the structure of local economies can be seen as a product of the combination of 'layers', of the successive imposition over the years of new rounds of investment, new forms of activity" (Massey, 1984:117-8, first formulated in Massey, 1979).

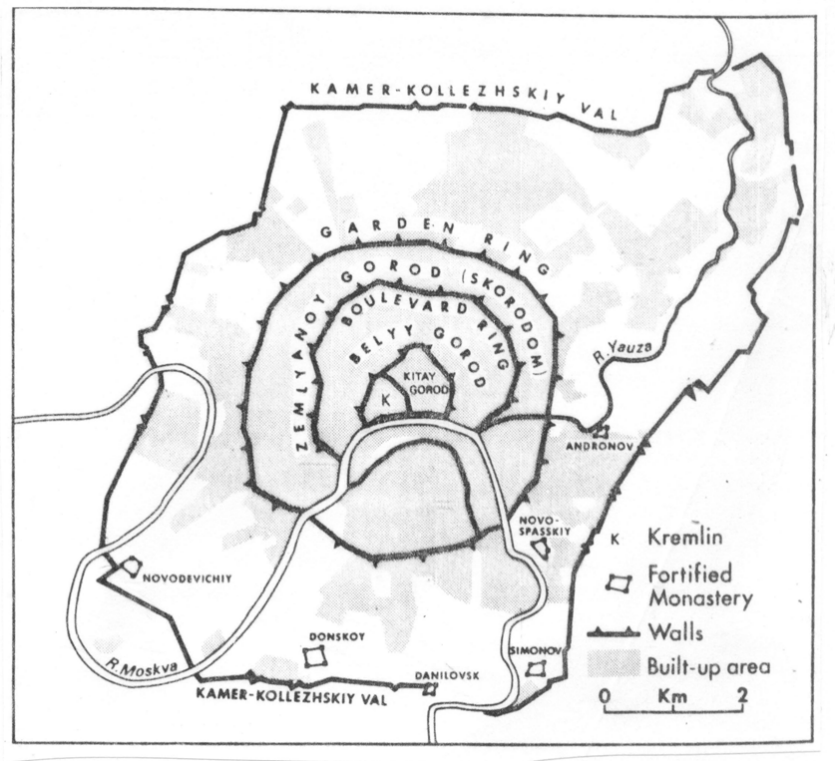


FIGURE 4.2 - Growth of a feudal town: Moscow. A short history of the successive rings of fortifications reads thus:

> "The original fortified enclosure, the Kremlin, was gradually divested of functions other than defence and authority (both temporal and spiritual), as craft manufacture, trading, and the residences of merchants, artisans and labourers moved into a trading quarter to the east, known as the Kitay Gorod. This, too, was walled in time, but the growing town spread outside it into new artisan suburbs - the semi-circle of the Belyy Gorod or White Town. The Belyy Gorod was also walled in the sixteenth century, but by then Moscow was expanding still further out into a ring of newer suburbs, called the Zemlyanoy Gorod or Earthen Town, which in 1592 was also protected by an earthen bank and palisade (...) In 1742 the expansion of Moscow far beyond its old, medieval limits of the Earthen Town was recognized by the establishment of new city bounds, the Kamer-Kollezhskiy Val, or Wall...Unlike the earlier walls, the Val was not a defensive work, but a customs barrier..." (Figure and quote from Sutcliffe, Ed, 1984:356-7).

archaeology. Instead, this space has land uses. All human activity: banking, services, commerce, residence, industry, leisure, agriculture and even nature (confined to the zoological and botanical garden, the nature reserve or the national park) become land uses in appropriate zones and districts, supported by appropriate buildings, regulations and services. This is urban space, a historical product, every portion whereof being subjected to the relations within the whole - relations, these,being the very relations of capitalist production and social reproduction.(6) Urban space is the space of a unified market in the commodity-economy.

4.3 USE VALUE AND THE PAYMENT FOR LOCATION

We may now sum up the foregoing and investigate the nature of the payment for location in capitalism. Location is a use-value for any activity of production or reproduction, being as it is a necessary condition to the exercise of any such activity. Location is a

(6) The word 'urban' and its derivatives have not been consistently used in contemporary writing. The predominant meaning associated to it has been "city-like" or "town-like", as for instance in Merrington who, after discussing the reduction of the town/country dichotomy in capitalism, speaks of the "deurbanization of the metropolis" as synonimous with "dissolving [of] the city into the urban region" (Merrington, 1975:190) — the correct use would be 'urbanization of the city', rather than 'deurbanization'. Similarly, 'urban' has been used in contradistinction to 'rural'. But we have seen that the dichotomy town/country had not been transformed in capitalism (into a supposed urban/rural dichotomy); it had been anniquilated altogether, 'dissolving' both the town and the country into the urban space. This is why 'urban region', 'urban economy' etc. do not possess a specific content, as witnessed by the failure of many attempts to grasp the former (for a review and critique of such attempts, see Ball, 1979). To designate what the cities and towns have become, we use 'urban agglomeration', a convenient expression for it alludes to the fact that it refers to concentrations of activities at rather higher than average densities, and further, that its boundaries are unimportant and depend on some arbitrary definition, as planners of land use zoning all know.

physical structure (building) supported in general directly on land. The distinctive features of different individual locations stem from the respective positions of the latter in urban space. Urban space is the sum total of (the locations interlinked by) an infrastructure - roads, networks, facilities etc. - built and serviced by social labour, that provides for the requirements of the economy and that makes location 'useful'. Insofar as the regulation of the commodity-economy, and with it, the spatial organization of production (and reproduction) is carried out by the market, location commands a price, itself established on the same market. There arises therefore a payment for location because location is a use value and because it is marketed as a commodity endowed with exchange value. The payment for location enters the price of production of commodities along with the payment for the other conditions of production: labour and means of production. The market price of commodities that regulates the relative quantities of commodities to be produced thus regulates simultaneously the spatial distribution of the production within the urban space[7] and regulation of production necessarily implies spatial organization through the instrument of the payment for location. The latter may take, as it historically did, the form of rent or price according to the length of the period for which location is secured as a condition for production. It will be seen below (Chapter 6) that one of the forms becomes predominant in each specific stage *of* accumulation, the price form being the predominant form in contemporary capitalism.

(7) "The natural price [price of production] of a commodity is simply the price which must be paid, under competitive conditions, to guarantee the production of this commodity on some given scale" (Rowthorn 1980:183-4, quoted earlier in part). In this definition of production price it is not stated, but it is obvious that "to guarantee the production" must include that the same commodity is able to conquer (to pay for) a suitable location for its- production at the appropriate scale.

Location itself may materialize in a variety of ways in the urban space and these concrete forms do not 'explain themselves' except as location. Because historically the overwhelming majority of locations have been supported by land, and perhaps more importantly, because in feudalism land was the only "source of wealth", that is, the support of the dominant form of production of excess product, the payment for location came to be confounded with the payment for land. Indeed, throughout the history of Political Economy, land has remained identified with location, a "space required as an element of all production and all human activity" (Cap. III:774). The analysis of the payment for location was further removed from the nature of the latter as it arises in capitalism when, the payment for location already being identified with the payment for land whether in rent form or price form, the same analysis constructed the form 'capitalist ground rent' or simply 'land rent' that actually meant the trans-position of a category: 'rent' from one mode of production to the next, namely, from feudalism to capitalism.

'Land' commands therefore a price because and only because it is a support for location. Conversely, wherever location is not supported by land, a payment for it arises all the same. Although land is the most common support for location in the urban space, it is by no means unique — indeed, with the constant transformation of urban space to the needs of the development of production, ever newer forms of location emerge and increase their own variety. Concessions for fishing and sea-fanning in national territorial waters or for off-shore oil production give rise to rent-like payments for locations in the oceans, while on satellites similar payments arise e.g., by communications relays and soon by industries wishing (and having the

resources or enjoying state subsidies) to take advantage of techniques of production in low gravity and vacuum conditions. In the latter case some of such locations may be relatively 'fixed', as on satellites in a geostationary orbit, but equally well they may be actually 'moving', pointing to the fact that in urban space not only location is not necessarily supported by 'land' but it can be dissociated from the concept of 'fixity' with respect to an earthly referential system. The use value of a location obviously does not depend on any such detail to exist.

Location being a use-value traded in the market as a commodity, there arises the questions of its consumption and of its value. We return to the latter in connection with the production of space below, but although both are related to each other, the question of the consumption of location can already be answered in part. A location is not consumed in production at the individual level only. But locations do become obsolete with time both because of physical decay and because the flow of technological innovations that accompany the development of production brings about changes in the spatial requirements of production and reproduction to which space - if not the individual location - must constantly be adapted through additional

(8) New processes of production frequently pay for location in the form of rent rather than price, for reasons discussed in Chapter 6 below, and for similar reasons they frequently enjoy state subsidies. In the case of a planned 'spatial' (extra-terrestrial) laboratory alluded to in the example, such subsidies are anticipated in the range of hundreds of million dollars. A further note may be of order here, because locations have been associated so closely for so long with a 'natural' basis, indestructible etc. The payment for a location on a satellite might appear as a payment towards its cost of production, because it is "entirely" man-made. This will be discussed again later; but it can already be observed that nothing in the example given here would change if the same 'space station' to support the laboratory would be established, let us say, on the Moon.

labour. Therefore no particular location is - as the price-form of payment for it might suggest - a 'permanent' condition of production, or possesses an intrinsic use value. The use value of a location is transformed incessantly and the individual economic activities must in their turn, adapt to the changes in the urban space appearing again **and** again on the market as "consumers" trading for suitable locations.

4.4 VALUE AND THE PRODUCTION OF SPACE

We have seen that urban space is a product of labour. It is not so much that urban space loses its 'natural' content - it is certainly made up of matter found in nature. It is rather that whatever transformations nature had gone through up to any particular time, it - nature and the product of past labour - can be transformed again so that no permanent elements in it are to be found. This is why it is fruitless to try to discover the natural element in space - as with rent theory - or to try to determine the amount of nature and the amount of labour 'contained' in space at any specific historical epoch in order to measure the value of space - as with the theory of embodied labour. Both such approaches that seek to determine what _i£ rather than what is becoming imply the concept of equilibrium, as if an equilibrium (of the productive processes, of spatial distribution of activities etc.) could instantly arise on the basis of an existing structure - only to be offset in the next instant. Our focus is rather on the transformations wrought into space by labour in consequence of the development of the productive forces that necessarily accompany the accumulation process. Indeed, 'production of space' is transformation of space in the strong sense that the end-product of spatial interventions is not any particular ('new') structure but the transformation

of a particular structure itself. Physical structures that come into existence in the process may remain - and parts of them do remain - unchanged for some time, if only waiting to be transformed as soon as **the** need for it will be felt. Even while they remain unaltered in **their** physical form however, such parts of the structure do change ~~jis~~ use values while the production process develops - as we have seen above in connection with the use value of locations, or as the examples of many 'historic towns' conserved virtually intact through long periods, at times, centuries, vividly illustrates.(9) The point is that intervention into space - production of space - is about transformation, rather than either conservation of existing structures, or the attainment of a particular structure that could only be conceived as an 'ideal'. It is the incessant transformation of space that is required by the development of the production process.

The production of urban space is governed by laws different from those of commodity production owing to the fact that it cannot be produced as individualized use value. The labour spent in the production of any particular commodity is socially validated in consumption through the sale of the commodity as a use value. If the commodity is useless, it cannot be sold and the labour spent in its production, validated. The labour spent in the production of space cannot be validated in the samp way because space is not a use-value: space as such cannot be used by an individual process of production or consumption. Use value in space is represented by the locations contained in it - but location being a position in space, it cannot be produced as such. Any intervention at a particular portion of space amounts to a transformation

(9) Or similarly, "the means of communications and transport handed down from the manufacturing period soon became unbearable trammels on Modern Industry" (Cap I;363).

of the whole of space, and ultimately of all the locations contained in it. What is produced is space, whereas locations - use values - result collectively. This means that the production of space cannot be governed by the law of value imposed in a market and therefore must be carried out collectively at the social level. A quantum of the productive power of society (abstract labour) is devoted annually to the production of the sum total of changes in physical infra- and superstructures[10] needed to adapt urban space to the requirements of production and reproduction. The labour time spent in the production of space over a certain period represents the value of the latter. This value is by no means a deduction of a surplus value that 'otherwise' would be somehow higher: on the contrary, it is one of the very conditions of the production of surplus value. Without transformation of space there can be no sustained production, so that the labour spent in the production of space is as necessary as the labour spent in the reproduction of the means of production, and the same is true for all other labour necessary to upkeep the state apparatus, that is, to reproduce the legal, political and administrative superstructures of production.

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(10) Infrastructures: that support juridical units of location defined at the level of the Earth's surface, or (when defined on land) plots. Superstructures: buildings, inside the plot, which may (but do not always) give rise to further individual locations like flats or offices. The relevant distinction between infrastructure and superstructure is that the former falls into the realm of "public" - so that both its production and use are necessarily performed collectively whereas the latter may be produced, serviced and used in possession by individuals, that is to say, within the realm of private property. In what follows we will be concerned mainly with infrastructure, but it is useful to note that the distinction between infra- and superstructure, and the precise delimitation of a 'location' both depend on the way - which may adapt to social practice through time - in which private property is defined in the territory.

Marx came perhaps closest to a formulation of the role of labour spent in the production of space in the passage on transport when investigating the circulation period of capital in the commodity form in Grundrisse (pp.521ss_). He certainly sees such labour as necessary **and** even the idea that it is unproductive (of surplus value) is couched in very cautious terms. Let us consider the passage (p.533):

> Labour may be necessary without being productive. All general, communal conditions of production - so long as their production cannot yet be accomplished by capital as such and under its conditions - are therefore paid for out of a part of the country's revenue - out of the government's treasury - and the workers do not appear as productive workers, even though they increase the productive force of capital.(11)

Here clearly the workers appear as unproductive workers because they work in a sector of the economy that had not been commoditized – "production cannot...be accomplished by capital as such"–so that their "surplus labour time, although [it may be] present in the product, is not exchangeable". Later, in Capital, Marx - contrary to his own design - holds on to such appearance, actually retroceding from this tentative formulation "which cannot be sharply defined yet at this point" (id. ibid.) and virtually restricts his investigation of capitalism to the production of commodities as Sweezy points out correctly.(12) But the commodity form even though it is dominant in capitalism, encounters its limits not due to some external force, on the contrary: the limits to the commoditization or production and thus to the production of non-commoditizable use values belongs in the dialectic of capitalist production.(13) Therefore, if values are the

(11) Where we can safely assume that the closing expression is a slip of the pen that should read: "...they increase the productive power of labour (at the service of capital)".

(12) Sweezy (1972):49ss.

(13) In contradistinction to the view held by Uno (1964) followed by Sekine (1967) and others and who, having developed the logic of Capital to its ultimate consequences, reaches the conclusion that a 'purely capitalist society[1] cannot develop because of the limits to the commoditization of the economy. It is only a

expression of socially necessary labour, they cannot be restricted to commodities.(14)

Neither the labour to produce the spatial structure, nor the labour to produce the juridico-politico-administrative superstructures are explicitly treated in the classical formula of valorization

$$VE \quad V + VS \tag{4.1}$$

in which the wage relation divides the total abstract labour, or the value of the total labour of society, VE, into the value of the labour power, _V and surplus value VS_ in commodity production only. In order to explicitly incorporate those portions of social labour, we may then write

$$VS = VA + VL + VT$$

where VL and VT are the labour times spent in production of space and in all other activities of the state, respectively, and VA is value available for accumulation (capitalists' consumption disregarded, as henceforward). Then (1) becomes

$$VE = V + (VA + VL + VT) \tag{4. la}$$

with

$$VA = VS - (VL + VT) \tag{4.2a}$$

Alternatively, VL and VT may be included in labour time necessary to reproduce all the conditions of production. If W is the labour time to reproduce labour power (wage goods) and direct means of production (capital goods) used up in commodity production, then we may write

$$V = W + VT + VT$$

(contd.) further logical step then to hold that "the bourgeois state [is] an institution alien to capital" (Sekine, 1967:154).

(14) We follow Aglietta's view that as necessary, or abstract, labour, so values can be defined at the social level only (Aglietta, 1976, especially pp.38-47). Despite this view, however, Aglietta himself ends up by restricting value to the commodity-form in which socially necessary labour is directly validated, and the production of use-values (non-commodities) enters as a division of profits, which then can be read back into the field of value as "simply an ex-post result without major significance" (op.cit., p.62).

This time (1) becomes

$$VE = (W + VL + VT) + VS \qquad (4.1b)$$

with

$$VA = VS. \qquad (4.2b)$$

The first formulation is centred around the distinction productive/unproductive labour, whereas the second, around the distinction necessary (productive and unproductive)/ surplus labour. The formulations are obviously equivalent.[15] The rate of accumulation, a measure of the expansion of the productive power of society, defined as surplus labour time over total (productive and unproductive) necessary labour time is, in the first formulation

$$e = \frac{VA}{V + (VL + VT)} \qquad (4.3a)$$

and in the second formulation, which will be used henceforth for being consistent with the capital/wage labour relation defined at the,, social .level, we have

$$\frac{VS}{W + VL + VT} \qquad (4.3b)$$

From the point of view of accumulation, all that matters is the amount of abstract labour spent in the production of space as a portion of necessary labour. The distinction productive/unproductive labour is another division of social labour that refers to the distinction commodity production as against production of use values but it cannot account, by itself,for the fact of expanded reproduction or accumulation.

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(15) Rowthorn provided a formal demonstration of such equivalence in another example. He showed that if an economy the labour power in the private sector, Ep , is skilled and in the educational (governmental, 'unproductive') sector the labour pover Eg is unskilled and provides those skills, the total value in the private sector is $E_p\,(1 + E_G/E_P) = E_p + E_G$. "This result could have been obtained directly by regarding all labour performed in the economy as unskilled [that is, 'homogeneous abstract labour' - CD] and then simply adding up the labour performed in the two sectors" (Rowthorn, 1980:241-2).

The value of the labour power spent in the production of space dispels objections such as raised in classical political economy in connection with the rent theory that the payment for land can enter the price of production of commodities. The labour spent in the production of space is validated indirectly and at the aggregate level through the consumption of the commodities that have been produced over the urban space. The transformation of urban space gives rise to new payments for locations contained in it and occupied by new individual processes (techniques) of production. These payments are incorporated into the price of production of commodities so that labour spent in the transformation of space is finally validated in this mediate form in the consumption of commodities. 'Value of a location' however, has no meaning since as we have seen, no portion of space has any specific content of abstract labour: any labour effected on any portion of space re-defines (transforms) urban space as a whole.(16) Accordingly, - and just as in the case of commodities - the price of a location does not arise from its supposed value but simply as a requirement of the organization of production under the prevailing conditions of competition between capitals. Because commoditization and with it, market

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(16) This is in fact the same with commodities as well -- that 'embody' specific amounts of concrete labour only -- where even the amount of abstract labour necessary to produce a particular commodity is devoid of meaning, since necessary labour can only be defined at the social level under any prevailing stage of development of production. Failure to recognize this has given rise to the so-called transformation problem - the transformation of values into prices (see for example, Kay 1979, Aglietta 1976 and an interpretation of the latter, Driver 1981). In this connection, let us note that Driver says Aglietta has solved the transformation problem (op.cit., p. 162): better would be to say that in Aglietta's view it is not a 'problem', for values and prices do not belong to the same realm. Anyhow, if it is more difficult to see that there is no meaning in 'value of a commodity' because it appears as if commodities can be individually produced, the same becomes far more self-evident in the case of locations in space, themselves unconceivable in isolation.

regulation cannot be generalized across the whole of the capitalist economy, the conditions of competition are circumscribed by state intervention. As the flow of capitals between firms and industries is regulated to a lesser or greater (according to the stage of accumulation) extent through taxes,subsidies, direct intervention, regulation affecting concentration and centralization of capital, cross-(national) boundary controls and so on,so is spatial localization framed by zoning by-laws, property taxes, public enterprise etc., so that the price of location carries out organization merely within the confines of the remaining 'freedom' of the market.

4.5 THE PAYMENT FOR LOCATION AND ACCUMULATION

Following classical rent theory, price of location (in the form of the price of land) has been seen as a barrier to capital accumulation leading to widespread theses about nationalization of the land as a remedy.(17) An archetypal form of the argument reads:

> ...the purchase price of the land (capitalized ground rent subsumed under the legal fiction [sic] of the value of the land) has the effect of withdrawing capital from investment in agricultural production. Private land-ownership (large or small) serves as an obstacle to the development of productive forces in agriculture. (18)

Such a view is to confuse capital with a sum of money (19) The only

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(17) Even though it has been also amply pointed out that private property of land is essential to the depossession of the worker from his means subsistence, that is to say, to the existence of wage labour and therefore to capitalism, propositions about nationalization of land have reached the level of political debate from Great Britain (Massey & Catalano, 1978:16*ss* to Brazil (Singer, 1978) to Japan (Uno, 1964:102,108).

(18) Hindess (1972):16 quoted in Massey & Catalano (1987):52.

(19) By the same token, it could be said then that wages are a "deduction" from profits (as in the 'neo-Ricardian' formulation, where wage is a 'distributional variable'). Capital, of course, appears on the market in monetary form, in which it secures the conditions of production: location, means of production and labour. The proportions in which these appear in total capital

thing which would accelerate accumulation in this connection is a reduction of the labour time necessary to produce space (VL), thus reducing total necessary labour time (V) - and we have seen that this has nothing to do whatsoever with the price of land.

If land had no price (and spatial regulation would be carried out by central planning, an event as unlikely as conplete anarchy of production), all that happened is that the corresponding amount of money would be withdrawn from capital investment, from the price of commodities and from wages - that is, from circulation - and the monetary expression of abstract labour would change accordingly. But the amounts of labour spent, the techniques of production and ultimately the rate of accumulation SV/V would remain unchanged. All that would be altered is the denominations under which capital flows would be effected (excluding, in the latter case, the denomination 'price of land') or in the case of mere variations (such as those arising from legal regulations such as land use zoning that do not do away with land price but interfere with the magnitude of the latter) in the price of the land, the proportions of the flows under the same denomination which make up capital advanced for production, but without affecting VS/V or even the (money-)rate of profit.

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contd.) is an outcome of the regulation of production. In particular, spatial organization enters the regulation ot production by means of the payment for location that is a part of total capital advanced as a condition of production. - Let us note in passing that the assumption that rents in capitalism may be paid at the end of a production period (implicit in the conception that rent is paid out of 'excess profits') is a fantastic notion peculiar to rent theory, as is that there exists a class of landowners who own the land but nothing else (so that they cannot be capitalists). Surely, feudal rent was performed (rather than paid) during the production period and its result appeared at the end, just as with wage labourers' surplus labour. But the feudal landlord controlled the production process ensuring thereby both the production and the appropriation of surplus - a condition that is clearly not present in capitalism, as any classical economist and Marx were at pains to stress.

The above example shows, incidentally, that the argument behind the idea of 'rational planning' is the same as that holds that 'rent' hinders accumulation: planning - through land use zoning, public enterprise etc. - would make production 'more efficient'. We can already conclude from the foregoing, however, that planning - that is to say, state intervention - does not arise in order to increase efficiency (the rate of accumulation) that 'otherwise' would be lower but rather, out of sheer necessity imposed by the limits to the commoditization of the economy. In other words, state intervention does not make commodity production more efficient - it makes it possible at all.

4.6 THE NEED FOR PLANNING IN SPATIAL ORGANIZATION

If the pure and simple 'abolition' of the payment for locations would not by itself alter the conditions of production (provided that an equally 'efficient' planned regulation is put into the place of market regulation) and therefore, of accumulation, the intuitive perception, in a market-regulated economy, that land prices are "too high", still does or may have a meaning. Namely, it may mean that urban space is too differentiated or conversely, not sufficiently homogenized by infrastructure, resulting in fierce competition for suitable locations. In other words: more labour invested in spatial infrastructure, even if it is diverted from direct production of commodities [20] (i.e, allowing for 'lost' production of surplus value during the period of construction), would make production more

(20) This is not a necessary assumption. More generally this example is about a temporary decrease in the rate of surplus during which production is reorganized so that the rate of accumulation can be increased in the future.

efficient overall (accumulation faster), because it would reduce overall necessary labour _V over a certain time period during which the effects of such investment would be felt (that is, before it would be used up or become obsolete).

For example, if the diversion of 10% of the labour power for 2 years builds a transport system (or an improvement in the existing one) which reduces necessary labour (or prevents its increase) by 5% for a further 18 years, such investment results in a reduction of necessary labour and, if total labour time remains unchanged, in a corresponding increase in surplus value, and a still greater (relative) increase in the rate of surplus.

Both the decrease in necessary labour V_ and the increase in the rate of surplus e would depend on the extant value of **e**. Thus, the new surplus value SV'= e'V' (yearly average over the whole period of 20 years) will be

$$e'V' = 1 + \frac{18 * 0.05/ e - 2(0.1)}{20} \; eV$$

or

$$\frac{e'V'}{eV} = 1 + \frac{0.9 /e - 0.2}{20}$$

showing that the increase in surplus value is positive for e < 4.5 (that is, for all *e* less than an unlikely high 4.5, above which the gains do not compensate for the loss of all the surplus value produced by the 10% of the labour power in two years of the construction), and is generally the greater, the smaller is the starting value *e*. In particular,

e	e'	Δe(%)
.03	.078	160
.05	.099	97
.10	. 151	50
.15	.202	35
.33	.391	17
.50	.563	13

uncomfortably low rates below 5% would be more than doubled whereas rates above 50% would increase by around 10% or less.

The foregoing numerical example can be given a general expression. Namely, if improvement takes $\underline{x}$ years for 100X percent of the labour power and reduces necessary labour by 100δ percent for a further $\underline{T}$ years, we have

$$k = \frac{e'V'}{eV} = \frac{x(1-\lambda) + T(1 + \delta/e)}{x + T} \qquad (4.4)$$

and

$$e'/e = k[e(k-1) - 1] \quad . \qquad (4.5)$$

It goes without saying that any gains through a reduction of the necessary labour time are not automatically incorporated into surplus labour time -- that will depend on the organization of the labour process in which both workers and capitalists take a part (as opponents, because of their respective immediate interests both as individuals and as classes) -- but reduction of necessary labour is a necessary, if not sufficient,condition to increase the rate of surplus (production of relative surplus-value) in a regime of intensive accumulation.

The example above shows, on the one hand, why investment in spatial infrastructure is particularly advantageous at times of crisis when the rate of surplus value is low; and quite apart from the circumstance that it constitutes a convenient outlet for (capital and) labour which cannot find an outlet in direct production of commodities because in the old structure of production abstract labour spent in their production cannot be validated.

History illustrates the close association between crises and railway, transport, construction etc. booms. After the huge-scale accumulation of industrial fixed capital throughout the industrial revolution, accumulation was checked by 1830 - which is also the time of the first railway boom.(21) At the eve of the renewed industrial expansion spurred by "Free Trade" (1847) came the second and biggest ever (in England) railway boom(22) that paved the way to the 'golden age of the manufacturers', the 1850s and the 1860s. When finally the great depression set in, it came accompanied for the first decade by "the peak for all transport [railways and ships]...reached in the 1870s".(23) Similarly, the skyline of American cities (New York, Chicago) was transfigured by the mushrooming of skyscrapers both in the eve —the 1920s— and in the wake —the 1930s— of the great crisis. The Empire State Building, built in 18 months 24 hours a day by "pre-recession cheap labour"...(24) is only the most famous specimen of a populous species created by that construction boom that raised investment in infrastructure to over half of total fixed capital formation.(25) The current crisis did not fail to bring the attention of some to the need for renewed investment in infrastructure either(26), with no decisive

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(21) Deane & Cole (1967):231.

(22) Expenditure on construction only approached 10% of national income (op.cit., p.239).

(23) (id.ibid.) Further: "The [transport] industry contributed to the growth of national output not only by virtue of its own productivity increases but also by reducing the costs of other industries." Transport costs of bulky goods halved between 1820 and 1866, and tramp-shipping freights fell by over 40% from 1871 to 1911 - (id.ibid.).

(24) Amery, Colin (1984) "City of dreadful height" *Financial Times* July 2:15.

(25) Aglietta (1967):106.

(26) In Great Britain, "demands for increased spending on infrastructure projects featured strongly" at an annual conference of the Confederation of British Industry convened to "present the Prime Minister with a list of the industry's priorities" (Financial Times, Nov.8, 1984:6). In the US, a 1982 (August 2) issue of Newsweek featured on its cover: "The Decaying of America (Its

result however. This is probably due to the fact that the rate of accumulation within the commodity sector has been maintained so far into the crisis (end of 1984) by an unprecedented policy of accumulation of debt (foreign, public, banking, corporate, consumer's, mortgage - now totalling about US $8 trillion, or two years' national income) pursued by the United States, so that it looks as if the rate of surplus e was high.

On the other hand it is also readily apparent in the above analytical example that virtually all the variables involved in the assessment of the effects of the envisaged investment are beyond the reach of individual capitalists even in terms of information, let alone of control. A crisis unequivocally indicates the need for a reduction of total necessary labour as a proportion of social labour power. From this, however, no rule can be derived as to the distribution of necessary labour between the commodity-producing sector (or within this, between the 'departments' producing means of consumption and means of production, respectively) .and the state sector (and within this between the production of space and the production of all other services). In connection with the formulation of necessary labour

$$V = W + VL + VT$$

earlier on we had emphasized that a reduction of labour necessary to produce space would increase the productivity of social labour, but of course, an equal reduction of necessary labour in 'all other activities'

(contd.) Dams, Bridges, Roads and Water Systems Are Rapidly Falling Apart)" and forwarded an estimate of US $3 trillion as the "cost of needed repairs" (p.22). US Government spending on infrastructure had actually fallen from 1973 to 1981 by about 25% in absolute terms (p.27).

of the state (VT) or in the commodity sector (W) would increase labour productivity equally. A fall in the rate of accumulation provokes a 'crisis' that signals that production must be transformed, namely, some of the components of necessary labour must be reduced. This can be done by means of redistributing the use of labour power - that is, by reorganizing the labour process - on the basis of some regulation. In capitalism a model of the economy, as it were, is constituted in the commodity economy, where the rate of accumulation is posited as profit materialized in the capital/wage relation and which is left to the regulation by competition on the market. If commoditization could be extended to the whole production, the latter could be entirely regulated by the market - a supposition the absurdity of which is reflected in the fact that the whole of social production would be 'anarchic'. A society cannot be anarchic nor can social relations be entirely reified. The commodity sector therefore retains its dependence on the state sector and conversely; for both are part of the same whole. The regulation of production is therefore achieved in the first instance by the market and in a second instance by conscious (planned) intervention carried out by the state through trial-and-error and guided by the signs emitted from the commodity economy. The regulation of commodity production comes to a regulation of competing individual processes of production under the conditions arising both from their own competition - generally referred to as market forces - and from the activities of the state generally referred to as state intervention. To account for the concrete production process however, it becomes necessary to distinguish the concrete forms of capital that take part in the former with respect to their rigidity towards changes in the production process. The foregoing

example was in fact already about production of fixed capital, that is to say, the production of a given structure that would increase the productivity of labour for a lasting period. The regulation of the production process, both in the case of the individual processes of commodity production and in the case of direct production of use values as of spatial infrastructures, makes it necessary to introduce the distinction fixed capital - circulating capital and the related concept of techniques of production.

5 FIXED CAPITAL AND THE TRANSFORMATION OF THE PRODUCTION PROCESS

5.1 Fixed capital and the individual process of production

Fixed and circulating capital
Rigidity of capital and the individual rate of profit
Surplus profit and new technique
New technique and fixed capital

5.2 Technical progress and accumulation

New technique in the individual process of production
Predominantly extensive and predominantly intensive accumulation
Rigidity of capital and crises of accumulation

FIXED CAPITAL AND TRANSFORMATION OF THE PRODUCTION PROCESS

5. 1 FIXED CAPITAL AND THE INDIVIDUAL PROCESS OF PRODUCTION

> (T)he only essential distinction within his capital that impresses itself upon the capitalise is that of fixed and circulating capital.
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> Engels, in *Capital III*:75

Fixed and circulating capital

From the point of view of how regulation is inpesed upon individual capitals, that is to say, from the point of viev of the individual capitalist towards the introduction of a change ir. the production process, his own materialized concrete productive capital is composed of two parts: fixed capital and circulating capital. The relevant magnitude for the introduction of new techniques is the proportion between both parts which we call rigidity composition of capital defined as the amount of fixed capital per unit of circulating capital, so that if. we denote both the latter by **K** and **k** respectively, and denote the rigidity composition of capital by ϕ,

$$\phi = \frac{K}{k} .$$

In the broadest definition, fixed capital is the part of capital advanced for securing the conditions of production for more than one period of production, and circulating capital is the part advanced for the conditions of production for one period of production, that is, a period at the end of which the exchange-value of the commodities produced during the same period is realized in monetary form. The conditions of production are means of production, labour and location. Leaving the latter aside for a moment to be introduced later, the most common components of fixed capital are machinery and buildings, whereas those of circulating capital, wages and raw materials.

Rigidity of capital and the individual rate of profit

Now, assuming a distribution of the socially produced surplus value individual capitals through a generalized rate of profit - that is, free flow of capitals within and among industries - total capital of any individual firm (i.e., the structure in which individual capital

(1) The various parts of fixed capital may have, as is usually the case, different lengths of 'life-time', that is, lengths of time for which they can be used in production. The life-time of a component of fixed capital depends on wear and tear (physical decay) which is a characteristic specific to the component, and on technical obsolescence which is not, tor it depends on cue evolution of technique. In our example, some machines may produce for 2, others 3, 10 etc. years and then wear out cvr any of them may become technically obsolete before they were worn out. Similarly, a building may last for, say, 25 years before needing replacement by virtue of physical decay. During this time it may even be able to harbour one or more successive new techniques (when it is said to possess a quality usually described as flexibility of design) and still may become finally unsuited for a new technique before it reached a state of decay.

operates) must yield a profit at the average profit rate. In theory **this** would mean that circulating capital must yield a profit seen as 'normal' at the end of the period of production and fixed capital must do so through its lifetime. In practice, such calculations cannot be **carried** out by any capitalist because neither the future life-tine of **fixed** capital nor the present, let alone the future, average rate of profit are known nor could they be. Of the latter, 'present[1] rate of **profit** depends on the decisions of all capitalists taken at the beginning of a production period on the basis of past magnitude of the rate **of** profit and the present state of technique, and it will materialize only at the end of the period - in fact, there is no such thing as 'present' rate of profit. As for the future rates of profits which fixed capital should yield during its lifetime and the lifetime itself of fixed capital, both depend additionally on the future technological evolution. The indetermination faced by individual capitals due to the presence of fixed capital is well reflected in Marshall's treatment of the same question:

> Direct costs must be completely covered by the selling price...Supplementary costs must generally be covered by the selling price to a considerable extent in the short run. And they must be covered by it in the long run; for if they are not, production will be checked.
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> Marshall, (1890):360 (2)

Marshall's formulation is strikingly sketchy and for good reason: from the point of view of individual capital, little more can be said on the return of fixed capital. To the same effect, Marx had devised the reserve fund: because fixed capital cannot be replaced gradually, the

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(2) Marshall (1890):360, my emphases.

return on capital in excess of the circulating capital (that can be immediately reinvested) must be sunken into a reserve fund awaiting future replacement of fixed capital - it will be hoarded. The credit system allows that such idle capitals re-enter the production process as functioning capital in the hands of others(3) while yielding a return to their owner at the prevailing interest rate. The point is, however, that even if the reserve fund is complete, i.e., sufficient for the renewal of fixed capital, but the latter still yields a return higher than the (estimated) average rate of profit and the interest rate, it will continue in use, and conversely, it has to be scrapped otherwise even if the reserve fund is not 'complete' yet. The question for the capitalist therefore remains, when should he make use of the reserve fund to replace existing fixed capital. Thus the average rate of profit cannot, by itself, perform the regulation of production. For individual capitals the condition that return on investment must be at least at the average profit rate is therefore replaced by the criterion of maximization of the profit rate on investment, provided it is at least equal to the interest rate present and expected. Accordingly, instead of 'pursuit of the average profit', competition among capitals gives rise to the pursuit of surplus profits.(4)

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(3) Cap.II;185.

(4) The presence of surplus, or excess, profits has been widely associated with monopolies ana reburicLed uu i.Oi.i.eSpCiiJmg stage; cf capitalism (e.g. Sweezy, 1972:47-8; or, for an overview and critique of various currents of thought on competition, Semmler, 1982). The same is recognized also in 'competitive' capitalism, but its role is by and large underrated by seeing them as 'temporary'. Temporary they certainly are, if one focuses on a transformation associated with the introduction of one specific new technique (see below). But the development of the production process is essentially a succession of such transformations so that the change is rather the rule than the exception, as is the presence of excess profits. Monopoly is only another way of achieving surplus profits — or of enjoying them longer — and then directly or indirectly, a monopoly is in fact the monopoly of a technique of production (see also *fn* 15 of Chap.7).

Surplus profit and new technique

Under free competition among capitals there is only one way for individual capital to make excess profits: through the introduction of new techniques that increase the productivity of labour. The trick is of course to do it before others.(5) The first firms to introduce a new technique have their costs of production reduced and enjoy a surplus profit while the market price of the product is still regulated by the higher production costs of a majority of firms still operating the old technique.?. Under the effect of the same motive of surplus profit the use of the new technique becomes progressively generalized (although concomittantly the market price falls to the new price of production and the surplus profit tends to disappear, while of course, the new technique becomes less and less 'new'). The pursuit of surplus profits - which is what Marx has called production of relative surplus value - thus provides a powerful inducement for the introduction of new techniques of production.(6)

New techniques and fixed capital

In the development of the concrete process of production, new techniques cannot be introduced smoothly in a continuous way, because of the rigi-

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(5) As recently a newly appointed director to a troubled company candidly put it, in what was termed as "clear guidelines for [the company's] future": "The company must strengtnen its marketing, ensure that production techniques remain up to date and flexible ...and bring new products to the market early enough to reap a good financial return before competitive pressures mount." (Financial Times, Dec. 6, 1984:6). We could wish him good luck except for fairness towards his competitors who will be in the same endeavour...

(6) As with profits, so the source of excess profits is of course socially produced surplus value. Excess profits arising from the employment of new techniques can be interpreted as being in fact the social cost of the introduction and propagation of the same techniques (see Sekine, 1967:186,199).

dity of fixed capital employed in production. For whereas circulating capital can readily be converted to a new technique, the conversion of fixed capital implies the scrapping of the corresponding machinery etc. i.e., lasting instruments of production. Once an individual productive process is materialized according to a certain technique, the decision at any specific time between producing according to the current technique and switching to a new technique is based on the return on circulating capital only compared to the average rate of profit - that is, to what could be expected on total investment according to a new technique - regardless of whether or not current fixed capital has returned the expected (or any specified amount of) profit yet. Since the rate of total return on circulating capital is the higher, the higher is the magnitude of fixed capital relative to the magnitude of circulating capital, that is, the higher the rigidity composition of capital, it follows that new techniques will be introduced the easier, the lower is

(7) "Bygones are forever bygones, and we are always starting clear with a view to future" - summed it Jevons all up (quoted in Salter, 1960:61); and because fixed capital appears as 'given' in the sense both of 'gift' and of 'being determined', there arose the idea of comparing machines (and fixed capital in general) to nature, an idea now as old as Political Economy. "[Machines and tools] do their work gratuitously, just like the forces furnished by Nature without the help of man", says Marx, and further: "(...) In Modern Indsutry man succeeded for the first time in making the product of his past labour work on a large scale gratuitously, like the forces of Nature" (Cap.1:366). Taken Lu ii-b cxti.oUic, *the* sasc idea gave rise to the Marsh?! 1 i>" quasi-concept of 'quasi-rent'. Conversely, at times surfaced the recognition that 'nature' is less 'given'than it might seem. This is very strong in Marx, but already Ricardo discussed with contemporaries that in fact nature can be 'cultivated', meaning, transformed by labour: "with respect to the powers of the soil... much more depends upon cultivation, than upon natural fertility" (Trower to Ricardo in Ricardo, Letters, p. 109; Ricardo agrees, p. 122). In either case the confusion rests very much on the inheritance of the feudal concept of rent and the related failure of conceptualizing location as a condition of production, itself a product of labour.

the rigidity composition of existing capital. It is for this reason that the specific historical forms of the payment for location, namely, rent-form and price-form, correspond to specific historical forms of the process of development of the productive forces and ultimately of **the** process of accumulation. Before we introduce the payment for location however, let us first turn to an account of the transformation of the individual process of production in some detail.

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(8) Marx has first set out the condition of the introduction/ replacement of fixed capital, concentrating on machines only: "the limit of his [the capitalist's] using a machine is fixed by the difference between the value of the machine and the value of the labour-power replaced by it" (Cap.I:370). This applies at the social level only where the process of accumulation takes place - at which level values are defined and the value of raw materials enters, through the necessary labour time, the value of labour power. Marx himself notes in continuation that the divergence between values and prices of individual commodities (including labour power) introduces important differences both over time and across regions and nations with respect to the introduction of a same machine, quoting examples of machines invented in a certain country that were put to use in another, but not, in the 'home' country itself. The emphasis in Marx's formulation is, however, on the process of accumulation and accordingly, on the fact that all technical improvement is ultimately an increase in the productivity of labour. At the level of individual capitals, Salter developed the conditions of the introduction of new techniques in useful detail in a work dedicated to technical change in production (Salter, 1960). His propositions are in fact equivalent to a specification of Marshall's own proposition quoted above, explicitly based on individual expectations. At the social level, however, instead of an account of the accumulation process, Salter - being as he is bound by the framework of marginalism - constructs a 'model' of 'moving equilibrium' (pp.59-60) in which individual rate of return, average profit rate and interest rate are confounded under the heading 'normal rate of return' (pp.57n-58n_), so that the relevance of the analysis remains restricted to the individual level, and the crucial processes of devalorization and crisis, as well as the regulating role of the interest rate, escape it wholly.

5.2 TECHNICAL PROGRESS AND ACCUMULATION

> Modern Industry never looks upon and treats the existing form of a production process as final. The technical basis of that industry is therefore revolutionary, while all the earlier modes of production were conservative.
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> Capital I:457

New technique in the individual process of production

Let us consider an individual process of production defined by a fixed capital K materialized in newly set up machinery and buildings, and by a corresponding circulating capital It in wage and raw materials. If, in view of the projected life time T of fixed capital, total fixed capital 'used up' during a period of production is[9] K/T, the return on investment should be according to an assumed (average) rate of profit π:

$$R = (K/T + k) + (K + k)\,\pi \qquad (5.1)$$

Once the fixed capital is in place, the rate of return _r on circulating capital newly (re-) invested year by year will be r = (R - k)/k or with substitution of R from above

$$r = \frac{K}{k.T} + (K/k + 1)\,\pi$$

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(9) In the case of components of fixed capital K_i, having different projected life times T_i, total fixed capital 'used up' in a period of production is $\Sigma^i(K_i/T_i)$ and T is therefore defined as

$$T = \frac{K}{\Sigma^i(K_i/T_i)}$$

or yet, with the rigidity composition of capital ϕ such that

$$\phi = \frac{K}{k} \quad ,$$

the rate of return on circulating capital becomes

$$r = \phi\,(1/T + \pi) + \pi \qquad (5.2)$$

If there was no technical change, that is, the rate of accumulation was equal to the rate of increase of the labour force — something that could be called simple reproduction on an expanding scale — when his fixed capital had worn out after the projected T years,(10) the capitalist would simply take the reserve fund and start the process again on a scale increased in the proportion allowed by the accumulated profits - here, $(1 + \pi)^T$ times.(11)

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(10) The life time of a fixed capital that corresponds to a non-changing technique should be no secret to any capitalist... To overestimate it would mean undercutting the price of production and suffering a loss; to underestimate it: becoming uncompetitive.

(11) A perfect fluidity of capitals at the social level, that is, between industries, departments and sectors of the economy, had to be supposed here (otherwise a part of the labour power of society would remain idle and accumulation would not proceed at the rate $\underline{\pi}$). In other words, this particular capitalist's reserve fund had to be used all the time (while the same is yet incomplete) in 'some other' individual process(es) of production (observe that this particular process of production has not expanded throughout the period T) and conversely, it had to become readily available to him at no cost when replacement of fixed capital falls due. — All this runs into contradictions, for whereas it implies a lending rate equal to the profit rate, it also implies a zero rate of borrowing (otherwise the 'other' process of production is indebted, cannot achieve the profit rate $\underline{\pi}$ and part of its capital is fictitious) that no 'credit system' can achieve even if the cost of circulation of money-capital were nil. None of this is worth pursuing, however, for this 'economy' is itself as fictitious as perfect fluidity of capitals, as pointed out below.

Such an economy would raise the question, of course (and quite apart from the one of 'primitive accumulation'): How was the first machine produced? In other words, how was the prevailing (whatever it is) state of techniques reached, if there is no technical change? Fixed capital implies indeed a state of techniques, and a state of techniques implies an evolution of techniques. This means increasing productivity of labour or what is to say the same, that accumulation proceeds at a rate higher than the rate of increase of the labour force. In other words, the labour time necessary to reproduce the conditions of production (including means of production and of consumption, and the non-commoditized, 'general', conditions of production) dininishes. This in turn entails a devalorization of fixed capital in every production period.

For individual capital this appears as follows. After one period of production there arises a new technique of production. Because this technique is more productive, it produces the same commodity at a lesser cost that brings the market price down.(12) The return of the old technique then becomes R_t lesser than R and so on successively through time. If the accumulated reduction of the price of production according

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(12) We assume this instead of an initial 'surplus profit' for the new technique which then gradually falls to the 'average' rate throughout the period T, for simplicity only. Both formulations are equivalent: according to tne second formulation, the couui(_!<-• of substitution is expressed as

$$(1 + \pi)(1 + \theta_t) > 1 + r$$

that is, the new technique, by reducing the price of production in 'the proportion $1/(1 + \theta)$, increases the 'normal' return in the inverse proportion, to the extent of offsetting the rate of return on circulating capital of the old technique (surplus profit here is $\theta_t(1 + \pi)$). This gives the same condition of substitution as (5.5) below.

to the new technique available at the start of the period of production t is in the proportion $1/(1 + \theta_t)$, where θ_t is the accumulated increase in productivity,[13] the return of the old technique at the end of the same period of production is

$$R_t = \frac{R}{1 + \theta_t} \qquad t < T$$

so that the return of the old technique becomes a decreasing function of time (within the life-time of fixed capital). With it, the net rate of return on newly invested, that is, circulating capital, decreases as well, although remaining for some time above the assumed rate of profit π. At time t, when the accumulated increase in productivity is θ_t , r_t will be

$$r_t = \frac{R_t - k}{k} = \frac{R}{k(1+\theta_t)} - 1 = \frac{k(r+1)}{k(1+\theta_t)} - 1$$

or

$$r_t = \frac{r - \theta_t}{1 + \theta_t} \qquad (5.3)$$

The old technique will be substituted by the current (best) technique when the current rate of return r_t on newly invested capital in production according to the old technique falls below the assumed

(13) If the increase of productivity after each period i is θ_i, the accumulated increase in productivity up to time t is θ_t such that

$$1 + \theta_t = \prod_{i=o}^{t-1} (1 + \theta_i)$$

average rate of profit (the assumed yield on total advanced capital according to the new technique):

$$r_t < \pi \qquad (5.4)$$

that is, when the increase in productivity has eroded the whole of the excess return on the circulating capital of the old technique. Substituting r_t from above (5.3), comes

$$\theta_t > \frac{r - \pi}{1 + \pi} \qquad (5.5)$$

or, with (5.2), the condition of substitution becomes finally:

$$\theta_t > \phi \frac{1/T + \pi}{1 + \pi} \qquad (5.6)$$

For a given evolution of the techniques of production, the fulfilment of the condition of substitution will take the longer, the greater is the magnitude of the initial excess rate of return on circulating capital. For this reason, the same magnitude is a measure[14] of the rigidity of capital as materialized in the fixed capital of the corresponding technique of production. In particular, if we denote this magnitude by $\bar{\phi}$, so that $r = \phi + \pi$, with (5.2) above the rigidity of capital is expressed by

$$\bar{\phi} = \phi\,(1/T + \pi) \qquad (5.7)$$

Note that apart from the rigidity composition ϕ, that is, fixed capital per unit of circulating capital, and the life time T of fixed capital,

(14) This measure is not complete yet for we are disregarding for the time being the payment for location, that will be introduced in the next chapters, especially section 7.1.

the rigidity of the concrete capital materialized in the individual process of production depends also on the (assumed) rate of profit in the economy, the very means of insertion of the individual process into the social process of production.

Further, as the initial excess return on circulating capital decreases with the evolution of techniques, let us define $\bar{\phi}_t$, the excess rate of return at time **t** so that $r_t = \bar{\phi}_t + \pi$. With the value of $\underline{r}_t$ in function of $\underline{\theta}_t$ as given by (5.3) above, and substitution of **r** from (5.2), comes

$$\bar{\phi}_t = \phi \frac{1/T + \pi}{1 + \theta_t} - \frac{\theta_t (1 + \pi)}{1 + \theta_t} \qquad (5.8)$$

The proportion $\bar{\phi}_t/\bar{\phi}$ -- being in fact the fall in the contribution of fixed capital to the return on circulating capital – is a measure of the devalorization of fixed capital brought about by the increase of the productivity of labour - it is also a measure of the decrease of the former's rigidity.(15) At the time $\underline{T}$ when $\bar{\phi}_{\underline{T}} = 0$ the same fixed capital is totally devalorized (it cannot 'transfer' any value to the product) and must go out of production. It becomes -- and the corresponding technique with it -- obsolete. The above condition of substitution of the old technique (5.6) tells that $\bar{T}$ is such that

$$\theta_{\bar{T}} = \phi \frac{1/T + \pi}{1 + \pi}$$

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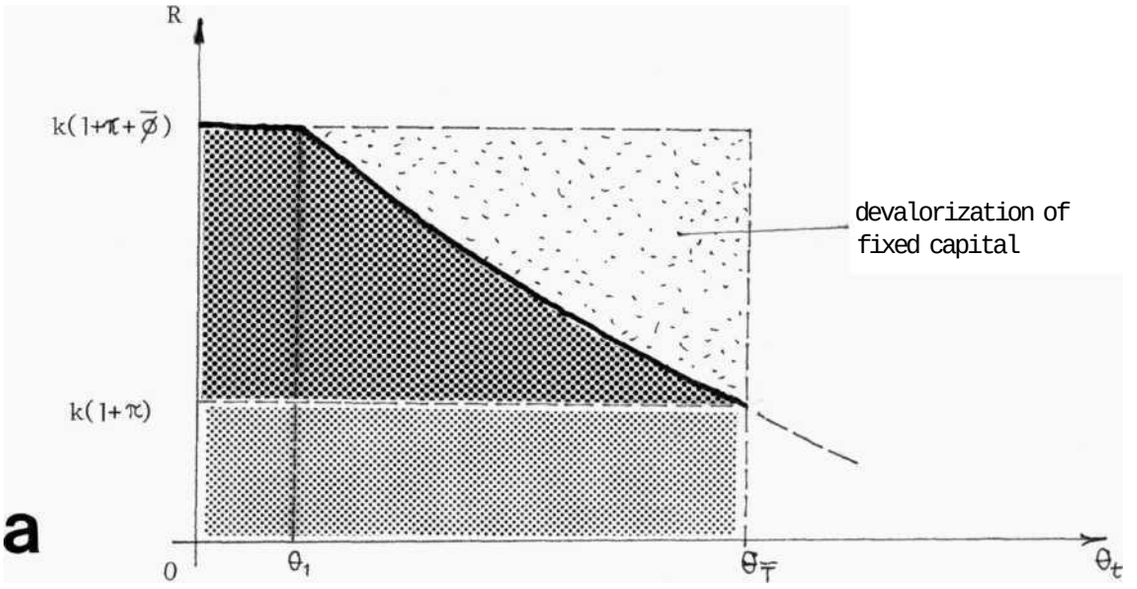
(15) Showing that 'rigidity of capital[1] of an individual process of production not only is not intrinsic to the same process but it is also variable through the transformation of the social conditions of production.



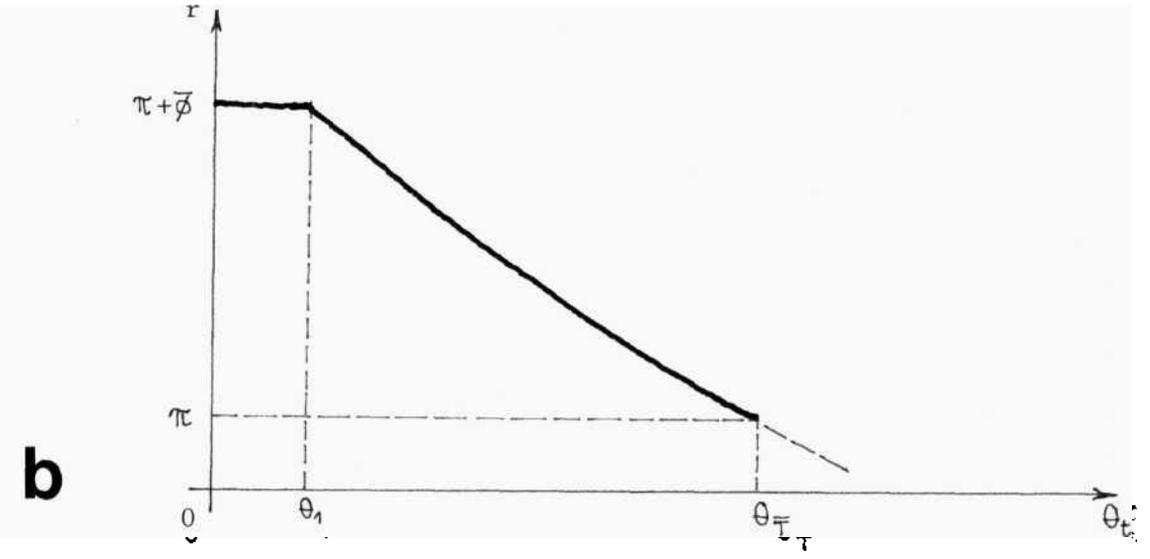


FIGURE 5.1 Obsolescence of the individual process of production. -

As the market price falls with the increase in productivity of labour θ_t, so falls the return R of an individual process of production (a), and consequently also the rate of return r on its circulating capital (b). When the latter falls to the assumed rate of profit $\bar{\pi}$, the technique becomes obsolete and must be substituted. At this stage, the corresponding fixed capital is wholly devalorized (darker area in diagram a is the contribution of fixed capital in total return R).

showing that whether or not fixed capital becomes obsolete before it wears out through physical decay, that is, whether or not

$$\overline{T} < T$$

depends on its life time T, the initial rigidity composition of capital ϕ, the assumed rate of profit π and the future evolution of techniques.(16)

Predominantly extensive and predominantly intensive accumulation

It is clear from the foregoing that accumulation — expanded reproduction — cannot proceed without fixed capital that is a condition of a technique of production and which in turn implies an evolution of techniques, both a cause and a consequence of the increase in labour productivity. In other words, expanded reproduction implies an increase in the productivity of labour. However, the above formulation allows for distinguishing two very different stages in the evolution of techniques according to the speed of the evolution and that are associated with the historical stages of predominantly extensive and predominantly intensive accumulation, also called 'regimes' of accumulation.(17) In

(16) In the case of a constant increase in productivity $\theta_i = C^t = \theta$ year over year so that

$$1 + \theta_t = (1 + \theta)^t,$$

the expression that gives the time of obsolescence $t = \overline{T}$ takes a simple form. From (5.6) and making $t = \overline{T}$, comes

$$(1 + \theta)^{\overline{T}} = 1 + \phi \frac{1/T + \pi}{1 + \pi}$$

or

$$\overline{T} = \log_{1+\theta} \left(\frac{1 + \phi/T + 2\pi}{1 + \pi}\right)$$

(17) 'Regimes of accumulation': as used by Aglietta (1967).

the former, technical progress is sufficiently slow so that the low rate of obsolescence of techniques results typically in the substitution of fixed capital due to wear and tear only within the same technique.(18) A plough, when it wears out, is replaced by one of the same sort, or a barn, when need arises, is rebuilt in the same way. In the predominantly intensive regime of accumulation, on the other hand, technical progress is so fast that the rhythm of substitution of techniques, and therefore of fixed capital, is dominated by the rate of obsolescence of both the latter,(19) rather than by the life time of fixed capital allowed by physical decay. The extensive regime of accumulation is characterised by low rigidity of capital (or high proportion of circulating capital) and slow rhythm of introduction of new techniques,(20) whereas the intensive regime

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(18) This is only possible because technical progress is in fact not a continuous flow even though it may be seen as such at the social level. But at the level of the individual productive process, it materialiaes in innovations that come about from time to time.

(19) This is what gives rise to 'planned obsolescence' of fixed capital characteristic of contemporary capitalism (see for example Aglietta, 1967, pp.313ss). The expected life of fixed capital becomes 'design life'.

(20) It should be noted that the 'extensive regime of accumulation' would allow by itself properly speaking, a rate of accumulation as slow as the rate of increase of labour productivity and that would be unable to provide a rate of profit high enough to perform the regulation of production (when it cannot be 'negligible'), nor the rapid rate of growth historically observed in the stage associated with it. In early capitalism, high rate of growth was being achieved by a combination of slow accumulation proper and rapid expansion of the mode of production (wage labour) at the expense of the old, a process more properly described as conquest. In this light, accumulation proper is always 'intensive' (that is, increase of labour productivity), whereas the so-called extensive accumulation is a combination of accumulation proper with an ongoing 'so-called primitive accumulation' (see also section 6.2 below).

of accumulation is accompanied by high (and rising) rigidity of capital and fast (and ever faster) pace of increase in the productivity of labour. The implications of these specific characteristics of the stages of development of the accumulation process for the form of the payment for location will be introduced in the next chapter.

Rigidity of capital and crises of accumulation

In view of the above, the condition of substitution of current fixed capital at the level of the individual process of production is reached simply when the return on new investment at each period of production, that is, on circulating capital, falls below the average rate of profit $\underline{\pi}$. This supposes that then the old technique can be substituted by a readily available current 'new' technique that yields the same average profit rate $\underline{\pi}$. This in turn, however, implies in fact perfect fluidity of capitals,(21) or, from the point of view of the evolution of techniques, a continuous increase in the productivity of labour after every period of production, allowing that idle capitals waiting for their application in new techniques readily find such new techniques

(21) Apart from the obvious fact that $\underline{\pi}$ cannot be the 'average' profit because of the devalorization of fixed capital that in the end will not yield the return, over its productive life-time, that had been presupposed in the 'average rate' $\underline{\pi}$. But this would be only a question of arithmetics: if the advance of techniques can be anticipated, an average effective rate of profit over the life time of fixed capital can be calculated - which is precisely what individual capitalists try to do. 'Errors' of calculation then disregarded, the (initial) price of production can be defined as that which, falling as anticipated with the improvement of techniques, will result in an effective average rate of profit (over the life time of the corresponding fixed capital) equal to the expected rate of profit in the economy. The fallacy of such an arithmetic 'solution' is apparent as soon as we recall that the rate of profit actually falls with the accumulated devalorization (or unrealized productivity of labour, as discussed below) and thus to try to recapture it remains no more than an inflation of the price of production (see also Section 7.2, fn 9 further below).

and conversely, that when the old technique must be substituted idle capital will be readily available for investment in the new technique. However, this runs into contradictions similar to those of the earlier schema of simple reproduction at an expanding scale (without technical progress).

Perfect fluidity of capital cannot be presupposed at the social level when every individual productive process has a degree of rigidity. As we have just seen, the individual productive process remains unchanged for some time which also means that the productivity of the labour force tied up in this particular process of production remains constant over some periods of production (regardless of what its productivity would be in a new process), and the same is true for all other individual processes of production. In particular, the increase in the productivity of labour due to the introduction of a new technique in particular industries (typically those producing means of production)[22] cannot instantly spread to other industries resulting (and precisely because of the positing of an average rate of profit) in concentration of capital in the former, leading to further concentration of productive power into the former industries at the expense of the latter. A technical innovation originated in some industries, rather than spreading

(22) Aglietta is more categoric on this point, saying that "a mutation in the forces of production necessarily has its origins in the department producing means of production" (Aglietta, 1967: 285). On the other hand he is less categoric about the effects of the same in reducing social labour productivity, making them conditional upon an eventual rise in the 'organic' composition of capital, when "the social productivity of labour can increase only if wage costs fall more quickly" (op.cit., 285-6). This indefinition in Aglietta arises for he fails to account for the rigidity of capital and actually attempts to build a model of continuous devalorization (op.cit., pp.61ss).

across the industries over the commodity sector (and then over the non-commodity sector) of the economy, therefore results instead in further differentiation in productivity - uneven development - over **the** economy[23] that cumulatively becomes a hindrance to the increase o social labour power. Thus the increase of labour productivity allowed by technical progress cannot be continuously realized in production. The social organization of labour becomes increasingly incompatible with the state of techniques and this entails an increase in the total necessary labour (that in the previous Chapter has been called V = W + VL + VT) and consequently, a reduction of the rate of surplus value - that is, of accumulation - and ultimately a fall in the rate of profit that can only be posited on the basis of the former.

When the profit rate falls below the interest rate *i*

$$\pi_t < i$$

that makes idle capital circulate[24] and that hitherto had been eithet disregarded or supposed to be lower than π, a new condition arises for the elimination of the old technique, namely, that its rate of return on circulating capital is lower than the interest rate, or

$$r_t < i$$

In this case however, it cannot be substituted by a new technique

(23) "The difference in the level of productivity between agriculture and industry. .. creates a steady transfer of value" from the forms. to the latter (Mandel, 1972:89-90), where the same applies to an; branches of industry with different productivities.

(24) An interest rate is necessary, otherwise the reserve funds of individual productive processes would not become available ('gratuitously') to others in need of it for the renovation of fixed capital. The difference between the 'lending' and the 'borrowing' rates is a further measure of rigidity of capital even in the ooney-form.

(because it would only yield a profit at a rate below the interest rate), leading to further reduction of production and ultimately to the need for restructuring production at the social level, both within commodit production (between the production of means of production and of means of consumption) and between commodity production and collective production. During the restructuring state intervention increases, th law of value ceases to operate(market regulation being restricted largely to a redistribution of private properties), and the regime of accumulation is effectively suspended. Such periods of restructuring are said to be periods of crisis, or simply, crises.

Most interpretations of crises start out from Marx's conception of crises in capitalism(25) that, for the first time in (or beyond) Political Economy, seeks their origin in the inner nature of the capitalist mode of production as opposed to some external 'constraint'. The most frequently quoted aspects, or structural forms (that at time have been interpreted as causes) of the development of crises have been, in some combination between them: rising organic (or technical, or value) composition of capital, rising wages, and uneven developtnen between Departments I and II (that is, of means of production and of consnTnprron. respectively). To these one should add on equal footint the obsolescence of the collective infrastructure or 'general conditi

(25) See for example, Mandel (1972):108ss, 4l3ss; Rowthorn (1980): 131-4; Aglietta (1976):284ss; or for a broad review, Fine & Harris (1979):8Oss.

of production'.[26] Then all the former structural forms of the crisis may be brought together as arising from the fact that the rise of productivity of labour cannot be continuously realized in production, due to the rigidity of the techniques, leading to a cumulative counter-tendency for the productivity of social labour to fall — accumulation, predictably, for being a social process, implies its own suppression followed by its reproduction at a new stage. The specificity of capitalist regulation - dominated by the commodity-form (or the market, or competition, or the 'law of value') - is that the (counter-)tendency for the productivity of labour to fall can only be checked by a crisis, or to put it another way, in the economy dominated by the market crisis is the very means of overcoming the fall in the productivity of social labour brought about by technical progress.[27] Thus crises are part and parcel of market regulation of production rather than a 'failure' of the same, so as rigidity of capital is not some 'imperfection' of capital but the very condition of accumulation, that is, of capital itself - the "product of his past labour" does not work for man so gratuitously after all: it takes its toll by temporarily suspending the development of the productivity of living labour.

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(26) We have been concerned mainly with spatial infrastructure alom with the politico-administrative structure materialized in the state but this is by no means to exclude the cultural mtra-structure materialized in ideology that indeed may have a greater rigidity yet than the former. A most interesting inte; pretation of capitalist crises as stemming from the rigidity o: the ideological structure is O'Connor's (O'Connor, 1984).

(27) "A 'crisis (of overproduction) is (thus) the appropriate mechanism within the capitalist mode of production for achieving an increased productivity of labour" (Mandel, 1972:414).

Interruption of the continuity in the transformation of the productive process at the social level by crises brings forward the regulatory role of the interest rate in mediating the evolution of individual techniques of production both between and during the crises.(28) In so far as the interest rate itself is regulated by the market, crises originate an inverse movement of the profit rate and the interest rate during the intervening periods. When the profit rate is recomposed after a crisis with many new productive processes in place, the interest rate falls because the new fixed capitals produce high returns towards the 'reserve fund' and few new processes of production seek to use idle capital so constituted. As the period wears on, the interest rate starts to rise and because it is highly visible, it becomes the de facto regulator of the individual processes of production. We have seen that the average profit rate cannot regulate individual production simply because it is an abstraction that does not materialize in the economy, a reason why production is governed simply by maximization of profits.(29) Accordingly, the condition of substitution of a technique as an individual process of production as set out above (5.4) becomes simply, if π_t^* is the rate of profit expected on the current best technique

$$r_t < \pi_t^* \ ,$$

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(28) Competition by itself ('market forces') gives rise to such a regulation as outlined below, but the interest rate is also one of the key means of state intervention into market regulation .

(29) 'Maximization of profit' simply means the choice of the best available technique, provided that the same technique yields a profit above the prevailing interest rate.

where[30] whether the new technique yields a rate of return at a certain 'average' rate π_t (at, below or above the level in the previous year) is not known in the regime of competition. If no such technique is available at a time when the return on the circulating capital falls below the interest rate i_t prevailing at the same time **t**, or

$$r_t < i_t \ ,$$

then the old technique, as already stated, cannot be substituted but will still be eliminated.

With the inverse movements of the profit rate and of the interest rate, in fact, the cases of substitution, elimination and introduction of techniques must be distinguished.[31] Thus,

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(30) In this case, and as an explicitation of the role of a variation of the competitive, or expected, rate of profit, the condition of substitution expressed in (5.6) above becomes

$$\theta_t > \phi \frac{1/T + \pi^*}{1 + \pi^*_t} + \frac{\dot{\pi}^* - \dot{\pi}^*_t}{1 + \pi^*_t} \qquad (5.6a)$$

where π^* is the rate of profit on the 'current best technique' at the time of setting up the old technique. This shows that at times of falling rate of profit (that is, in the period between crises), the resistance of old techniques to their Substitution increases, whereas an increase of the rate of profit after a reorganization of social production makes all techniques currently in use more 'fluid' and the introduction of all new techniques easier. In what follows we will generally use the simplified version of the condition of substitution as in (5.6) above in order to avoid a notation too heavy witn indeces. The role of an eventual variation in the rate of profit can always be taken into account by recalling that the π in the numerator stands for the old, whereas the π in the denominator, for the new expected rate of profit, when also appears a second term in the right-hand side of the equation as 'above.

(31) In contradistinction to Salter (1960) where it is found that "there is no need to distinguish between scrapping for replacement [substitution] and scrapping without replacement [elimination]" (op.cit., p.58). This is due to Salter's identification, referred to earlier, of the expected individual rate of return, the 'normal' rate of return and the interest rate (in our notation: $\pi^* \equiv \pi \equiv i$).

a) an old technique will be <u>eliminated</u> when

$$r_t < i_t$$

and no such new technique is available as can be introduced (see c) below);

b) an old technique is <u>substituted</u> by a new technique when

$$r_t < \pi^*_t$$

where the condition of introduction of the new technique (as below) is satisfied <u>a fortiori</u>, since the old technique is in production, so that $r_t > i_t$ (see above); and

c) a new technique is <u>introduced</u>, as for a new product and/or after a crisis, when

$$\pi^*_t > i_t \quad .$$

In other words an old technique $\underline{\tau}$ in the individual process of production will be substituted always when there exists a 'new' technique τ_t such that it yields a return on total new capital advanced higher than the return yielded by the old technique also on new capital advanced, that is, on circulating capital only *<u>and</u>* higher also than the interest rate. As already noted, if no such new technique is available but the return on old technique has fallen below the interest rate, as in a crisis, the old technique is eliminated but production stops, waiting for the reorganization of social labour power, the result of which for individual capital will become manifest in the form of the 'emergence' of a new technique that satisfies the above conditions.(32)

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(32) Note that this does not imply the <u>de facto</u> emergence of techniques newly arisen after the crisis: the mere fall of the interest rate may allow the introduction of pre-existing techniques that previously could not be introduced while *i* was high.

6. ACCUMULATION AND THE FORM OF THE PAYMENT FOR LOCATION

6.1 Fluidity of capital and the payment for location

Historical forms of the payment for location

Forms of the payment for location and the fluidity of capital

6.2 Forms of the payment for location and the development of capitalism

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6. ACCUMULATION AND THE FORM OF THE PAYMENT FOR LOCATION

6.1 FLUIDITY OF CAPITAL AND THE PAYMENT FOR LOCATION

With the rise of a market in land and the transformation of feudal rights to land into private property the social significance of 'land' as distinct from 'capital' disappears and the payment for location (land) is absorbed into the process of capital. Now a payment for location that is established on a market is a price. If and when the payment for location appears in the form of rent, the latter is formed on the same basis as price, and does so to the extent that any condition of production that lasts more than one period of production can be rented. Whether in the price form or in the rent form, the payment for location performs a role in the regulation of production: insofar as land is a private property, as opposed to communal or 'nationalized' land, the amount to be paid at each location determines what and according to what technique can be produced thereon. The form of the same, payment however, introduces differences between both the specific way in which such determination is carried out and the resulting process of trans-

formation of land use, and the way in which the former take part in the process of accumulation. For whether a lasting condition of production is rented or possessed by capital determines both the level of control of the production process by the same capital and the fluidity of capital itself, and ultimately bears on the transformation of the process of production both ways.

Historical forms of the payment for location

The payment for location took first the rent form in the early stage of capitalist development that could be properly called 'capitalism in one country' for being restricted largely to England, the only country where capitalism developed both autonomously and successfully. Land rent has been associated throughout early capitalism with agriculture that was the first main industry where wage labour and commoditization of production had been imposed. From the point of view of accumulation this is a stage of predominantly extensive accumulation in that the main condition of the growth of production was geographical expansion first within a (protected) national market and next into external markets under the banner of 'free' trade.(1) Rent remained the dominant form of payment for land even after the industrial revolution throughout this stage closing with the onset of the great depression by 1865.

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(1) It is surprising how generally has this early capitalism been termed 'free trade' or 'competitive' capitalism. These terms, apart from being relatively irrelevant from the point of view of accumulation, are at best misleading if one considers that out of about two centuries in this stage England had puigued a protectionist policy for one and a half centuries (Hill, 1967: 181) and 'Free Trade[1] for about 20 years (allowing for some decades of transition after the Napoleonic Wars).

The price form emerged in turn as the main form of payment for land in the next stage coming after the great depression by the end of the nineteenth century and which has reached its fullest development in Germany and Japan and later in the United States.(2) The limits of geographical expansion had been reached and with it the resources of extensive accumulation, exhausted.(3) Henceforward accumulation can only proceed through demographic growth and through the increase of the productivity of labour, that is, through intensive accumulation. Imperialism is perhaps the best term to denote this stage of capitalism in which a number of nationally-based centres of predominantly intensive accumulation compete with each other on the world's markets separated according to nation-states. This stage may be said to close with the petering out of the post-war boom by the early 1960s. There are far-reaching transformations at work in contemporary capitalism among which the ever greater mobility of capital and to a lesser extent, of labour, across national boundaries seem to point towards a tendency to the unification of the markets at the world scale. What new forms of production may arise from this is a matter for speculation.(4) However, the process of accumulation

(2) Aglietta puts the close of the stage of extensive accumulation in America at the great crisis of 1929-30 (Aglietta, 1976:228).

(3) By the turn of the century the colonization of the world had been completed and Cecil Rhodes for one, whose self-professed vocation was "to paint as much of Africa British red as possible"; was left at a loss. "The world [he complained] is all nearly parcelled out, and what there is left of it is being divided up, conquered and colonized. To think of these stars...these vast worlds which we can never reach. I would annex the planets if I could..." (quoted in Huberman, 1936:263; 268-9) ...of course, he could not.

(4) The changes may be substantial, if one recalls that the unification of markets within the nation-states came accompanied with the supersession of feudalism by capitalism. To anticipate them today would be probably as impossible as it would have been impossible in Shakespeare's time to describe the society which would follow feudalism, then in dissolution; but they may well turn out to be amounting to more than an answer to the question of 'ultra-imperialism' or 'inter-imperialist rivalry' for example, or of the future of the 'Third World' within imperialism.

surely has still to proceed through predominantly intensive accumulation and, as far as the spatial regulation of production is concerned, the price form survives into contemporary capitalism as the dominant form of payment for location even though new forms of location, rather than forms of payment for it, are emerging as has been seen earlier. The study of the role of the payment for location in capitalism refers therefore to the main historical forms: land rent and land price. We start with an account of the difference between the specific ways in which these take part in the process of accumulation.

Forms of the payment for location and the fluidity of capital

As a condition faced by capital for securing one of the necessary conditions of production: a location in the urban space, the main historical forms of payment for location differ from one another in that land rent is capital advanced towards securing a location for one single period of production, whereas land price secures the same condition for more than one period.(5) In this way land rent enters total capital advanced for production on the side of circulating capital increasing the fluidity, whereas land price does so on the side of fixed capital increasing the rigidity of productive capital. Since the fluidity/rigidity of capital is the crucial element in the introduction of new techniques into the process of production, the two forms of the payment for location perform their role in the regulation of production in specific ways, for land

(5) It would appear as though the price-form secures a location for ever; but, as has been noted in connection with the use value of locations (section 4.3 *in fine* and *seq*), such a view does not take into account the fact that no location in an ever-changing urban space is likely to provide a suitable 'permanent' location to any particular individual capital, whose own production process is also ever-changing.

rent corresponds to greater, land price, to lesser fluidity of capital.

In particular, the payment of rents results in a higher fluidity, whereas the payment of price for land results in a higher rigidity, than if no payment for location was made (which far from meaning that land was 'free[1], implies a planned localization of all activities including production). Full explicitation of this quite intuitive idea requires a more detailed account of production on land as carried out further below (section 7.1), but we may anticipate here its results by way of illustration. Thus, let us recall the expression of the fluidity/rigidity of a new process of production, from above (5.7):

$$\overline{\phi} = \phi \ (1/T + \pi) \qquad (6.7)$$

that measures the resistance of the corresponding technique to its substitution and where any payment for location is disregarded. In the case of the same process of production paying a rent ℓ for its location, and if we designate now by k_0 the remaining part of its circulating capital (that is, wage and materials), the expression of its fluidity becomes (from 7.7b below)

$$\overline{\phi}(\ell) = \frac{\overline{\phi}(1/T + \pi)}{1 + \ell/k_0} \qquad (6.7b)$$

Conversely, if a price L is paid for the location, the fluidity of the corresponding capital now becomes (from 7.7a below)

$$\overline{\phi}(L) = \overline{\phi}(1/T + \pi) + \frac{L}{k} \cdot \pi \qquad (6.7a)$$

That is to say, at a rented location the rigidity of the production process is diminished by a factor of $1/(1 + l/k)$, whereas at an owned location the sane is increased by $\pi.L/k$ with respect to what it would be if there was no payment for location. From this obviously also comes

$$\overline{\phi}(L) > \overline{\phi}(\ell)$$

that had already been anticipated.

6.2 FORMS OF THE PAYMENT FOR LOCATION AND THE DEVELOPMENT OF CAPITALISM

The historical forms of the payment for land can now be interpreted as corresponding to specific stages in the development of capitalism, themselves characterised by the predominant regime of accumulation. The rent-form is consistent with rather small qualitative improvements in technique, allowing the latter to be introduced smoothly and gradually because rent form increases the fluidity of capital. On the other hand, price-form is consistent with leaps and bounds in the introduction of new techniques because the rigidity of capital increased by price-form will allow the introduction of new techniques only when the latter are <u>far more</u> productive than the existing techniques or by means of cyclical crises which force the devalorization of existing fixed capital. Indeed, in a regime of predominantly extensive accumulation the main spur of the increase of (commodity) production is expansion of wage labour into new areas. It is not so much that labour becomes more productive, it is rather that labour previously was not productive (of surplus value) at

all, becomes productive at an increasing scale.(6) By contrast, in a regime of predominantly intensive accumulation the increase of the productivity of labour is the main means of increasing production and accordingly, it is the pace of the change in techniques of production that becomes crucial.

Agricultural rent in England

This allows an interpretation of the historical existence of the rent-form, the more restricted of the two forms of payment for location in capitalism. The rent-form --"capitalist ground rent"-- is restricted to the early stage of development of capitalism, itself restricted to England, and then to agricultural production -- it has never been a predominant form in cities, not even in feudalism.(7) Insofar as large-scale commodity production developed first precisely in agriculture, the rent-form was dominant during this stage. The development of agriculture followed the pattern specific to extensive accumulation. The increase of 'commercial agriculture' --production for the market-- was

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(6) It would seem in this light that what Marx stated as a general law of capitalist accumulation, viz, that "Accumulation is...the increase of the proletariat" (Cap.1:576) applies to the early stage of capitalism, to a predominantly extensive regime of accumulation. The question that remains open of course, to be answered by history, is whether the 'regime of intensive accumulation' can be sustained through a period lasting enough to be called a 'stage of development[1] of capitalism, or it will be seen as a period of dissolution of capitalism.

(7) This does not imply that the rent form did not exist in feudal or later cities, but that where it arose, it did so as a derivation of the price form, on the basis of private property. 'Feudal rights to land' had no meaning in the towns and accordingly in the latter bourgeois rights were established from at least as early as in the Xlth century, as witnessed by contemporary documents (a collection of which is to be found in Kieft et al., 1967; see also Granasztoi, 1980) even if in the beginning, under the tutelage of a king or lesser feudal lord.

being achieved through the territorial expansion of capitalist farming, the new mode of production,(8) rather than through the qualitative increase of the productive forces of society. This is of course not to say that techniques of production did not improve, but their evolution was slow and required little or no investment of fixed capital.(9)

The main technical advances in agricultural production during the period after the English revolution were the cultivation of some new products (root crops and artificial grasses); the floating of water meadows and cultivation of heaths increasing cultivable area and permanent animal stock (the latter in turn allowed farmers to break the manure barrier); marsh drainage; and market-gardening and fruit-farming for consumption in the towns, London being the biggest market. One innovation allowed the other and through time they had cumulative effects: artificial crops allowed the keeping of animals through the winter, that in turn increased the capacity for manuring, provision of food and (animal) traction, the latter allowing the use of heavier ploughs and so on. Important as these innovations were in increasing production, none of them demanded heavy investment, rather they were the result of the expansion of the production for the market and further stimulated by export subsidies (from as early as 1689 onwards). And above all, they were accompanied by the increase

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(8) Ricardo had tied rent theory most strikingly up to a regime of territorial expansion when referring to the existence "as yet in every country, from the rudest to the most refined" of uncultivated lands (Principles:219 quoted earlier) even if only to say immediately after that it would make no difference if it were otherwise (p.220).

(9) Except for such improvements of the conditions of production on the land as those brought about by the building of roads, canals etc, and that were in fact infrastructures. These were carried out largely by the landlords themselves, who were in turn subsidised in this by the state, as noted earlier (Chap.l, fn 35, or see also Ashworth, 1952:47).

in the cultivated area itself. Some of the innovations were expansions by themselves (incorporating meadows, heaths, marshes); the expansion of cultivated areas was further intensified by deflorestation of former royal forests and by the enclosure of common lands proceeding at such pace that by 1700 an estimated three quarters of English enclosures had already taken place.(10)

The payment for land in the rent form that increases the fluidity of the farmer's capital made the introduction of such gradual improvements easier, while land could also easily be switched to a new product (which is in fact only a particular case of a switch to new technique). Moreover, rent form also allows for easy entry of relatively small capitals at a time when large-scale capital was still the exception.(11)

All in all, agriculture was at the time very much what in our day is called an 'infant industry' and was treated as such - it is significant that throughout the two centuries between the revolution and the repeal of the Corn Laws agriculture had been protected by import duties or export bounties or both. Land rent appears then --far from being a 'hindrance to accumulation'-- as a most convenient form of payment for a condition of production, land, in a specific stage of capitalist development.

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(10) Hill (1967):154. For the transformation of agriculture after the revolution, see Hill (1967):150-4 and Morton (1938):314ss. On his part, what Marx had described under the label "the so-called primitive accumulation" is nothing else than the subjection of labour to the wage relation and the generalization of the commodity form in agriculture.

(11) Compare with the similar effects of the modern form of leasing (below, section 6.3).

Supersession of the rent form in agriculture

However, as the stage of extensive accumulation was reaching its limits, at a time too, when the results of such accumulation were being channelled into the development of machinofacture and highly increased pace of technical innovations, strains between the rent-form and the newly transforming regime of accumulation develop. In fact while the rent-form is well suited to a regime of gradual introduction of slowly evolving techniques with low composition of fixed capital, it is altogether less convenient for the introduction of techniques 'heavy' in fixed capital. That is because it takes longer for the return on fixed capital to be realized, and the rent-form is essentially a securing of the condition of production 'land' for a short period of time. This is not altered though it may be alleviated by making 'long term' rent contracts: the mere adjustment of rents is a reduction of the returns needed to cover the investment in fixed capital -- that is to say, it is a loss over and above the devalorization of the latter through technical progress. Rent form then becomes a hindrance to the process of accumulation in an intensive regime: capital must ensure long-term control of the land in order to introduce greater changes into the technique of production with the use of high amounts of fixed capital. Indeed, it is only at this stage that (agricultural) production can be said to be 'fully dominated' by the capitalist mode of production.(12) If the fact that the need to purchase land further increases the fixed capital

(12) "With the advent of machine production this framework [of the labour process, inherited from feudalism] is qualitatively altered; capital seizes hold of the real substance of the labour process, dynamically reshaping and diversifying all branches of production by the technical-organizational transformation of the productive process" (Merrington, 1975:190).

necessary for the introduction of new techniques of production is a countervailing force acting against the change in technique, this inconvenience is diminished both by the existence of capitals at ever larger scale as a result of the previous stage of accumulation through both concentration and centralization, and by the relative increase of fixed capital in means of production, that is, the relative decrease of the payment for location in both fixed and total capital advanced for production.(13) Therefore the need for total control over all the conditions of production (including location) remains dominant for the introduction of radically new techniques with high composition of fixed capital (wich has to be protected), and the economic basis of the rent form is thus eroded in the transition from the (predominantly) extensive regime to the predominantly intensive regime of accumulation.

6.3 GENERALIZATION OF THE PRICE FORM AND ITS LIMITS

The intensification of the regime of accumulation in England had been a slow and gradual process accelerating with the expansion of machinofacture - the industrial revolution - by the end of the eighteenth century that inaugurated the transition towards predominantly intensive accumulation. This transition underpins the debate around the Corn Laws and the curbing of the powers of landed capital. But the old structure

(13) The decrease of the payment for location relative to total capital advanced is especially pronounced in machinofacture (industrial production proper) which furthermore was becoming the dominant sectpr of production. The share of rents in capital advanced for all industries (national income less profits and interest) fell from over 40% around 1688 to 31% in 1801, 22% in 1865; 18% around 1900 and to 5% by 1950 (source of raw data: Deane & Cole, 1967:301). But even in agriculture the 'secular rise' of rents had been accompanied by a fall of the share of rents in the value of agricultural produce (Murray, 1978:23,30-1).

was strong: there was also still room for expansion into the foreign markets and it was not until the beginning of the twentieth century that the rent form in England had begun to decline significantly.(14) However capitalism now was not restricted to England any more. In the countries where the generalization of wage labour started much later than in England(15) and at a time too when England was reaching the stage of intensive accumulation so that they had to compete with her opposing a similar development of the production process, the rent form actually never developed, taking directly the predominant price form even in agriculture.

The process of depossession of old proprietors, smallholders and landlords (Junkers) alike, by finance capital in Germany was summarily described by Engels in his inserts into Capital III quoted earlier. A minutious analysis of the same process was provided by Max Weber's essay published in the same year (1894) on the transformation of Prussian agriculture in the nineteenth century, from which we quote at some length:

> The end of the isolation of the estate economies [that is, from 1849 through to 1893] ...introduced the necessity of greater compliance with world-wide conditions of production, which now began to rule the enterprises. The necessary conditions for these enterprises differed according to the soil and climatic conditions.

(Here Weber describes the transformations undergone by the estates

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(14) As late as in 1914, still about 90% of farming land was rented, when farmer-ownership started to rise rapidly from 10% at that date to 36% by 1927 and to about 50% in the 1970s (Murray, 1978: 19).

(15) Whereas feudal rights to land were abolished in England in 1660, the same happened in France in 1789, in Germany (and Eastern Europe) by 1848, in Japan by the Meiji Restoration (1868) and even in America-where feudalism never was, wage labour could expand freely only after the Civil War and the abolition of slave labour in 1865.

according to the natural conditions. "Those which were on both counts favoured by Nature" diminish in territorial extension, whereas "other, less favoured estates" in extensive cultivation loose population (landlord's 'retinue'). In either case "then [concludes Weber] the estate (Stand) as such forfeits its political influence.")

> The decay however of this political authority, combined with the threat, or actuality, of dispossession by the wealthy commercial bourgeoisie (kapitalkraftige Burgertum) --be it in the form of purchase or renting of estates-- forced the owners of the large landed estates to become, if they wished to remain owners, what they had not previously been: entrepreneurs working according to commercial principles. (...) In other words: in place of the landed aristocracy there necessarily enters --with or without a change of person-- a class of agricultural entrepreneurs, who are in principle no different to commercial entrepreneurs in their social characteristics.

Weber then goes on to consider the form of labour in agriculture:

> This transformation in the general type of the rural employer has significant consequences for the position of the labourer...[T]he communal remnants (plots of land, threshing shares, grazing lands) are abolished. ... [T]he wage forms based on sharing rights disappear ... [On the other hand, there was] the steady growth of labourers paid entirely or mainly in money, [a form that] at the beginning of the century...did not exist to any notable extent. By 1849 they were...the fastest growing category of labourers, and this has remained the case. (...) The 'free labour contract' thus arrived in the countryside...
>
> (Weber, 1894:180-185)

Apart from noting that the commoditization of agricultural production was triggered by external pressure and the speed of the corresponding transformation, Weber's description shows that the issue of land rent did not arise at aLl in this process. In France, in turn, the revolution had set into place a large section of peasant holders who became farmer-owners. Again, the preculiarity of the transition from feudalism to

capitalism in Japan is seen by Uno (1964) in the historical (non-)existence of the rent form (and of the class of landlords) --in contradistinction **to England,** that is-- as in the assertion that

> in a country like Japan, however, in which capitalism evolved relatively late [that is, "only at the so-called finance-capitalist stage of world capitalism"] it was not necessary for capitalism to 'subordinate agriculture to capital' in order to achieve a high level of development(16)

and the rent form never developed. It seems that Japanese development followed very much the German pattern, as explicitly suggested by Sekine.(17)

With the spread of the regime of predominantly intensive accumulation, the price form of the payment for land becomes generalized. Concomitantly agriculture ceases to be the main industry, a position taken over by machinofacture. Land as such, that is, as associated with 'nature' however transformed, becomes ever less important as a location for production that is now increasingly concentrated in very small areas around centres of accumulation - urban agglomerations - as a consequence of both concentration and centralization of capital that requires high mobility of capital and labour. In the urban agglomerations new forms of location arise in a man-made environment, an environment continuously remoulded under the pressure of increasing labour productivity. It is actually the continuous need to adapt the urban space that raises in its turn the necessity for 'organization of space' as a conscious, or planned activity, where the predominant movement is not into new areas by a new mode of production eliminating the old(18) but the reshaping of

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(16) Uno (1964):104; inserted quote, p.125.

(17) Sekine (1977):ix.

(18) In fact, extensive accumulation absolves from the need for spatial regulation: expansion goes through conquest rather than planning.

the production processes within the whole of space occupied by a same mode of production. The nature of commodity production entails the positing of location itself as a commodity traded on the market at a price. However, there are limits to the commoditization of the economy even though commodity production is predominant in capitalism. Similarly the price form of the payment for location (or for that matter, for use values in general, as illustrated below) does not exclude the rent form - it only imposes that when it arises, the rent form remains restricted to a subsidiary role. On the one hand, rent does not come into existence except in specific cases limited to an equally specific stage of development of a technique or of a sector of production and in so far as the price form cannot be imposed. On the other hand, when it does arise, the rent will be formed according to the same process as price, namely, established on a market under the prevailing conditions of competition - even though this is bound to be a mere mimicking of the price form for the complete and unconditional surrender, by the seller, of any rights to the use value of a commodity sold on the market is not fully realized.

Leasing of "fixed" capital

Thus the rent and the price forms of the payment for land are not mutually exclusive even though one of them becomes dominant in a specific stage of development of capitalism for being consistent with the dominant form of the accumulation process at the same stage. This can be further interpreted taking into account that the existence of two forms of securing a condition of production is not peculiar to location: the same may occur with respect to other items of fixed capital or to means

(*) Although they would be, within *a same* industry (*C.D*, 2009)

of consumption. The dominant form is of course, outright possession through purchase, but it does not exclude the form of hiring of machines and buildings, commonly known as leasing, which at times may be important. A recent historical example is the case of computers. When they were first introduced into 'commercial' production (that is, other than military purposes) in the 1950s, the leading maker commonly leased the machines rather than sold them, a practice followed by other makers and which persisted for more than a decade. This may have had an effect of having made it easier for the makers to retain their initial monopoly position for longer. More to the point, however, this practice made it easier for individual capitals to switch to the new techniques allowed by the use of computers without having to outlay huge amounts of fixed capital and so it helped the diffusion of the use of the new machine.(19) In this sense, the role of leasing was analogous to the role of the rent form in agriculture as discussed above. Later, as the production cost of computers has fallen manifold at the same time that concentration of capitals proceeded in the post-war boom, the leasing form gradually lost its advantage in this particular case. It however persists in a wide variety of 'capital goods' (anything from hand towels to typewriters to scaffolding and bulldozers and even to labour

(19) Sekine provides another example of products that cannot be easily commoditized, namely, 'heavy' or 'large' products like for instance "steamships [that] cannot be 'anarchistically' produced in large quantities and marketed by whatever price they can fetch" (Sekine, 1977:164). In this case the solution given is other than leasing, namely, contract-building - a further obvious example being arms production, especially for 'home' governments.

power),[20] and effectively transforms the corresponding advance of capital from fixed into the circulating form.

The limits of the form of leasing

Whereas the form of leasing does provide an effective means of transformation of outlays in fixed capital into outlays in circulating capital in limited and particular cases, it should be noted that its practice cannot be generalized over the economy for it contradicts not only the dominant form of accumulation, but the commodity-form itself. We have seen that competition gives rise to the pursuit of surplus profits. Now, a new technique which has been introduced through the process of leasing cannot be expected to yield a surplus profit, because it is available to all capitalists. Surplus profits will accrue even to the lessor only in the case he detains monopoly of the technique concerned (as in the case of the 'leading maker' in the example of computers). This is analogous with the activities of the state sector: some functions of production cannot be performed at specific stages of development when they are collectivized, but the commodities or services produced collectively escape from the law of value for the wage relation, "the absolute foundation of capitalist production"[21] can be imposed in a mediate way only, so that if generalized, collectivization of production, as the process of leasing, would entail the

(20) The last case is particularly interesting because wage J^ a component of circulating capital. However, the 'leasing' of labour power further reduces the minimum period of utilization of labour, to a fraction of the production period. This shows that the distinction of fixed capital and circulating capital is rather a question of degree. But what we are talking about ultimately is the increase/decrease of the fluidity of capital through the rent form/price form of payment for a condition of production.

(21) *Capital I*(P):1005.

collapse of the commodity-form itself. Thus while leasing may co-exist with full ownership of the means of production by capital, it is restricted to perform a subsidiary role, in the same way as rent arises as a subsidiary form in the case of the payment for location.

A note on the dialectic of the commodity form in capitalism

In the foregoing we have encountered successively the limits to the market regulation in the production of urban space, the limits to both the rent form and the price form of the payment for location and finally, the limits to complete control over even the direct means of production in commodity production itself. These limits all point towards the way in which capitalist relations of production assert themselves, giving cohesion to capitalism as a mode of production, and that may be summarized in the dialectic of the commodity form in capitalism.

There are inherent limits to the generalization of commodity production, which however must remain predominant. "(But) real economic life capable of being completely engulfed and governed by the reifying force of a commodity-economy is a theoretical abstraction which can be only approximated by reality."(22) Apart from the examples of rent and leasing already mentioned, and at a more abstract level, the rise of monopolies and the advance of technology, themselves a result of competition and commodity production, set up limits to. the very processes that gave them birth. Such tendencies cannot however been seen in

(22) Sekine (1977):151.

isolation as Uno (1964) followed by Sekine (1977) seems to do by assigning them the character of 'purety' and then restricting himself to a theory of a 'purely capitalist society'. Indeed, as competition creates monopoly, so monopoly re-creates competition at a higher level,(23) and by the same token, as commodity production engenders techniques that negate commodity production at one stage, so does further evolution of technique restore the conditions of commodity production in the next stage (as in the exanple of computers above). What remains is that commodity production gives rise to tendencies that negate it and that in turn give rise to counter-tendencies that negate the negation. The simultaneity of tendencies and counter-tendencies in social development is both abstract, being a dialectical necessity and concrete, coming into historical existence. It also imposes that the only possible object of study in social science is the transformation set in motion by counteracting forces which have no independent existence by themselves.(24)

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(23) See, for example, Wheelock (1983), especially pp.35*ss*.

(24) Specifically this excludes, at one extreme, the Uno-type 'hyper-abstraction' as mentioned above, and at the opposite extreme, the marginalist reduction of social processes to equilibria. The study of equilibria is properly restricted to the study of structures, like components of the urban structure or of fixed capital, in vhich we are interested -- even though they change as well -- insofar as they remain, as use values, unaltered for some tine.

PART III: THE URBAN PROCESS: SPATIAL REGULATION AND PRODUCTION OF SPACE

The categories of location and urban space, the account of the transformation of the individual process of production with the development of techniques and the interpretation of both the price form and the rent form of the payment for location allow us now to outline an account of the concrete processes in urban change along with the role of the payment for location in the latter. The following Chapter 7 focuses on the transformation of the individual process of production, that is to say, within the confines of the location. The concluding Chapter 8 broadens the scope of the account to include the processes which arise at the level of urban space as a whole and especially, the role of state intervention.

ANATOMY OF THE TRANSFORMATION OF LAND USE

7

ANATOMY OF THE TRANSFORMATION OF LAND USE

7.1 PRODUCTION ON LAND AND TECHNICAL CHANGE

We have seen that ownership of land removes for individual capital the uncertainty of future control associated with the rent form, so that greater amounts of new fixed capital needed for the introduction of radically new techniques may be freely invested on the land. This effect however immediately raises its opposite because of the increased rigidity of the resulting composition of capital. Now not only fixed capital in means of production, but also that in payment for location, add to the return on circulating capital. It will take that longer for either individual or social (falling rate of profit) technical obsolescence to bring the latter rate of return down to the (expected) average rate of profit when only the current technique --and corresponding fixed capital-- will be substituted by new. This is expressed in the general conditions of the introduction of a new technique of production set up earlier (Section 5.2), namely, that a new technique will be introduced when the expected rate of return π_t^* on total new investment is higher than current rate of return $\mathbf{r}_t$ on circulating

capital only (provided it is also higher than the interest rate[1] ***i***), or

$$r_t < \pi^*_t$$

or, abstracting from an eventual variation of the expected rate of return of the new technique with respect to the old,[2] simply

$$r_t < \pi \qquad (7.4)$$

where r_t has fallen, due to the fall of the price of the commodity produced by the old technique[3] in proportion to the increased productivity $(1 + \theta_t)$ of the new technique, as

$$r_t = \frac{r - \theta_t}{1 + \theta_t} \qquad (7.3)$$

leading to the condition of substitution

$$\theta_t > \frac{r - \pi}{1 + \pi} \quad . \qquad (7.5)$$

In order to express the influence of the payment for location in the condition of substitution, we shall now consider how the former enters the price of production, first in the case of the price form and next, in the case of the rent form.

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(1) This condition --that return on new investment is higher than the interest rate-- holds always and in particular also for the old technique. As noted earlier, if no such technique is available that can substitute the old, but the return on the old technique falls below *i,* the same must be eliminated even without substitution.

(2) On variation of the rate of profit, see Section 5.2, *fn*.30.

(3) As already noted, falling prices and current best techniques yielding 'normal' profit, or constant prices and current best techniques yielding 'surplus' profits are equivalent formalizations, as far as the transformation of the individual process of production is concerned (Section 5.2, *fn*. 12). Henceforward we use the first of these formulations unless otherwise stated, following the formulation of Section 5.2. The equations will also be numbered following those of the former section. So equation (7.4) as above, corresponds to equation (5.4) of that section.

The price form

Let us consider an individual process of production defined by a fixed capital *K* materialized in newly set up machinery and buildings (means of production), by a corresponding circulating capital ***k*** in wage and raw materials, at a location the price of which is ***L***. Let ***T*** be the projected average life time of fixed capital so that annually **K/T** is used up. The price of the land is a peculiar component of fixed capital in that it is not 'used up' in production. Even though the location may become obsolete for the particular productive process through time and relocation may become necessary, the location can then generally be re-sold and the corresponding fixed capital integrally recovered. Thus if we disregard for the time being any expected variation of the price of location, as well as any expected costs of relocation, both to be introduced later on (Section 7.3), the return on investment should be according to an assumed (competitive) rate of profit π:

$$R = (K/T + k) + (K + L + k)\pi \qquad (7.1a)$$

Once the fixed capital is in place, the rate of return on circulating capital newly invested yearly is, as before

$$r = \frac{R - k}{k}$$

that now becomes

$$r = \frac{K}{kT} + \frac{K\pi}{k} + \pi + \frac{L}{k}\pi$$

or, with notation introduced earlier defining rigidity composition ϕ of capital excluding the payment for location as $\phi = K/k$,

$$r = \phi(1/T + \pi) + \pi + \frac{L}{k}\pi$$

If we define the price of location per unit of circulating capital as X, being

$$\lambda = \frac{L}{k} ,$$

the rate of return on circulating capital becomes finally

$$r = \phi\ (1/T + \pi) + \lambda\pi\ + \pi \qquad (7.2a)$$

where $\phi(1/T + \pi)$ is the contribution of fixed capital in means of production and Xir is the contribution of the price of the location (π being the contribution of circulating capital itself). The same rate of return falling with the accumulated increase in the productivity of techniques as

$$r_t = \frac{1 - \theta_t}{1 + \theta_t} \quad , \qquad (7.3)$$

the old technique will be substituted when

$$\theta_t > \frac{r - \pi}{1 + \pi} \qquad (7.5)$$

as before, which with (7.2a) above now gives

$$\theta_t > \phi\ \frac{1/T + \pi}{1 + \pi}\ +\ \frac{\lambda\pi}{1 + \pi} \qquad (7.6a)$$

Put into words, the condition of substitution says that a new technique, in order to be able to substitute an old before the latter wears out through physical decay of its fixed capital, must be so cost-reducing that its return covers the excess return on old circulating capital due to the presence of fixed capital in means of production on the one

hand, and to the payment for location in the price form, on the other. This compares with (5.6), the condition of the substitution of an old technique of production disregarding the payment for location (Section 5.2) -- in particular, the second term shows the contribution of the payment for location.

We now obtain a complete measure of the rigidity of capital, derived as before from the resistance opposed by the old technique to its own supersession. Let us denote, as before, by $\bar{\phi}$ the excess rate of return on circulating capital so that $r = \bar{\phi} + \pi$, and we now have

$$\bar{\phi} = \phi\ (1/T + \pi) + \lambda\pi \qquad (7.7a)$$

where $\lambda\pi$ is the contribution of the price of location to the rigidity of the old technique, or process, of production. As before, it depends on the rigidity composition of capital in means of production and wage, the life time of fixed capital - these being intrinsic characteristics of the individual process of production -- and on the expected, or competitive, rate of profit in the economy which the individual process belongs in, and additionally, on the payment for location per unit of circulating capital, λ whereby the same process of production is inserted into the urban space. In the case of new techniques being introduced from time to time, θ_t being the accumulated increase in productivity with respect to the old technique at time ***t***, the excess rate of return is eroded accordingly through time, being ϕ_t at time ***t***:

$$\bar{\phi}_t = \frac{\phi(1/T + \pi) + \lambda\pi}{1 + \theta_t} - \frac{\theta_t\ (1 + \pi)}{1 + \theta_t} \qquad (7.8a)$$

The proportion $\bar{\phi}_t/\bar{\phi}$ is both a measure of the so-called devalorisation of (fixed) capital and of the loss of rigidity of the old process of production. In particular, when $\bar{\phi}_t$ falls to nil, fixed capital ceases to contribute to the value of the product of living labour, it becomes totally 'devalorized' and must go, and the corresponding technique with it, out of production -- this being only another way of looking at the condition of substitution.

The account of the contribution of the payment for location in the price form to the rigidity of the individual process of production is not complete before we recall that the price of location enters the formula of the latter in its relation to circulating capital, namely as

$$\lambda = L/k \ ,$$

so that an increase/decrease in the payment for location does not imply by itself an increase/decrease in the rigidity of the corresponding productive process(4) -- or indeed an increase/decrease of its share in the price of the commodity produced. On the one hand, for a same price of location, the evolution of techniques will generally result in a decrease of $\underline{\lambda}$ within an industry leading to a fall in the

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(4) Just as in the case of the rigidity composition of capital ϕ that apart from the physical quantities of commodities in which fixed and circulating capital materialize respectively --and that alone depend, rigorously speaking, on the specificity of the individual technique of production only-- ϕ depends also on the relative prices of the former, and these depend on the economy as a whole. Let us note that 'raw materials' that make circulating capital up along with wage, may be very far removed from what are traditionally called raw material proper - for an airplane factory, jet engines are circulating capital.

share of the former in the price of the commodity. Ultimately, however, a variation of λ depends on a combination of the relative prices of the location and of circulating capital and of what we may call the intensity of production, this being the amount of circulating capital per unitary area of location. The former will depend on the localization of the process of production within urban space, whereas the latter, on the pattern of settlement or density of occupation within the same location -- these being precisely the fundamental elements of the spatial organization of production. Here we have an expression of the intertwinning of the regulation of the quantities, the techniques and the localization --the how much, how and where-- of commodity production. Both the price of localization and the pattern of settlement will be discussed in some detail further below, but it remains for us to account first for the role of the subsidiary form of the payment for location, that is, rent, in the transformation of the individual process of production.

The rent form

Let us now consider therefore a process of production that pays for location in the rent form. Accordingly, the same process is defined by a fixed capital K materialized in new machinery and buildings and having an average life time T, a first parcel of corresponding circulating capital k_0 in wage and raw materials, and a second parcel of circulating capital ℓ in the rent paid for its location. The return R on total capital advanced for production should be according to the assumed profit rate π, as

$$R = (K/T + k_o + \ell) + (K + k_o + \ell)\pi \quad . \qquad (7.1b)$$

Once the production process is started with the corresponding fixed capital in place, the net rate of return _r on newly invested capital year by year, that is to say, on circulating capital, will now be

$$r = \frac{R - (k_o + \ell)}{k_o + \ell}$$

or

$$r = \frac{K/T + K\pi + k_o\pi + \ell\pi}{k_o + \ell} \quad ,$$

which, with the introduction of the rigidity composition of capital excluding the payment for location $\phi = K/k_0$, becomes:

$$r = \frac{\phi/T + \phi \cdot \pi + (1 + \ell/K)\pi}{1 + \ell/k_o} \quad .$$

Let us define the rent paid for location per unit of circulating capital as ρ, being

$$\rho = \ell/k_o \quad ,$$

and we have the rate of return on circulating capitals finally as

$$r = \frac{\phi(1/T + \pi)}{1 + \rho} + \pi \qquad (7.2b)$$

where $\phi(1/T + \pi)$ is the contribution of fixed capital and the 'contribution' of the rent paid for location is to diminish the former in the proportion $1/(1 + \rho)$, diminishing the excess rate of return on circulating capital (over and above π) in the same proportion.

With the coming of new, more productive techniques into production, the return of the old technique and particularly the rate of return on its circulating capital, falls as in the cases studied before, leading to the same condition of substitution, namely,

$$\theta_t > \frac{r - \pi}{\ell + \pi} \qquad (7.5)$$

where θ_t is the accumulated increase in productivity up to time ***t*** and with the value of ***r*** from above, the condition of substitution now becomes

$$\theta_t > \phi \ \frac{1/T + \pi}{1 + \pi} \cdot \frac{1}{1 + \rho} \quad . \qquad (7.6b)$$

This shows that a new technique, which must be so cost-reducing as to be able to cover the excess return on the circulating capital of the old technique due to the presence of (old) fixed capital, is helped in this by the payment for location in the rent form(5) so that a smaller increase in productivity will be sufficient than if there was no payment for location or <u>a fortiori</u>, than if the payment for location is in the price form. To obtain a picture of quick comparison of the conditions of substitution according to the forms of payment for location, we may put

$$[\theta_t]_o = \phi \frac{1/T + \pi}{1 + \pi}$$

Then we have, from (7.6b), (5.6) and (7.6a) successively,

Rent form: $\theta_t > \dfrac{[\theta_t]_o}{1 + \rho}$

No payment for location: $\theta_t > [\theta_t]_o$

Price form: $\theta_t > [\theta_t]_o + \dfrac{\lambda\pi}{1 + \pi}$

(5) This does not take into account an eventual increase in the rent, that could not be passed on to the price of production due to the existence of new technique, and thus would lead to a further reduction of the rate of return on circulating capital of the old technique and therefore to a further easing of the condition of elimination of the latter. This is discussed further below, in connection with the relocation of a process of production (Section 7.3).

Finally, $\bar{\phi}$, the measure of rigidity of the old technique that materializes in the excess rate of return on its circulating capital such that $r = \bar{\phi} + \pi$, now becomes

$$\bar{\phi} = \frac{\phi(1/T + \pi)}{1 + \rho} \qquad (7.7b)$$

With the introduction of more productive techniques through time and the consequent fall of the price of the commodity produced by the technique in question, the excess rate of return is gradually eroded as

$$\bar{\phi}_t = \frac{\phi(1/T + \pi)}{1 + \rho} \cdot \frac{1}{1 + \theta_t} - \frac{\theta_t (1 + \pi)}{1 + \theta_t} , \qquad (7.8b)$$

at time ***t*** and becoming nil when the accumulated increase of productivity θ_t reaches the value leading to the substitution of the old technique as in (7.6b) above.

It remains to be noted that as in the price form, so in the rent form, the payment for location does not enter the rigidity of capital through its absolute magnitude $\underline{\ell}$ but through its magnitude $\underline{\rho}$ relative to the magnitude of circulating capital in materials of production and wage, as

$$\rho = \ell/k_o$$

Thus an increase in rent does not entail by itself a decrease in the rigidity of the corresponding (new)[6] technique of production -- the latter will depend additionally, on the intensity of production, that in turn depends on the intensity of land use and on the relative

(6) For the case of an increase of rent when a production process is already in place, see previous note.

prices of the location and of the materials of production and wage that make up the first parcel of circulating capital, $\mathbf{k}_0$.

7.2 THE RENT FORM VERSUS THE PRICE FORM

In the foregoing account of the rent form it is assumed that a process of production paying a rent for its location can realize a return at the competitive rate of profit, that is to say, that its price of production as expressed in (7.1b), or

$$R_l = (K/T + k_0 + l) + (K + k_0 + l)\,\pi$$

is actually the market price. If the same technique can find a similar location available for purchase, that is, paying a price **L** for it, it will have a price of production defined in (7.la) as

$$R_L = (K/T + k) + (K + L + k)\pi \quad .$$

Then the condition for the coexistence of the price form and the rent form is that a same process of production (the best available technique) results in the same price of production equal to the market price, so that

$$R_l = R_L$$

or

$$(K/T + k_0 + l) + (K + k_0 + l)\,\pi = (K/T+k) + (K + L + k)\pi$$

where $k = k_0$ for referring to the same technique of production, so that

$$L\pi = l\,(1 + \pi)$$

or

$$\ell = \frac{L\pi}{1+\pi} \quad . \tag{7.9}$$

The difference between this and the 'classical' rent of rent theory, where $l_0 = L\pi$, is due to the fact that here rent is paid from capital advanced for production, what is that happens in practice, whereas in rent theory it is paid after the period of production[7] as though it was a tax or depended on the result of production. 'Economically' the two are equivalent,[8] provided that a rate of profit, either constant or varying but known in advance up to infinite, can be defined. Since however the profit rate is neither constant nor its variation is known in advance, the conversion of prices into rents, or rents into prices, is impossible in practice.

If that was all, the equivalence of the price form and the rent form, even though impossible to be determined in practice, would still be conceivable. However, as is to be expected, two forms that correspond to two different levels of control of a condition of production -- here, location -- namely, partial control in the case of rent as against full control through ownership in the case of price, cannot be equivalent. Indeed, let us suppose then that the two forms co-exist side by side, and that of two techniques that are otherwise the same, one has bought the location for a price **L**, while the other rents it paying a rent 'equivalent' to the price **L**, as defined above,

(7) As already observed earlier. Let us note that with all the adherence of *Capital* to rent theory, when rent appears in actual examples as in *Capital III*, p. 75, it appears in this way (namely, included in circulating capital).

(8) The present value of an infinite number of yearly payments of $L\pi$ starting next year and of $L\pi/(1+\pi)$ starting now, 'discounted' at constant rate π, is the same, namely, **L**.

so that both techniques have the same price of production $R_L = R_l$, this being the condition of coexistence within a same market. With the appearance of new techniques, total return on new investment according to both techniques falls equally due to the fall in the market price, as $R/(1 + \theta_t)$. What is different in both cases is the fall in the rate of return on new investment and the speed of devalorization of the fixed capitals of either techniques, both being faster for the technique paying a rent and that has therefore to be substituted earlier than in the case of the technique that owns the land (see Figure 7.1 below). We have seen earlier that if we denote now by θ_t^L and q_t^l the conditions of substitution for the price form and the rent form respectively, we have

$$\theta_t^{\ell} < \theta_t^{L}$$

Equally, if T_T and T are the respective economic life times that here result from a ~~same~~ rate of technical progress,

$$\overline{T}_{\ell} < \overline{T}_{L}$$

We have already seen that in neither case can the total value (posited in its purchase price) of fixed capital be realized; but now what happens is that the same are devalorized to different extents. Equally, the 'effective' individual rate of profit never was π, but it was still the same for all the same individual techniques,(9) whereas now the

(9) Which is why we said earlier that its re-definition would only be a question of arithmetics. Even then it is an escape route leading "to contradiction however, as is illustrated in what follows in this example: if the loss of profit is passed onto the price of production, this becomes higher than what had been supposed. Here, the rent form will become uncompetitive with the price form; but even within a same form of payment for location, the same would imply the new technique becoming uncompetitive with the old that it was supposed to substitute - in other words, the increase in productivity was not. All we would be doing, as individual processes of production actually do (although through a different means, namely, anticipation of future profits, that

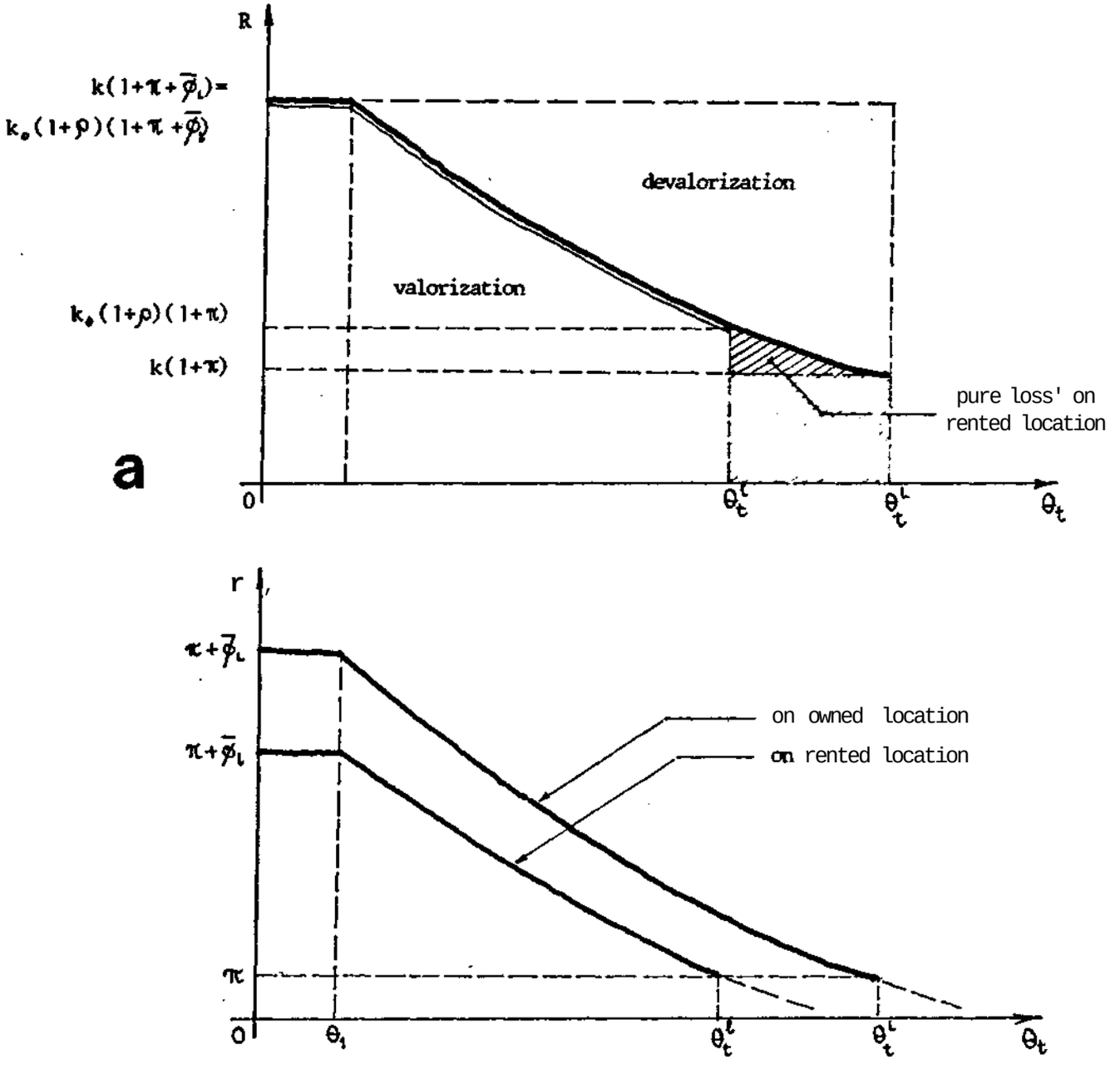

FIGURE 7.1: Price form vs rent form. - If a same technique is employed by two processes of production on equivalent locations, one owning the location and the second renting it, both processes yield the same return **R** (top) imposed by the market price, and falling equally with **the** improvement of technique θ_t. The rate of return (bottom) on new investment (circulating capital) is however lower for the process on rented location, which must therefore go out of production before becoming obsolete, and suffer a "pure loss" over and above the normal devalorization of its fixed capital (top).

'effective' individual rate of profit realized by the technique paying a rent is smaller, for the scrapping of fixed capital before its devalorization is a 'pure' loss, that is, over and above those suffered by the other technique (on owned location) through 'normal' devalorization. If the former technique, anticipating the loss, tried to incorporate it into its price of production, it would become uncompetitive with the production on owned location. Conversely, if it maintains the price of production, it cannot pay the rent at the equivalent rate - in other words, it cannot produce.(10)

Hence the rent form and the price form are incompatible within a same industry. To be more precise, always that within an industry the price form of location becomes possible, the rent form is superseded. The basic condition for the full ownership of location --but we have seen that equally, of any condition, including means of production-- is sufficient concentration of capital relative to the price of the location --or other means of production-- concerned, as it has been illustrated through the examples of agricultural land rent in early capitalism, the leasing of highly expensive means of production in an initial stage or the renting or outright subsidizing of very high priced new locations. This is only an explicitation and specification of the view advanced earlier that the rent form cannot perform except a subsidiary role, the price form being the form of the payment for

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(cont.) is, financial debt), is entering into what Aglietta called "the classic case of a transgression of the sanction of monetary exchange" (Aglietta, 1967:313), postponing the fall of the rate of profit for a bigger fall later.

(10) Unless it is subsidized which is, as already mentioned, precisely a widespread practice to help the introduction of new techniques of production. Let us also mention that after such a new technique had been introduced in the first place, the process of its integration into the commodity sector takes a time. During this transition, while the price form develops both forms may co-exist and the rent form keeps transferring profits to the rest of the conr-modity sector or to the individual processes of production within the same industry according to whether or not it is <u>not</u> subsidized.

location consistent with fully developed commoditization of production -- that, although it cannot be extended over the whole of social production, remains dominant in capitalism.

On the one hand, this also means to accept the view that the price form is the main form of the payment for location, and the analysis of the process of production --and specifically in what concerns the spatial organization of the same-- should focus mainly on this form. On the other hand, it certainly does not mean that the rent form is unimportant. Indeed, it is precisely the transitional form whereby ever newer industries and/or techniques are able to make their entry into the commodity sector of the economy. This only alerts to the likelihood that wherever the rent form is present, we are confronting a process of production that is a 'special' case, that is inserted into social production in specific and transitory circumstances.

7.3 THE MOVEMENT OF THE PRICE OF LOCATION

So far we have looked at the transformation of the individual process of production on land --at a location-- as induced by the development of techniques. It had emerged that the processes that paid for location in the dominant price form an immediate effect of the payment for location is to make a same process of production more rigid in the case of the --dominant-- price form and less rigid in the case of the subsidiary form of rent. We now turn to consider the immediate effects on the individual process of production, of a movement of the prices of locations over the urban space that arises as an expression of a need for spatial reorganization of production. This will lead us to distinguish between two fundamentally different transformations

of the concrete processes of production and beyond the effects of the development of the productivity of labour. Namely, we will have to consider the relocation of a process of production on the one hand, and the intensification of land use on the other.

The distinction arises according to the cause, or purpose, of the movement of the payment for location. The price of a particular location may increase arising either from the need for a change in land use through relocation, in which the commodity currently being produced at the location in question must give place to another commodity and go elsewhere, or else from the same happening at some other location within the urban space and that appears to this particular process of production as a general rise in the payments for location due to a diversification of land use over the urban space which at this particular location leads to an intensification of land use. The immediate difference between both is that in the first case the increase in the price of location is not, whereas in the second case the same is, incorporated --for being socially necessary that the commodity is produced there-- into the price of production of the commodity being produced at the location concerned.(11)

(11) The transformation of the individual process of production is governed by the maximization of the rate of profit, and the latter in turn, depends on the movements of the individual prices of production (and rates of return on circulating capital) and of the market price. Hitherto we have been looking mainly at the case when both the former were caused to move due to an increase in productivity within the industry which the process of production belonged in. Here, by contrast, we have a combination of this with the immediate effects of the economic means of spatial regulation, that is, of the price of location.

Relocation of a process of production. Locational inertia

When the payment for location increases for the purpose of inducing a change in the land use, that is, of expelling the current use on the location concerned, the increase in the payment for location is therefore not incorporated into the price of the product. The latter will be determined in fact, according to the payment for the new location offered as an alternative.(12) Let us start with the assumption that the individual process of production will be able to move paying the same for the new location as it had been paying for its current location before the increase, so that the price of production of the commodity remains unchanged.(13)

For the process of production at the location concerned there appear two additional terms in the total return on investment. A first is the 'opportunity cost' of not selling the location at the new price $L + \Delta L$ and moving to the new location paying the price **L**, realizing a (yearly) gain $\Delta L * \pi$. The second, set against the first, is the cost of relocation implied in doing so.(14) In other words, and more

(12) Here we are clearly at the limits of the 'anatomy' of the transformation of land use -- the payment for the new location and therefore, the new price of production will depend in fact from the conditions of the overall spatial organization. Further, the new location, to be an equivalent alternative, has to have been provided with the necessary infrastructure - or expected to be so provided soon - through the production, that is to say, transformation of the urban space.

(13) Otherwise the relocation of the process of production concerned would be accompanied with an intensification of land use that is discussed in the next sub-section.

(14) The cost of relocation here includes everything from new stationary to the time and labour involved in the relocation, or new settlement.

precisely: in view of an alternative location, there arise two different prices of production - and consequently, of rates of return -- associated with the current and the alternative locations, the market price being the price of production at the alternative location. The production process will move to the alternative location according to whether, at a time when its fixed capital becomes obsolete becoming due for substitution, it can expect to achieve a rate of return **r**" there higher than at its current location.

Now **G**, the cost of relocation, is nothing new even though it had been disregarded so far, while we were concerned with the effect of productivity in changing a productive process within a same location. Here however it becomes necessary to consider that a lesser capital is necessary to introduce a new technique into an ongoing process of production at a pre-existing location than to set up a completely new process of production (with a same technique) that includes a settlement at a location. Such costs of settlement **G** included in the price of production of the commodity concerned must therefore be explicited. In so far as it is capital advanced for production, and because *it can be expected*, as with the price of the land, *to be recovered* (through the increase of the price of the land, as we shall see below, and that had also been disregarded so far), **G** enters the price of production in the same way as the price of location, that is, in the group of terms relating to capital advanced only (but not 'used up') in production. Total return on capital advanced for production becomes accordingly (from 7.1a above):

$$R = (K/T + k) + (K + L + G + k)\,\pi \qquad (7.11)$$

Let us put γ, a measure of the settlement cost per unit of circulating

capital

$$\gamma = G/k \quad ,$$

and the rate of return on circulating capital will be

$$r = \phi\,(1/T + \pi) + (\lambda + \gamma)\,\pi + \pi \qquad (7.12)$$

With the advance of techniques, the rate of return on circulating capital falls as before, leading to the condition of substitution

$$\theta_t > \phi\,\frac{1/T + \pi}{1 + \pi} + \frac{(\lambda + \gamma)\pi}{1 + \pi} \qquad (7.16)$$

and the other expressions concerning the rigidity of capital could be equally updated, with no major additional significance, reflecting merely what is already shown in the above, namely, that with the costs of settlement the resistance of old techniques to their substitution <u>at the same location</u> is further increased over and above the resistance due to the presence of fixed capital and the payment of a price for the location.

The settlement, or relocation cost **G** may be interpreted as a measure of the locational inertia of the individual process of production.(15)

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(15) It also might be seen as a particular form of a 'barrier to entry', that is, of new processes of production into a (branch of) industry. It should then be noted however (in contra-distinction, for example, to Aglietta, 1967:310-12), that barriers to entry do <u>not</u> constitute a condition for the existence or the persistence of monopolies. For barriers to entry obtain in any industry, but they are not a necessary, let alone sufficient, condition of monopoly. It can be shown following on from an analysis of the rate of return of an individual process of production during the life time of its fixed capital as in section 7.2 above (see in particular Figure7.1) that a condition of a monopoly is that an industry has the (for example, financial) strength to lower its selling price below its price of production (<u>thereby</u> building a 'barrier to entry' to others) and thereby to effectively <u>arrest</u> the advance of techniques for a considerable portion of the life time of its fixed capital (so that it will have time to recoup the loss suffered by lowering its price). If

It is, properly speaking, the minimum price --over and above the price of the location-- that should be paid to a technique that had just become obsolete (that is, its rate of return on circulating capital has just fallen below the competitive rate expected on current best technique) for it to abandon its current location and move to another equivalent location, at the same price, when the market price of the commodity it produces remains regulated by that price of location.

This becomes crucially relevant in the case of a movement of the price of a location aimed at substituting a new commodity for the commodity currently being produced on it. An obsolete technique at a location the price of which had increased to $L + \Delta L$, and offered the alternative of a new location in a new zone equivalent to the old, faces the alternative of employing the current best technique either [1] on the new location and having an individual price of production **R"** as $R'' = R - \Delta L * \pi$ because its capital advanced for production is diminished through the sale of the current location at price $L + \Delta L$ and the purchase of the new location at price **L**, or [2] staying at the current location and see its individual price of production **R'** to be diminished by the cost of settlement it has not to incur in, so that $R' = R - G\pi$. Accordingly, at the new location, the return **r"** on its circulating

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(cont.) the advance of techniques cannot be so arrested, other processes of production enter the industry when the current price of production has fallen to the level of the 'monopolist's' price and all the 'monopolist' has achieved while being the sole producer is a pure loss. Monopoly is therefore essentially the ability to control the very evolution of technique within an industry, arresting the latter for the period of valorization of the corresponding fixed capital - very much as it would be aimed at in a planned economy. This is why monopolies obtain typically in new industries entering the commodity sector and in old industries leaving it (taking frequently the form, in the latter case, of state monopolies).

capital will be

$$r'' = r + \Delta\lambda\pi$$

whereas at the current location, the same would be **r'** such that

$$r' = r + \gamma\pi$$

The condition of relocation is therefore that $\Delta\lambda > \gamma$, or

$$\Delta L > G$$

that is, that the increase in the price of the current location more than covers the costs of relocation. Let us note that if $\Delta L = G$, then a process of production whose technique, or fixed capital, has just become obsolete, will merely be indifferent between moving or staying; and further, that any such calculations can only be carried out by a capitalist within a certain range of imprecision, so that ΔL must be significantly greater than **G**. It is of course rather difficult to determine what is 'significant' at the individual level. However, since commodity production is regulated by the competitive rate of profit as materialized in the expected rate of return π_t^* on the current best technique, the latter is a good measure of what a 'significant' difference is for a process of production to perceive **it** as a motive for change, giving $\Delta L \geq G(1 + \pi_t^*)$ or, when the profit rate falls below the interest rate --a sign, precisely, that it can not perform the regulation of production--, the same is substituted by the interest rate $\mathbf{i}_t$, so that

$$\Delta L \geq G(1+i_t) \quad .$$

In fact, after a crisis that had been accompanied by a reorganization of social production, inclusive at the spatial level, the need for

relocations is generally low so that the profit rate determination of the location price increase is largely irrelevant, and in practice the former will appear to be regulated at all times by the interest rate.

Here it becomes clear why are we allowed the supposition that the price of the land is not capital used up in production. The recovery of the price of the location, by individual capital is a very condition of the continuity of the process of production after a spatial reorganization. On the other hand, the increase of the price of the same location is not a gain (or 'windfall' profit) for it corresponds to effective costs of relocation and can be realized only against the latter. Further, such costs are born directly by the incoming new commodity that pays the increased price, but since it is incorporated into this commodity's own price of production, the cost of relocation of the individual processes of production over the urban space enter ultimately the cost of production at the social level.

Finally let us note that a process of production paying a rent for its location cannot recover its costs of settlement. This is only a further consequence of what we have already seen earlier, namely, that the price and rent are not equivalent forms of payment for location. The conditions of the transformation of production on rented location as developed before can be simply extended to take account of the effect of locational inertia by including the costs of settlement along with fixed capital with a life time given by the term of the rent contract. Similarly, if the need for relocation of this process of production arises, and the means to induce relocation is restricted to an increase of the rent, the necessary increase can easily be determined accordingly. However, the interest

in doing so is restricted by the fact that such cases constitute particular and temporary processes of insertion of new techniques or products into the commodity sector, when the non-economic means, that is, means of state intervention, are likely to predominate over market regulation.

Intensification of land use

The second case of a movement of the price of location arises when it is a result of a differentiation of the urban space originated elsewhere and does not have the purpose of relocation of the current use. Accordingly, the new price of the location is incorporated into the price of the commodity produced at the location according to the current best technique. But the best technique itself depends on the relative prices of the conditions of production - here, fixed capital **K** , circulating capital **k** , location **L** and settlement **G** . In particular, a rise of the price of location leads to a new best technique that uses less of this than before the rise -- in other words, it leads to an intensification of production at the location.

A first effect of a rise of the price of locations within a zone -- defined as a generally contiguous cluster of equivalent locations within the urban space for some process or processes of production (or as will be introduced later, of consumption)-- is therefore that obsolete techniques will be substituted by, and new processes set up on vacant land according to, new more location-intensive techniques than would be the case without the price increase, that is, over and above the intensification due to the development of the techniques of production within the industry in question. A fuller account of the intensification needs the introduction of the concepts of density of

land use and pattern of settlement as developed in section 8.2 below. However, on the basis of the foregoing it can already be said that such intensification entails an increase in the (relative)-C.D,09 price of production(16) --for otherwise this technique could have been used before at the cheaper location with lower price of production-- and that, because the commodity has still to be produced at this location, the increased price of production becomes the market price.

On the other hand, old techniques producing within the zone at equivalent locations and that had not become obsolete yet, have their rates of return increased due to the increase of the market price of the commodity, to r_t' such that

$$r' = r + \Delta r$$

This increases their rigidity, or resistance to substitution although it does not generally lengthen their life time. For unless the increase of the price of the land had been anticipated (that would imply also an anticipated intensification of land use and of the new market price), the life time **T** of their fixed capital is such that $T = \bar{T}$, that is, it was designed --as it has been supposed all along-- to wear out when becoming obsolete in the regime of improvement of techniques before the price increase of the location. For their remaining life time therefore, the old techniques will yield an excess return on circulating capital increased by(17) Δ**r** and will go out of

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(16) This rise of the price of the commodity is over and above the fall of the same that is due to the evolution of techniques within the respective industry - the price may actually fall, but fall less than it would under the effect of increasing productivity.

(17) This, for the old techniques, is a 'windfall' profit, that will be partially taxed away if the tax on the location increases in line with its price (see section 8.1).

production due to physical decay while still yielding a rate of return $r_T' = \pi + \Delta r$.

7.4 PRODUCTION ON LAND : A SUMMARY

The immediate effect of the payment for location on the transformation of the individual process of production arises from its influence on the rigidity of the latter, according to the way in which the same payment is inserted into the structure of capital advanced for production. The rent form results in lowering, whereas the price form results in raising the resistance of the individual process of production to change, and thus the form of the payment for location fundamentally alters the conditions of valorization/devalorization of fixed capital.

'Rigidity[1], however, is not some imperfection of capital; it is rather the very condition of technical development. Indeed, it is a condition of the valorization of fixed capital that the technique to which it gave rise remains unchanged for some time. The price form therefore precisely by raising the rigidity of capital, is the form consistent with a regime of accumulation dominated the pace of technical progress -- and indeed, with the commodity form itself; far from being a hindrance to technical progress, it enhances and puts into a more clear-cut context the contradiction between valorization and devalorization of capital, between fixed capital and technical change. The price form thus becomes the dominant form of the payment for location in 'fully developed' capitalism, that is, in a regime of intensive accumulation. The rent form, on the other hand, performs a subsidiary role, in the sense that where the price form can develop, it supersedes the rent form: there can be no equivalence of both within a same industry. To

the rent form is reserved the role of helping the introduction of ever newer techniques or products into the commodity sector during a transitory stage, and subsides when the same stage of transition is over with the full commoditization of the corresponding process of production. The rent form is thus necessarily more severely circumscribed by state intervention than the price form and where it arises, it needs interpretation rather than analysis, as a particular case in a transient context.(*)

Quite apart from the evolution of techniques, the effect of a movement of the prices of locations is further transformation of the individual process of production, inducing either relocation or intensification of the latter according to whether or not the variation of the price of location is incorporated into the price of production of the respective commodity. Both cases have brought us to the limits of the analysis of the transformation of the productive process within the confines of the location. Further enquiry must take into account collective organization of production at the level of the urban space.

(*) To recall an example: in Ricardo's time corn price in England was regulated by the Corn Laws rather than by 'economic' or market) laws. --C.D,09

THE PRICE OF LOCATION AND SPATIAL ORGANIZATION

8

8 THE PRICE OF LOCATION AND SPATIAL ORGANIZATION

8.1 TAXATION ON LAND

> (The excise and) the land tax helped to transfer command over resources from landowners and the poor to contractors and leaders who were likely to use them as capital.
>
> Christopher Hill, 1967, 181

Taxation on land is as old as the bourgeois state. It is the effective means whereby land is prevented from being withdrawn from the service of the accumulation process by remaining fallow (or vacant, in the urban agglomerations) or by allowing production for subsistence. For being administered by the state, taxation would belong in the analysis of state intervention into the commodity economy. Taxation on land however, over and above any distributional effects or role in the spatial regulation of production at the level of the urban space, has an immediate effect on the transformation of the production process within locations at the individual level. Namely, it alters the rigidity of the individual techniques of production.

A specificity of land tax --or tax on the location-- is that it is unrelated to the result of production, being actually prior to it.

It accompanies the condition of production 'location' and it enters into the price of production of the commodities produced thereon. Now, because land tax is paid yearly, it enters the capital advanced for production on the side of circulation capital, in a way that even though a process of production owns its location, it is as if it pays a 'rent' as well, in the form of the tax. Let **z** be the rate at which tax is paid on the price of the location so that tax paid yearly is zL. The price of production of the commodity is

$$R = (K/T + k + zL) + (K + L + G + k + zL)\pi \qquad (8.1)$$

and the rate of return on circulating capital,

$$r = \frac{R - (k + zL)}{k + zL}$$

or with notation as before,

$$r = \frac{\phi(1/T + \pi) + (\lambda + \mu)\pi}{1 + z\lambda} \quad . \qquad (8.2)$$

Put into words, a land tax cuts the excess return on circulating capital --a measure of the rigidity of the respective process of production-- by a factor of $1/(1 + z\lambda)$. Let $\bar{\phi}_0$ be the excess rate of return that would obtain without the payment of a tax on the location, and the excess rate of return becomes

$$\bar{\phi} = \frac{\bar{\phi}o}{1 + z\lambda} \qquad (8.7)$$

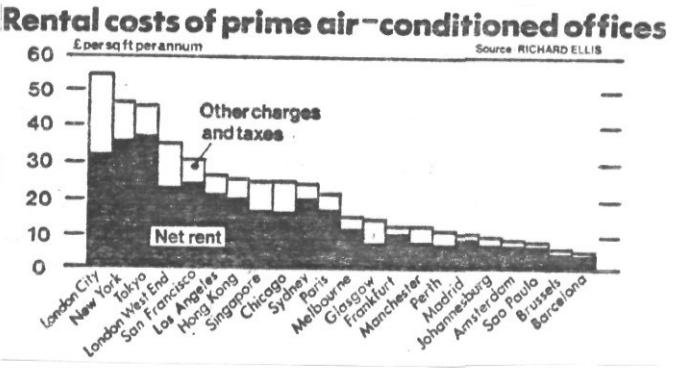
Thus taxation on land restores some fluidity to the process of production the rigidity of which had increased by paying for location in price form. This becomes particularly significant after an increase in the price of the land in either case of relocation and intensifica-

tion discussed above, but especially in the latter case when windfall profits accrue to old but yet not obsolete processes of production. As it has already been mentioned, such additional surplus profits can be partially or wholly taxed away simply by an increase in taxation to which the increase in the price of the location lends full ground. In fact, tax on location, by lowering their rigidity, makes it more difficult for individual processes of production to operate old techniques and generally to resist change.

Location tax thus becomes a most powerful means of inducing transformation of land use. All the more so for it can be fixed according to purpose (of the state, embodied in the government) within quite a range of freedom(1) and according to the pace of transformation needed at any particular stage of development within an urban space. So for instance, one would expect --as an outcome of state policy-- higher taxes in 'dynamic' urban centres than in sleepy 'traditional' towns (the latter expression can hardly be ascribed even to the cities at the lower end of the list given in the figure overleaf as an illustration,(2) but the same list still reads as something very close to a hierarchical ranking of the international centres of finance). The effectiveness of tax on location is further enhanced through the fact that unlike many other taxes that are defined according to very broad categories

(1) It may be the purpose of a government to tax most firms while not taxing some. The Greater London Council (GLC) reports that multinational companies were "deliberately leaching the Exchequer ... In 1981 17 leading industrial companies (including Kodak, Philips, Unilever and Ford) made £9.8 bn between them, but only three paid any tax at all" (Financial Tines, 17.10.84: 12). This is surely a far cry from an adherence to Adam Smith's four maxims on taxation (see for example, Ricardo's Principles, pp.115-6).

(2) For raw data (values of 'net rent','service charges' and 'rates /property tax') see also Financial Tines,25.5.1984:16.



[Source: Financial Times,18.5.1984:11]

(such as income, value added etc. taxes) and also many other means of spatial regulation, it can be directed at individual processes of production --or consumption-- with a fair precision: by means of land use zoning, for instance, locations can be pinpointed (without naming them) virtually at the individual level.

8.2 INTENSITY OF LAND USE : DENSITY AND PATTERN OF SETTLEMENT

We have seen very early on after introducing the payment for location into the analysis of the transformation of the individual process of production (Section 7.1 in fine) that its influence on the latter is felt through its relative magnitude λ with respect to constant capital. But because the introduction of patterns of settlement would have taken us outside market regulation, in the ensuing analysis of the effect of technical progress on the transformation of production it has been simply assumed that 'best technique' is the most productive use of available conditions of production including location, and it has been merely mentioned that technical progress results in intensification of

production on land. Later on, in the analysis of a movement of the payment for location as inducing a transformation of land use, we saw a further intensification of production arising over and above the one due to technical progress, where the effect of the payment for location on land use becomes crucial precisely through the mediation of the concrete form of settlement. We now therefore turn to complement the account of the intensity of land use. To do this, it is necessary to explicit the pattern of settlement within the description of the technique of production.

Let us recall the price of production of a technique defined by a fixed capital **K** lasting **T** years, and a circulating capital **k** that pays **L** for the location and has costs **G** of settlement. The 'best technique' is that which results in the least price of production,that is to say, which minimizes **R** (where $R = q*P_C$, the product of the quantity by the price of the commodity). From above (7.11)

$$R = (K/T + k) + (K + L + G + k)\pi$$

where,(3) if **K** and **k** define the more productive technique, it remains to find a pattern of settlement that minimizes the total cost of production, including **L**. Let $\mathbf{P_L}$ be the price and **S** the area of land so that

$$L = P_L.S$$

Further, let the built floorspace of the building necessary for production be **F**, and α the relation of built floorspace to land, or

$$\alpha = \frac{F}{S}$$

(3) To save space, we omit here the tax on location that can easily be reintroduced later (see note 7 below).

one of the most elemental measures of density that define a pattern of settlement, commonly called plot ratio. A further definition of density is the density of production within the building measured by circulating capital per unit of built floorspace, δ such that $k = \delta \cdot F$ that[4] we assume to be a characteristic of the best technique within the current state of techniques and therefore fixed.[5] The price of production may then be written as

$$R = K(l/T + \pi) + k(l + \pi) + G\pi + P_L(F/\alpha)\pi$$

The cost of location can therefore be diminished by increasing α, that is, building at higher density. However, this makes it necessary to distinguish the fixed capital in building, because building at higher densities after a very low limit starts to increase building cost itself.[6] Let thus be $K = K_0 + K_\beta$, the sum of fixed capital in all the instruments of production *except* building, and *in* building, respectively, with the respective life times T_0 and T_β. Assuming the building can either be re-used or sold for its remaining value after T_0, the price of production becomes

$$R = K_0(1/T + \pi) + K_\beta(1/T_\beta + \pi) + k(l+\pi) + G\cdot\pi + PL(F/\alpha)\cdot\pi$$

or

$$R = \{K_0(1/T + \pi) + k(1 + \pi) + G\cdot\pi\} + K_\beta(1/T_\beta + \pi) + P_L(F/\alpha)\cdot\pi \quad (8.11)$$

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(4) Density δ within the building is sometimes measured or defined indirectly, by such measures as load per sq.m or number of workers per sq.m. The optimum density within the building may thus be circumscribed by a variety of physical factors according to the concrete nature of the production process in question.

(5) This is a simplifying assumption that can easily be lifted (see next footnote).

(6) After a limit it runs also into higher other costs of production, both in fixed and circulating capital, and ultimately runs into technical limitations. For sake of simplicity, such additional costs will be considered included into the increase of the cost of the building.

where[7] the first group of terms is constant, the second term increases as the cost of building increases with density and becomes a function Kb(a) monotonically increasing with α, while the third term --the payment for land-- decreases with α as a hyperbole. The minimization of the price of production amounts to finding the plot ratio α^* that minimizes

$$f(\alpha)=K_{\beta}(\alpha) + P_L \cdot (F/\alpha)\cdot\pi$$

as shown in the Diagram **a** of Figure 8.1 below. Such plot ratio α^* defines a pattern of settlement that accompanies the 'best techniques' as the same have been referred to hitherto — subject to certain limitations to be mentioned in a moment.

The effect of the price of location on the pattern of settlement is illustrated in Diagram **b** of the same figure. It shows in particular

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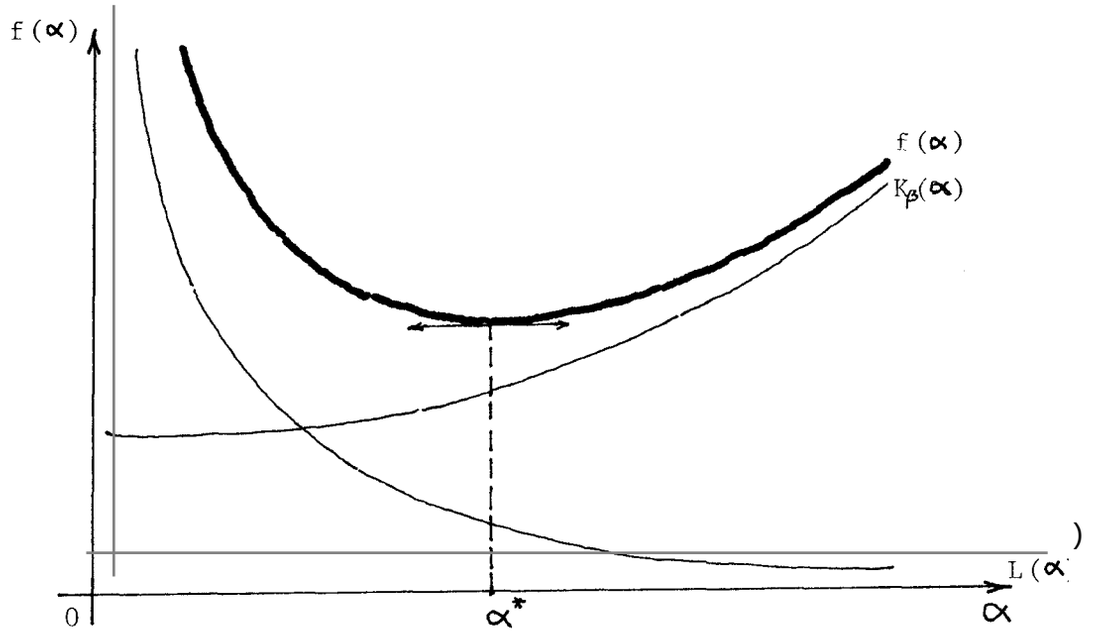
(7) Here we can state the way in which a tax on location would enter the definition of the pattern of settlement and take the opportunity to generalize the treatment of taxation that is now allowed by the explicitation of the cost of building. Indeed, apart from a tax on the land that alone had been considered in the previous subsection, there may be, as is usually the case, a tax on the building, and indeed, a third "locational tax" unrelated to either the former (usually paid by firas only, but not by consumptive uses). Let $\mathbf{z}_1$, $\mathbf{z}_2$ and $\mathbf{Z}_3$ the former taxes respectively, the first two being in relative, the third, in absolute magnitudes. Here in the definition of the pattern of settlement, this brings

$$f(\alpha) = (1 + z_2)\cdot K_{\beta}(\alpha) + (1 + z_1)\cdot P_L \cdot (F/\alpha)\cdot\pi$$

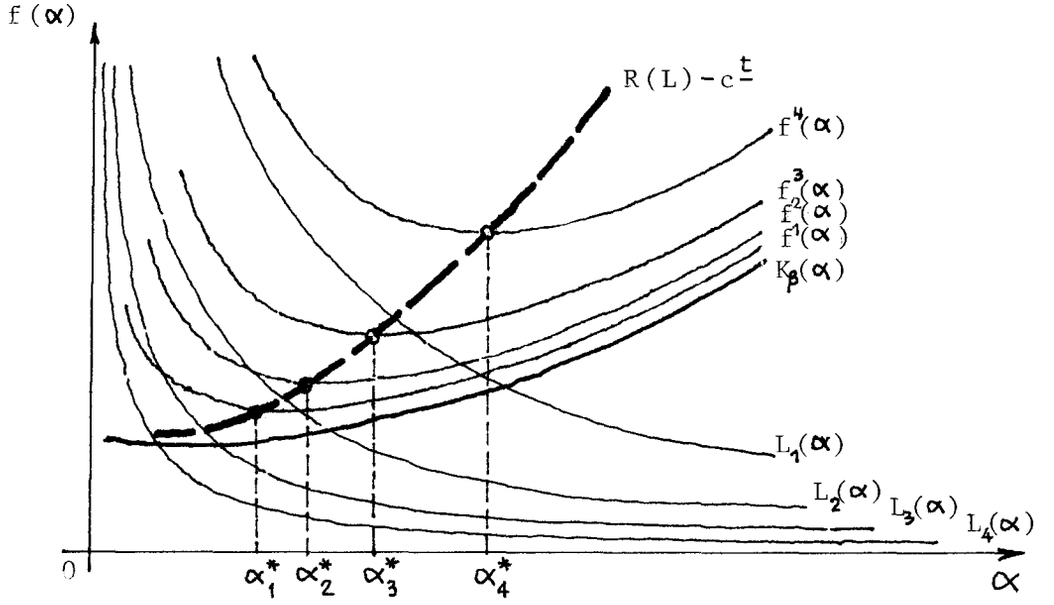
That is, $\mathbf{z}_1$ and $\mathbf{z}_2$ would bring no change into what follows other than altering the 'relative prices' of the land and the building. On the other hand, the expression of the effect of taxation on the rigidity of the process of production (as expressed by (8.7) above), can be generalized to include the three forms of tax, becoming

$$\bar{\phi} = \frac{\bar{\phi}o}{1 + z_1\lambda + z_2\beta + Z_3/k}$$

where $\bar{\phi}o$ as before, is the rigidity of the process of production excluding the effect of the location taxes and $\beta = K_{\beta}/k$.



a



b

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FIGURE 8.1 Intensity of land use- Diagram **a** of optimization of density measured by nlot ratio α, where α^* is the individual optimum desity of the best technique. Diagram **b** shows the variation of α^* with the variation of the price of the land $L_1, L_2, \ldots$, and the resulting price of production R(L) less a constant (that corresponds to the first group of terms independent of **L**, in equation 8.1), without a change in the state of techniques.

that an increase in the price of the land induces a pattern of settlement at increased density, resulting also in a higher price of production that is precisely what has to be incorporated into the market price if the commodity is still to be produced at the same location, as mentioned earlier in connection with the movement of the prices of locations over the urban space. Such increase of the price of production for a same state of techniques,(8) is only an explicitation of the 'law of diminishing returns' of production on land for industries other than agriculture and generally located in urban agglomerations, for which buildings constitute a sizeable portion of fixed capital and is the main physical support for production.

Collective restrictions on the individual pattern of settlement

It is therefore possible for individual processes of production to find an optimum density. As a result, at any stage of development of techniques, 'best techniques' of production generally imply patterns of settlement at lower densities at low priced locations and conversely, at higher densities where the prices of location are higher, as in 'inner-city' areas at or near the centres of urban agglomerations. However, individual processes of production do not settle in isolated locations but their pattern of settlement has implications on neighbouring or surrounding locations and indeed on the urban space as a whole. Thus it can not be taken for granted that individual optizations will result even in acceptable patterns of settlement --let alone in 'optimization'-- at the collective level.

(8) The increase of the price of production here is the isolated effect of an increase in the price of the location, the choice of techniques remaining the same. The evolution of techniques consists precisely in --inter alia-- an increase of productivity within a same location, that is to say, per unit of location surface.

Individual optimization of the pattern of settlement --that is as much as market regulation can achieve-- frequently creates 'negative externalities' the likelihood of which increases with higher densities. In urban agglomerations it may result in densely packed buildings overshadowing each other, in undercapacity of urban infrastructure and so forth, so that the social 'optimum' even though of rather impossible definition[9] as such, lies obviously below the individual optima. This becomes precisely one of the main issues land use zoning, a set of regulations regarding the patterns of settlement in urban agglomerations, is concerned with. In practice, therefore, a whole range of regulations contained in zoning by-laws and building codes impose limits on the intensity of land use in the form of maximum allowed plot ratio, maximum number of persons (in the capacity of workers, residents, or consumers) per built floorspace, maximum height of building, etc.,[10] that are likely to be restrictive with respect to what would result from individual optimization -- the very reason of their existence.[11]

From the point of view of the individual process of production, insofar

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(9) It also changes from place to place and from one stage of development to another, a reason why architects or urbanists have never found the much dreamt of 'ideal city' -- whether approaching it from a social Utopia (Fourier), from the principle of 'rationality' (Gropius) or from a mix of both (Soria y Mata, le Corbusier).

(10) For an example, see categories of land use and some related restriction in Table 6, Appendix.

(11) The social need to circumscribe the individual pattern, of settlement finds analogous cases in the regulation of production unrelated to spatial organization. Thus the lowering of wages to a minimum is in the interest of every individual capitalist regardless of the consequences of this on the conditions of the reproduction of the proletariat. To prevent the depletion of the labour power, it is therefore necessary to introduce state regulation that outlines the subsistence level of workers through setting patterns for the level of wages, the extension of the working day, safety and health conditions, etc. (and quite apart from any additional forms of "social wage" that the state might provide directly).

as the same restrictions apply to all producers within the same industry, such restrictions, even when active, do not make any difference: their price of production will be higher, but it will be the market price so that the rate of return remains unaltered by these means of spatial regulation. Let us, for example, consider the extreme case in which the price of location has increased but already active restrictions of density were not relaxed. If the commodity is further to be produced at the same location - that is to say, no relocation is needed -, there will be no change in the pattern of settlement and no immediate intensification of production (other than that owing to the advance of techniques). The whole of the increase of the payment for location will be simply incorporated into the market price of the commodity.(12) But the analysis of the effect of the payment for location on the pattern of settlement leads us again to the limits of market regulation of production: here, as with tax on the location, state intervention necessarily interferes directly with the individual process of production. Or to say it another way: the pattern of settlement within the location is one of the means of insertion of the individual process into the social process of production, and therefore it necessarily falls under the direct control of the state.

8.3 THE LIMITS TO MAEKET REGULATION

The analysis of the transformation of the individual process of commodity production under the intertwining effects of the price of commodities themselves and of the price of the locations throws some

(12) But the increase of the weight of **L** (the payment for location) in the price of production constitutes by itself a greater stimulus to the increase of productivity through technical innovation, so that even this case leads ultimately to an intensification of the production on land.

light over the specific role of spatial organization in commodity **production** insofar as it is itself carried out by the market. As it had been pointed out earlier however, such an account is necessarily partial firstly, because the economy can not be wholly commoditized and secondly because production of urban locations in particular cannot even be individualized let alone commoditized, being necessarily carried out at the collective level in the production of urban space as a whole. Thus state intervention is a necessary, if antagonistic, complement to market regulation. Some immediate consequences of this for the individual process of production manifest themselves in the forms of taxation and the confinement of the pattern of settlement within locations by zoning by-laws and regulations to ensure their compatibility within an overall pattern of settlement, as discussed above. Further, however, the determination of the choice of location, or of relocation, open to the individual process of production depends on the structure of the urban space as a whole. At this point the transformation of the productive process transcends the confines of the individual location and comes into direct relationship with the production of space itself.

The transformation of urban space is dominated by the need to combat spatial differentiation arising from the development of production. The contribution of market regulation to spatial organization is signalling the level of differentiation over the urban space through the level of the prices of locations: when the differentiation increases, so does the competition for better locations both within and among industries and the prices of these locations rise. But if prices of location risen to highs felt as 'excessive' may give a correct indication, namely that intervention is needed, labour must be invested in the

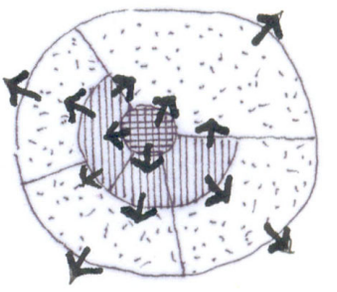
transformation of space so that the latter is homogenized, and activities should be re-located, they give no indication whatsoever as to how this is to be achieved.. For example, if location for downtown offices runs short, it will be felt through high and rising prices that more of it is needed. This induces (some combination of) on the one hand, an intensification of land use on the existing sites, a process that leads to increased price of production (and that has its own limits) or on the other hand, an expansion into new sites, that is, transformation of locations of some other use,[13] like high income or high-rise residential or retail and specialized services. These in turn will --not without reason-- fear that such transformation would result in higher locational or production costs. In fact, as individuals, neither the former nor the latter users can be sure that, whether they moved or intensified production, the alternative they chose was socially necessary, that is, that the market will absorb the increase of their costs of production. All that results therefore is a conflict between relatively homogeneous groups of uses or users which cannot be solved at this level: one group of users wants to move onto locations occupied by another group of users which does not want to give its location up. This situation may give rise to 'interest groups' but direct confrontation between them would still result in anarchic growth or the state must step in. This is to say nothing of the fact that even if the conflict in this form is solved, the result is still only the dislocation of one use by another, i.e., a relocation of production, which still wants the transformation of space through provision of

(13) The relevant question being, which alternative is likely to result in lower socially necessary labour. This is difficult to answer even in planning; in market regulation, where it could be answered through trial-and-error only (impracticable because of the rigidity of the processes of production) the question does not arise at all.

infrastructure according to the new requirements of production.

Anarchic growth of urban agglomerations

Without state intervention, the fighting out of the conflict of land uses, at the individual level, would result in that the higher-ranking use outbids the adjacent lower ranking use (which in turn will do the same with the next use down the hierarchy of land uses) resulting in a pattern of 'spontaneous' growth in which the frontiers between neighbouring uses are constantly moving centrifugally ...



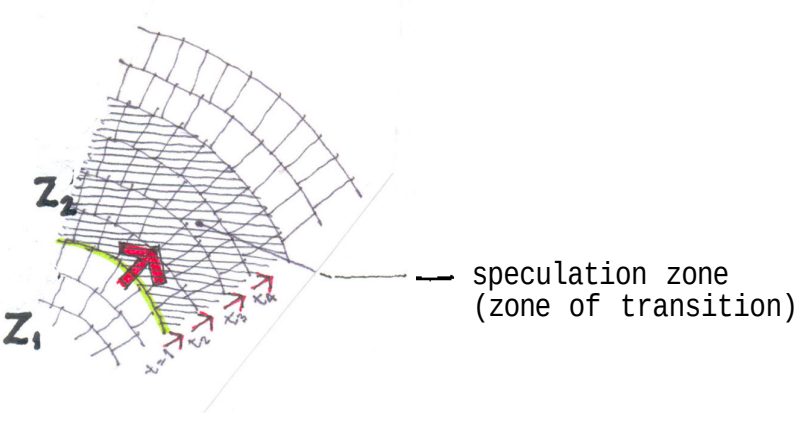
> The so-called 'Chicago school' is a phenomenological interpretation of precisely such spontaneous growth of cities in the heyday of American laissez-faire (e.g. Burgess', 1925, 'concentric zone theory' and Hoyt's 'sectoral pattern'(14)),

... having to constantly overcome the rigidity of fixed capital materialized in built structures (both within and without individual locations) regardless of either the rate of obsolescence or the state of devalorization of the latter. This is what then gives rise to speculation.

Speculation in land

The 'spontaneous' growth pattern described above takes into account 'final' users only (productive and commercial capital plus residences),

(14) Understandably, after his monumental research into 'one hundred years of land values in Chicago' (Hoyt, 1933), the pattern of land uses appeared to Hoyt rather more differentiated --indeed, "kaleidoscopic" (p.ix)-- than simply concentric.



which would typically advance along the frontier front through successive "rows" of locations (plots) in each time period, say, years. However, it is obvious (to anyone in the urban area) at any given time that in two time periods (e.g., years) not only the first, but the second row will also be transformed (and its price increased accordingly) or that in 3, 4 years the 3rd, 4th rows would be transformed as well, and so on, with a corresponding price increase of the locations concerned. This creates a speculation zone at the lower-ranking side of the moving boundary, moving with, and ahead of, the latter. Some rows deep, it contains the locations the price of which will increase by a foreseeable amount in a foreseeable future.

All that is then needed to determine the lucrativity (expected) of buying a plot, say, in the 4th row for re-sale in 4 years (to a final user) is to compare its present and expected future price with the expected interest rate -- in a way not very different from speculation at the stock market.

The actual details of speculative operations in land are intricate[15] for the activity has to absorb high risks involved in forecasting future evolutions. Nor are "speculators" pure speculators as they

(15) For a description, see Castells (1978):136.

frequently try and succeed to give a hand to the "future" through all sorts of means including unlawful and/or violent —owing to which they have always attracted widespread criticism and the activity is largely disreputable as a whole - and as a result, speculation ends up by not merely following but also shaping the process of transformation of space. But the point is - and this is what allows speculation to arise in the first place and to go on unabated in an unplanned economy (or to the extent that the same is unplanned) -. that as a result of speculation, the transformation of use (here: Z_1 into Z_2) can proceed by leaps and bounds (covering greater tracts of land) rather than by creeping and continuous destruction/construction in the immediate vicinity of the moving frontier,and thus making it possible to provide infrastructures at scales compatible with themselves (urban road, sewerage, communications networks etc.) within the speculation zone. This, from the point of view of land use, becomes a zone of transition - while speculation becomes an organic part of the process of anarchic (unplanned) growth.

After transformation of land use is carried out on the basis of such 'organization', it still begs the provision of infrastructures to suit the new requirements. As noted earlier, while market regulation is able to play quite an extensive role in the regulation of the use of space once the latter had been produced (for locations can be consumed as

(16) Or yet, legally but at the expense of the state. "The Metropolitan Board of Works, for instance, carried out an improvement scheme in Whitechapel and Limehouse and sold a site there to the Peabody Trustees for £10,000. If it had been empowered to sell the same site for commercial purposes it could have obtained £54,000 for it, so that an extra burden of £44,000 was thrown on to the ratepayers." (Ashworth, 1954:101) -- Peabody Trust: a body supposed to build and administer working class housing; in practice,has worked 'upper the market', for profits or, in the finding and in the wording of an 1882 Select Committee, "somewhat beyond the means and unsuited to the wants ... of the poorer classes" (*op.cit*., p.85).

commodities), it is wholly helpless with respect to production of space that transcends individual capitals. State intervention has to play a dominant part in production of space -- even if, as in the case of anarchic growth, it trails rather than anticipates and induces the needs created by 'spontaneous' growth; and even if the state leaves the regulation of the use of space largely to the market. However, at the initial stages of urbanization and relatively low differentiation of space the levels of infrastructure required were equally low so that the intervention of the state --and the very question of production of space with it-- did not become predominant. Anarchic growth is precisely the pattern of urbanization that accompanies capitalism in its early stage of predominantly extensive accumulation: the clumsiness of urban structures, the squalor and the scale of epidemics (as described by Dickens and Engels,(17) for example) that resulted from the so-called spontaneous growth remained, for the time being, tolerable.

8.4 THE EMERGENCE OF THE HISTORICAL CONDITIONS OF PLANNING

The maturing of both the historical conditions of, and necessity for, planned spatial regulation and state intervention was however a necessary consequence of the unfolding of the predominantly extensive stage of accumulation. Through a combination of rapid accumulation(18) that brought with it demographic growth and the development of machinofacture that required spatial concentration, urban agglomerations were reaching unprecedented scales — accumulation, at this stage, was the growth of the proletariat—, while laissez faire and 'free trade'

(17) Oliver Twist; The condition of the working class in England (1845), esp. 59 ss and 120ff.

(18) As noted earlier, 'accumulation' in the extensive regime is in fact expansion, namely, of wage labour, rather than an autonomous process of accumulation.

left regulation (spatial or other) unplanned.(19) By the late 1860s, on the one hand, the 'spontaneous' growth of urban agglomerations had resulted in unmanageable and inefficient spatial structures. Some twenty years later, William Morris would sum up "London and the other great commercial cities of Britain as 'mere masses of sordidness, filth and squalor, embroidered with patches of pompous and vulgar hideousness'".(20) On the other hand, the period of rapid accumulation itself was over, and gave place to the great depression. This marked the demise of free trade and laissez faire and gave rise instead to trusts, monopolies, finance capital, corporations, and ultimately, to increased and increasing state intervention -- 'planlessness' of capitalism disappeared with predominantly extensive accumulation. Thus the same developments that led to the need, created at the same time the conditions for planned spatial intervention and the latter became a predominant feature of the stage of intensive accumulation -- indeed, of fully developed capitalism.

The history of town or urban planning --the form taken by the intervention of the state into spatial organization-- is dominated by the spread of capitalism in its stage of intensive accumulation, or in other words, by the course of development of the nation states that became the leading centres of accumulation within the world imperialist structure. Much admired examples were Haussmann's reconstruction of

(19) "Throughout this first century [mid eighteenth-mid nineteenth century] of industrial urbanization, public authority did little to control the evolution of the urban environment. Many of the new centres of advanced industry, such as Manchester and Birmingham,rose so rapidly from the status of village or small market town that they possessed no municipal organization at all." (Sutcliffe, 1981:48).

(20) Ashworth (1954):171. "Patches of pompous and vulgar hideousness" is an expression of Morris', one of the 'pioneers of modern design' in Britain, frustration that while the second industrial revolution was well under way elsewhere, here monuments, landscape and industrial design were still dominated by taste nurtured in a foregone era.

Paris during the 1850s[21] or the Ringstrasse development plan of Vienna (1859),[22] but nowhere has urban planning developed at such a comprehensive scale as in Germany. Indeed, Germany became the 'model' country for newly industrializing countries as Japan, for the United States [23] still at the stage of extensive accumulation and --after the cradle of capitalism had taken notice of the need for urban planning-- for England itself.[24] An expression of the culmination of this process was the Bauhaus that in its ephemeral life --cut short by the accession of nazism to power-- became the most prestigious ever school of urban design, architecture and visual arts.

The chief reason of Germany's lead in state intervention in spatial organization was that the latter developed naturally from the outset of the process of urbanization. When the capitalist mode of production started its expansion in Germany, it was already reaching the stage of intensive accumulation, so that in particular, the growth of urban agglomerations could be accompanied from the start with regulations

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(21) Sutcliffe (1981):13l*ss*.

(22) Breitling (1980):40*ss*.

(23) For the influence of German town planning in the US, in the early 20th century, see Sutcliffe (1981):121-2, and on the Chicago school in particular, Lees (1984).

(24) Patrick Abercrombie, the leading British planner of the time stated in 1913: "Germany has concretely achieved more modern Town Planning than any other country" (quoted in Sutcliffe, 1981, p.9). In Britain, the improvement of the conditions in urban agglomerations emerged as an imperious need to ensure the conditions of reproduction of the proletariat. "Probably the South African [Boer] war did more than anything else to increase the urgency of the demand for further improvement of the health of towns, because of the high proportion of prospective recruits for the army who were found to be physically unfit." The example of Germany also appeared in another light too. "Town planning was advocated [1908] ... for fear of Germany: 'unless we at once begin at last to protect the health of our people by making the towns in which most of them now live, more wholesome for body and mind, we may as well hand over our trade, our colonies, our whole influence in the world, to Germany'" (Ashworth, 1954:168;169).

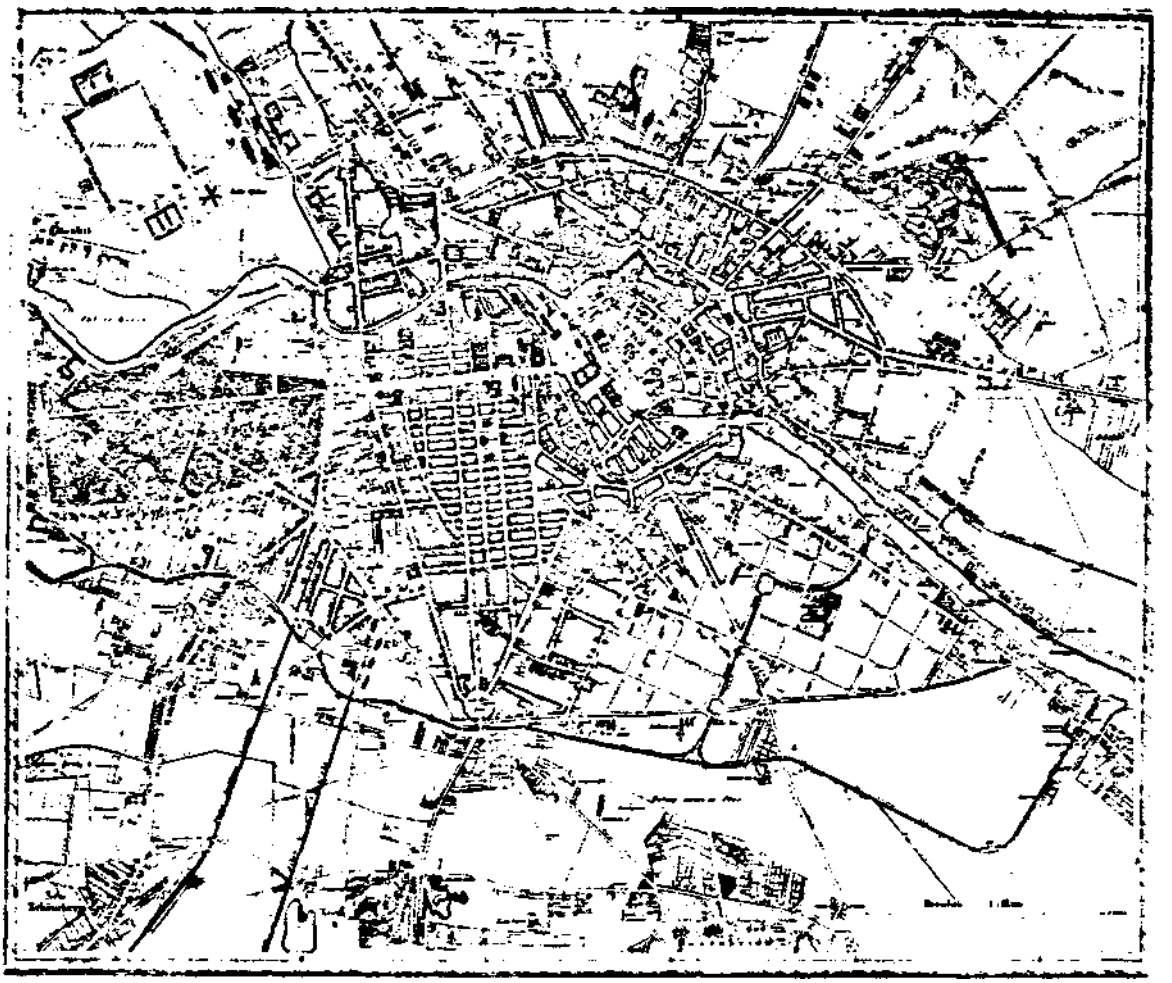

FIGURE 8.2 Berlin in 1850* Twelve years before its first comprehensive plan, Berlin already had the general outlook of a planned city as a result of the practice of planned extensions by the centralized Prussian state. In the centre, the line of fortifications built in the late seventeenth century around a town of about 40,000 population is still discernible, if now immersed in the 'urban tissue' of the Grosstadt ('big city') which meanwhile had increased tenfold.

*Source: Sutcliffe (*Ed*, 1984):282

issued at the collective rather than the individual level. German planning originated in fact in 'town extensions' (Stadterweiterung) from as early as 1825 (Berlin[25]), later to develop into comprehensive planning (Städtebau -- literally: town building), and that anticipated rather than trailed urban growth. The state assumed its role in spatial organization all the more easily that due to the weakness of the German bourgeoisie the state had played a predominant role in the development of capitalism in everything from the unification of a national market to the regulation of the conditions of production.[26] The strength of a ready-found state apparatus helped the free development of spatial organization in particular --it is symptomatic that the 'Town Extension Plans' were the attribution of the Polizei[27] -- and of the overall development of capitalism in its stage of intensive accumulation in Germany as anywhere else. It took until the late 1920s this stage of capitalism to generalize, when planned state intervention became an international practice to preside over the process of urbanization.

8.5 THE PRICE OF LOCATION WITHIN THE URBAN PROCESS

We now have within reach a framework that allows an interpretation of the price of location as one of the means of spatial organization of the production process along with other means of organization under the

(25) Sutcliffe (1981):10*ss*.

(26) As brilliantly interpreted by Engels in The role of force in history (1888), so that the strength of the 'bourgeois' state was the very result of the weakness of the bourgeoisie. Sutcliffe comes close to this point but it appears to him as paradoxical: "Paradoxically, the crucial power to plan new streets was a product of the weakness of German towns and their local administrations, not of their strength" (Sutcliffe, 1981:10). Other differences respected, the same is true for nineteenth century France, Austria and Italy -- the reverse being true for England.

(27) Sutcliffe (1981):16.

control of the state.

Regulation of land uses

In capitalism the ultimate purpose of any regulation, spatial or otherwise, is commodity production. Commodity production has been analysed in Political Economy under the broad rubrics of production, consumption and exchange with an emphasis on the first -- production, consumption and exchange of objects carrying embodied in themselves, the labour of society so that one could almost see it. Even though it was certainly recognized by Marx that Political Economy would account only for the anatomy of civil society --that is, of the totality of the material conditions of life(28)--, in successive work the rich context into which he embedded the 'economic' core and that was necessarily historically specific was gradually eroded by adherence to 'orthodoxy' -- the amazing resilience of the concept of 'three great classes' (capitalists, landowners and proletariat) and the difficulties in accounting for the ('unproductive') service economy that today concentrates half the labour powers of societies into the industrialized (sic) world are cases in point. When it comes to spatial organization however, the broad categories 'production, consumption and exchange' of commodities are further fragmented to a point of becoming abstractions so far removed from the concrete life of civil society that makes it necessary to introduce intermediary levels of abstraction.(29)

(28) Marx (1859):20.

(29) This certainly did not go unnoticed by many students of 'urbanism'. Rather the overwhelming weight of many aspects of the urban process has led to their election into autonomous subjects in their own right -- an archetypal form of which is the influential 'urban social movements' approach (Castells, 1972, etc.). The difficulty lies in introducing the remainder of the 'totality of life' without losing the connection with its original fundaments that in capitalism remains commodity production.

In spatial organization economic activities: production, exchange **and** consumption become land uses organized into categories relevant **for** the purposes of spatial organization, irrespective of their original status. Thus 'production' becomes large-scale, medium and small industry (additionally classified according to whether noise, air or water pollutant etc.) and agriculture; 'non-productive production' becomes bank, offices, services, transport; exchange becomes commerce; further, the least focused upon (in Political Economy), wage good that makes up to 40% of the wage(30) becomes housing that could never quite be commoditized and uses about half the extension of urban space within agglomerations; and to these are added the activities of the non-commodity sector: becoming roads, open spaces, public buildings, facilities, etc. As land uses, the same are grouped in more or less segregated or mixed land use zones and spatial regulation bears on them precisely qua land uses.(31) Within the urban space, they appear as Hoyt's kaleidoscopic pattern, the study of the apparent structure of which the Chicago school addressed itself to, and give rise to many processes that appear to have their own life and are frequently interpreted as though they had. Such notion is so strong indeed that it enters into the language in expressions such as cities --urban agglomerations-- 'grow' (change etc.), which is clearly to have lost the fact that the same are being *built* (transformed etc.)(32) -- to a purpose.

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(30) See Appendix, Table 9 (pattern of household consumption).

(31) This explains why "... the Community Land Act [1975] and the Development Land Tax [1976] proposals ... were not directed towards the institution of private landownership itself, nor even towards specific groups of landowners; instead, they were defined with reference to land uses" (Massey & Catalano, 1979:173), and illustrates the nature of the difficulty faced by an interpretation of state intervention in spatial organization.

(32) By contrast, nobody would say except under poetic licence 'my house is growing' instead of 'I am building a house for myself'.

Means of spatial organization

Spatial organization involves firstly the production of urban space and next, the regulation of the use of it. The former is entirely carried out by the state, whereas the second is carried out by a combination of market and state regulations. In an urban space produced by the state, locations are posited as commodities to be traded in a market restricted by rules imposed by the state.

The instrument of market regulation is the price of the location as analysed in the previous chapters, and that within the urban agglomerations usually takes the form of a land price, insofar as locations are defined at the level of the ground. State regulation is superimposed upon market regulation by means of zoning by-laws, selective with respect to both the activities and the patterns of settlement allowed within land use zones over the urban space. Thus in a 'strictly residential' zone the price of locations will be determined by competition among residential uses but not, with industrial or commercial etc. uses. Equally, in 'low density residential' zones the price is determined by competition between residential and whatever other uses are usually allowed additionally (such as local shops, personal services etc.) in patterns of detached, semi-detached or eventually, terraced housing, but not, with apartment blocks. And finally, the differentiation of urban space itself is determined by public works carried out by the state whether in anticipation (by extending road, etc. networks into zones of expansion) or in attending to requirements (by removing congestion, or lack, of infrastructures) of change.(33)

(33) The distinction between 'anticipation' and 'trailing' of urban change is anything but clear-cut. For example, the building of an 'executive' airport for London's City may correspond to an existing pressure, but will allow a further development of the (cont.)

The great means of spatial organization are therefore public works, **land** use regulations and the price of the location, the first two being administered by the state while the last remains for market regulation. These are complemented by additional measures at the disposal of the state. We have seen that taxation on land, even though it cannot be seen as a means of spatial regulation because it is a necessary condition - along with private property in land itself - of capitalism prior to any spatial organization, can be used as such, even if it will be used in particular cases only. Compulsory purchase of land and its reverse, subsidies or outright gift of locations and if everything else fails, the application of police force (as in slum clearance) are other means of spatial organization that can be used however only within limits if the state is not to jeopardize commodity-form **for** these subsidiary means of interventions are manifest transgressions of the reification of social relations.

The urban process

> ... but now the market had triumphed over the community.
>
> Christopher Hill, 1967 (:152)

We have seen earlier (34) that the regulation of capitalist production is achieved in the first instance by the market and in the second instance by state intervention, the limits between both being deter-

(33) (cont.) City's role in international banking and intensification of its land use. Conversely, construction of infrastructures in expansion zones may be inductive of settlements at the local ievel, but the expansion itself came as a need felt within the already existing urban structure. The forner distinction therefore is rather quantitative (on a spatial and/or temporal scale) than qualitative.

(34) Chapter 4, *in fine*, Chapter 6, *idem*.

mined by the conditions of commoditization of production according to the stage of development of the forces and relations of production. Political Economy was able to isolate, and to restrict itself to the analysis of, the commodity sector of the 'economy' at the price of gradually excluding the account of both the state and of spatial organization pari passu with the development of both the latter. The study of production on the location and within the urban space however --and to say the study of contemporary capitalism would be to say the same-- makes it manifestly impossible even to attempt such a separation. There can be no 'commodity sector' within urban space and economic categories —derived from commodity production— dissolve into urban activities or land uses, and while location can still be posited as a commodity to be traded in a, however restricted, market, production of space escapes commoditization and falls wholly into the realm of the social, to be performed at the collective level.

The totality of the material conditions of life re-emerges in the urban process. Provided we do not exclude this time from urban process its core in commodity production and restrict it to social movements, that is, to movements in the social forces of production, unanchored in the relations of production, it acquires a specificity as the conflict between both the latter at the stage of predominantly intensive accumulation. The limits to the commoditization of production do not arise from spatial organization alone, but the study of spatial organization puts those limits into sharper relief by highlighting the necessarily increasing role of collective production and regulation in social production. This should not be obscured by all attempts made at preserving the (capitalist) relations of production, asserting and reasserting the commodity form and market regulation, and disguising the state behind 'general interest' and the flagrant violation of

reified social relations by state intervention by clothing it with 'rationality'. Incidentally, this explains the planning rhetoric that accompanies state interventionwhich ostensibly submits itself to market regulation while —in order to preserve it— is forced to circumscribe it to an ever increasing extent.(35) Rhetoric, however, is unlikely

(35) The policies pursued in the late 1970s and the early 1980s by the national governments of the imperialist countries amount precisely to an (increasingly desperate) attempt at the re-commodification of their economies (the capitalist state has to try this, since to ensure the conditions of commodity production is its very raison d'être). Such policies have been epitomized as 'Reaganism' and 'Thatcherism', a good account of these (that is, of the cases of the US and the UK) being Tomaskovic-Devey & Miller (1982) and Gough (1982), respectively.— The latter accounts provide an opportunity for two remarks. Firstly, Tomaskovic-Devey & Miller use the term "recapitalization", not recommoditization. Since they clearly mean recommoditization ("recapitalization of capitalism" et seq., p.24), this shows how strong is the idea of identifying capitalism with the commodity form, rather than with the predominance of the commodity form. The distinction however is important for otherwise crises of accumulation cannot be distinguished from a crisis of commoditization (see also earlier remark on 'Uno-type hyperabstraction', Chapter 4 in fine, last *fn*). Secondly, both accounts follow the very widely held view according to which both the US and the UK governments were actually doing what they were saying were doing --that is, 'reducing the government'-- mainly because of their policies of reduction of social wage and of 'privatization'. In the couple of years that have elapsed between their writing and this writing, it has probably become more readily apparent, however, that to see "a further (*sic*) step forward in state centralization and state intervention, obscured by a rhetoric of decentralization" as an alternative to Thatcherism (Gough, op.cit., p.62) is to have fallen foul, precisely, to the 'rhetoric of decentralization'. The former is a most apt description of what 'Reaganism[1]/'Thatcherism[1] is, rather than of an alternative to it. For if those governments did reduce social wage and privatized some state enterprises, they also increased their intervention in a far broader range of fields, from sending police against striking workers to increasing state expenditure to 'rescuing' broken banks, to attempting (even though they failed in this) even to intervene in the money market, the ultimate regulator of world-finance apart from the setting up of ever more instruments of state control at supranational levels. Apart from the extent of such interventions, what is also new is the difficulty the state encounters in achieving legitimization, to the point of raising the question of the 'governability of democracies' à la Crozier et alii (1975), owing precisely to the clivage between what it is doing and what it is supposed to do.

to reverse the tendency for the confines of commodity production to shrink. 'Accumulation crises' can be overcome by a general devalorization of capital and a reorganization of production and of the relations of production. But the dialectic of the commodity form is not 8imply a pendular movement in which periods of retraction of the commodity form can be followed by its re-establishment merely by repositing it as the dominant form both in production and in social relations. The analysis of spatial organization that necessarily encompasses the totality of civil society suggests that the increase of state intervention, or of direct production of use values, is an irreversible process arising with the development of production, for the more space is differentiated under the drive of the production of values (posited as "profits"), the more homogenization of the same space through the production of use values is required. The implications or the ultimate consequence of the shrinking of the commodity form is not a limitation to the expansion of the productivity of labour but rather, the supersession of the predominance of the commodity form in production and the corresponding supersession of the reification of social relations as the principle of social organization. Meanwhile, the antagonism between the commodity form and state intervention remains the moving force behind both intensive accumulation and the urban process.

CONCLUSION

CONCLUSION

We have approached the question of organization of space in capitalism through an account of the price of urban land. Since land price is unequivdcally seen in Political Economy as the 'capitalized form' of land rent - the latter being taken as the relevant category of analysis, and since many elements of a critique of rent theory were already available, the first task became an historical interpretation of this theory from its origins to Ricardo and Marx.

The interpretation from within, that is to say holding to the assumptions of rent theory as long as the same remain at least internally consistent --as we did in most of Part I-- was a rather worksome and slow process. Its main results are that of two main forms of rent theory, the first --Ricardo's-- is an oversimplified, if not simplistic, account of agricultural production on land, whereas the second --Marx's -- is a contradiction-ridden, unconclusive and unfinished critique of the former; and that notwithstanding its theoretical weakness, or rather because of it, the first and more prestigious form of the theory

was most convenient for the bourgeoisie in nineteenth century England from Ricardo's own day and in the heat of the Corn Laws and Free Trade debate down to the Victorian Age, the demise of Political Economy and the generalization of rent theory in the pseudo-science of 'economies'.

The whole extent of the irrelevance of rent theory however is revealed only when the latter is confronted with the urban process, as from Chapter 3 onwards. In retrospect, this can be summed up thus: for society, rent theory proposes a hybrid of feudal and capitalist societies with three petrified classes, for transformation gives equilibrium, for urban space takes nature, for a payment for location specifically, it suggests a concept derived from feudalism and read into capitalism and finally, for a distinction of the two forms of payment for location, it offers an identification of the same through the fiction of discounting. Also in retrospect, the reasons of the failure of Marx's critique of this appear clearly to be rooted in the specificity of his own historical epoch.

Throughout the early stage of expansion of capitalism in England, agriculture was the main industry where 'production at a location' meant 'production on land[1]. Also, memories of feudalism were fresh and in feudalism land was the 'only source of wealth', that is, locus of production of the excess product. The payment for location remained therefore identified with the payment for land. Moreover, production was not yet fully commoditized and the payment for location took the subsidiary form of rent allowing for its identification with the category 'rent' as taken from feudalism. We have seen how, in spite of such overwhelming appearances, Marx, who always wished to analyse capitalism <u>insofar</u> as it was fully developed, eliminated 'landed

property', and therefore, rent, from the structure of the Capital and left the whole of his writing on rent theory in its state of first draft. What he could not do, was to put into the place of rent theory an analysis of the spatial organization of production, for this is specific to capitalism in its stage of intensive accumulation, a stage which was only emerging with the rise of new centres of accumulation outside England. The 'laws of motion' in the new stage were particularly the least clear in England itself where the structural forms developed in the early stage remained strong and survived into the twentieth century.

* * *

Urban space arose with the spread of the commodity form within unified markets over the territory of nation-states. The process of unification of the market itself required the building of necessary infrastructures that connected the territory into one homogeneous and differentiated space, but this process is characterized mainly by expansion rather than retransformation, as in the early stage experienced by England. When capitalism spread into new countries, however, it was already reaching its stage of full development, or of intensive accumulation, and it is in this form that it developed in the latter countries from the start. As wage labour expanded into Germany, Japan, the United States and France, these new centres developed within a territory rapidly structured into urban space in which concentration gave rise to the formation of urban agglomerations within the dialectic differentiation/homogenization of space. Organization of space increasingly meant retransformation of an urban space already constituted rather than

the connecting of new territories to it, under the requirements of technical progress which became the main source of the expansion of labour power -- and therefore, of accumulation.

This gave rise to two parallel developments. On the one hand, the payment for location took directly the price form, the form consistent with commodity production and full control of the conditions of production by capital. Location itself is posited as a commodity and is consumed in this form, whereas it arises as a result of production of space which can be performed at the collective level only, through state intervention. Planning became a practice in spatial organization so as in other areas of state intervention and even in commodity production, to some extent. On the other hand, and even as spatial organization became an object of conscious activity, Political Economy ceased to be a science to become 'economics'. The science of the rising bourgeoisie gave place to the science of the bourgeoisie in power. Henceforward 'production as such' would be the concern of economics, and 'organization of space as such' would be the speciality of urbanism (geography, location theory etc.) -- even 'society as such' would have its own science in sociology, and so forth. The fragmentation of social science left a void in which stood the concrete societies the totality of which escaped wholly to those 'sciences' taken in isolation or together. The 'Marxist revival' has certainly brought the elements of Political Economy --economy and society-- together again, but spatial organization remained a separate field: its place in political economy was still held by rent theory, the theory of the payment for gifts of 'Nature'...

The undertaking of Part II was the construction of a foundation for an account of the production of commodities and of reproduction of society carried out within spatial and institutional structures built and continuously retransformed by labour. There emerged *location* and *space* as economic categories, the simultaneity of 'economic' and 'spatial' regulation of production subject to the antagonism valorization/devalorization of fixed capital arising from the increase in the productivity of labour, a correspondence between the historical forms of the payment for location and the stages of development of capitalism and finally, the nature and the limitations of the role of the state as a complement to market regulation.

Such elements are held together within the framework of the innermost antagonism of capitalism, the production of *use values* --worth-- and their positing as *values*, as it manifests itself at the individual and the collective levels of production. At the level of the individual process of production it takes the form of the antagonism between the development of the concrete productive process and the instruments of production, that is, between technical progress and fixed capital, in which the process of valorization of capital leads to its devalorization. At the collective level in turn, it takes the form of the antagonism between the commoditization of production and the necessarily collective production of the conditions for commoditization, or as the same manifests itself in the social relations, the antagonism between the reification of the same and state intervention that restores the unmediated form of social relations.

* * *

The account of the price of urban land starts out therefore first and foremost from the recognition that land itself is a particular form of location. Both as a means of subsistance that must be alienable in capitalism and as a location which is a condition of production, land commands a price, being nothing else than the dominant form of payment for location in capitalism. Alongside with price, a subsidiary rent form subsists to allow production in industries whose products, at a particular stage of development, cannot be fully commoditized.

The analysis of the price of location bears on two levels. At the level of the individual process of production of commodities the price of location enters the price of production of commodities and thus mediates the regulations of commodity production by the market --under the restrictions of whatever state regulation may be in effect-- in terms of quantities, techniques and localization. At the social level the price of location is the pivot of articulation of market and state regulations within spatial organization. In a first instance, the price of the location is determined by the level of differentiation of urban space produced by the state. In a second instance, the same is determined by the regulations of the state bearing on spatial organi-zation. Finally, the price of the location is established by competition within the remaining freedom of the market.

The first level of analysis can account for the relationship between the price of the location and the transformation of the individual process of production through 'economic' laws, that is to say through laws derived from competition, to a fair extent. In particular, the effect of the price of location on the conditions of valorization/ devalorization of capital and on the transformation of the techniques

of production within a same location can be determined. However, such determination encounters its limits as soon as the confines of the location are abandoned, as additional determinations on the individual process of production arise within the urban space both through the choice of (re)location and through limitations on the intensity of land use imposed by collective (state) regulation of the pattern of settlement. Nonetheless, this level of analysis spells out the conditions of collective regulation.

At the level of spatial organization the analysis must centre on state intervention. In order to preserve the commodity form, the state has to intervene into ever-increasing extensions of social life, destroying what was to be preserved. State intervention is thus determined by the stage of development of the conflict between the forces and the relations of production or, more specifically, between the commoditization of production and the limits to commoditization. In other words, in any historically specific epoch the price of the location is determined by the balance between market regulation and state intervention. Market regulation can be accounted for by economic analysis, whereas the account of state intervention can only be performed starting out from an interpretation of the historical stage of development of the antagonism between commodity form and collective production. The account of the movement of the prices of locations in a concrete urban process requires therefore the complementation of economic analysis with historical interpretation.

This requirement is by no means specific to the price of location or to any aspect of spatial organization of commodity production and social reproduction. It is rather that it becomes more immediately felt when

> the spatial dimension of the economy is expressly taken into account: there is no way to isolate a commodity sector in the urban process and to keep the remainder as a background or 'general conditions'. The totality of life re-emerges in the urban process inevitably and in a sense, triumphantly: it reimposes itself as against the fetishism of the commodity form.

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Appendix

THE URBAN PROCESS OF SÃO PAULO

A broad outline and an embrionary interpretation of the urban process as observed in the evolution of the urban agglomeration of São Paulo have been produced at an early stage of the research that led to this dissertation. Part of it is reproduced here as an Appendix as an illustration mainly of São Paulo itself, and secundarily also of some elements of an interpretation of the urban process at their early stage of maturation. Apart from minor alterations for the purpose of editing, the both data and interpretations are left in their original form even when[1] they becarne subsequently modified or superseded altogether.

(1) As in Deák (1982).

1 THE ECONOMY OF SÃO PAULO

The early conditions of the emergence of São Paulo during the 1930s as the industrial centre of Brazil were established in the period between the abolition of slave work in 1888 and the 'Revolution' of 1930. Before this period, Brazilian econotny was based almost exclusively on the export of raw materiais (timber, sugar-cane, rubber, coffee, according to cycles through the succession of which the gravity centre of the economy moved gradually southwards - see Fig.l below) and the import of manufactured products destinated to consumption only. But the abolition of slave work was the sign that wage labour was making its entry into the country(2) and in the period which followed began a -development through substitution of imports, accompanied by the establishment of a sizeable industry producing perishable goods (textile, clothes, food) for internai consumption,

(2) The growth of São Paulo is an almost pictorial image of the expansion of wage labour in Brazil. From an obscure point on the map (population: 9000 in 1836) São Paulo grew slowly into a small town of 23,000 by 1874. Since then, its growth rate -- yearly average between censuses-~ never fell below 4%, but between 1886 and 1900 its population jumped from 40,000 to 240,000 (source of data: Langenbuch, 1970, passim).

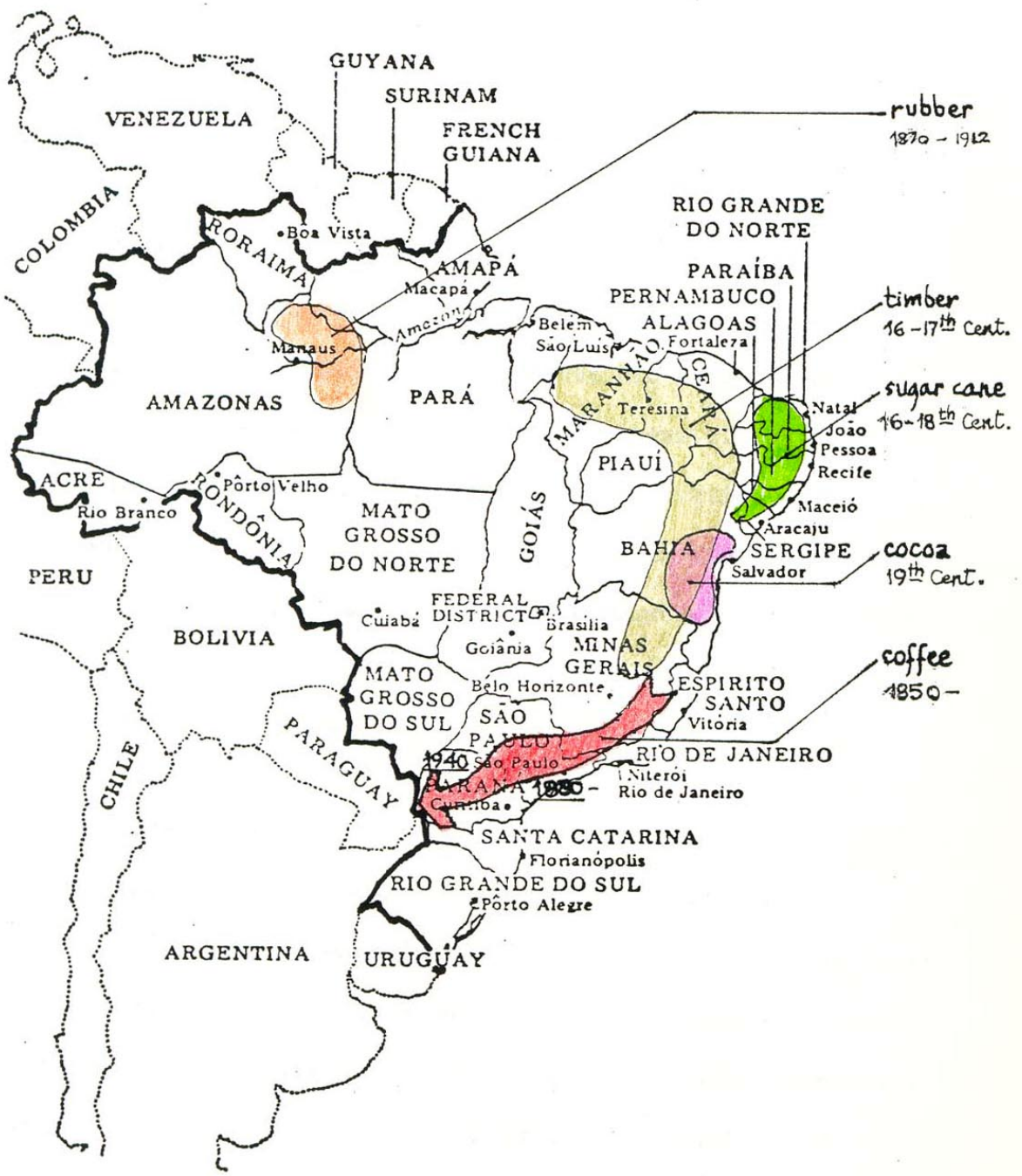

FIGURE l: Economic cycles in Brazil prior to urbanization

located mainly in the states of Rio de Janeiro and São Paulo, and by the starting of commercial agricultural production (as opposed to production for subsistence) to provide the home market, located mainly in the southern states of Rio Grande do Sul and Santa Catarina. The labour force for this new sector was largely provided by European migration which, at its peak in the decades of 1910s and 20s contributed with more than 1.5 million,(3) a population whose absorption was accompanied by an incipient urbanization, concentrated mainly in some poles which were regional market centres: Rio de Janeiro, São Paulo, Porto Alegre and Belo Horizonte. Among these cities, São Paulo had the more important regional market as the cultivation of coffee, in its movement southwards, has been established in its hinterland. The social counterpart to this economic development was the emergence of an industrial bourgeoisie significant as a social force for the first time in Brazilian history.

That force ásserted itself on the political scene through the 'Revolution' of 1930 that broke the power of the coffee oligarchy and amounted essentially, to a modernization of the state apparatus under which the national market would be unified. It inaugurated a period of about twenty years during which Índustrialization was Consolidated and dominance of the capitalist mode of production established throughout the country. The formation of an industrial reserve army, to ensure abundant and cheap labour, was under way, accompanied and aided by the abolition of the autonomy of the federated states, the construction of a national road network, and a reduction of mortality

(3) Totals of 815,463 and 788,170 in the 1910s and the 20s respectively (Singer, 1973, p.122).

rate first in urbanized áreas and then in rural áreas, which in this way took over the role previously performed by European immigration to provide ever growing new contingents to be added to the labour force. The formation of a strong central government and the construction of a nationwide infrastructure network favoured both internai migrations and constitution of national markets, consolidating the position of São Paulo as the greatest industrial centre, in a way that when during the 1940s the culture of coffee descended further south into the neighbouring state of Paraná, São Paulo's economic hegemony had already been firmly established. The transformations during this period are not so spectacular as important. In fact they were preliminary moves, paving the way for the 'boom' --both industrial and urban-- of the nineteen fifties.

From 1950 onwards the process of substitution of imports reaches the sector of non-perishable goods (cars, electrical appliances and later, electronics) and of capital goods (siderurgy, chemicals, rubber and paper industries). The implementation of the new industries goes on a large scale and employing modern techniques of production, setting the scene for the contemporary phase of the history of São Paulo. This is also the time when the metropolization of the urban structure of São Paulo begins --

> "The implementation of these industries went largely through invéstment of foreign capital, which brought to the country the techniques of mass-production. In this way, the new industrial sectors were bom already strongly concentrated within the metropolitan área of São Paulo or in its immediate vicinities: Baixada Santista, Campinas and Vale do Paraiba."(4)

(4) The lowlands of Santos (the port of São Paulo, at only 80 km from São Paulo, Campinas (at 90 km) and Paraiba Valley, a fertile valley containing a whole succession of towns to the east of São Paulo. Singer (1973), p.124.

The population of São Paulo grew from less than 2 million in 1950 to 7 million in 1970 (it grew later to 12 million in 1980). By this time, the concentration of capital is reflected in the spatial concentration of the production, as a comparison of the Metropolitan Region of São Paulo (MRSP) with Brazil through some indicators shows (see Tables 1 and 2). The development of production created also the need for a formidable tertiary sector[5] in a way that even in relative terms the workforce employed in services increased, from 50% in 1940 and in 1950 to 60% in I960,[6] reflecting the fact that São Paulo was concentrating not only production, but was becoming a major decision (administrative,financial), commercial and service-exporting centre.

(5) Tertiary sector: comprising non-industrial urban activities; commerce finance services (specialized and personal), administration, etc.

(6) Op.cit., p.124.

TABLE 1: INDICATORS OF ECONOMIC CONCENTRATION

Indicators	MRSP*/Brazil (%)
Industrial Units	15.65
Tertiary Units	11.36
Industrial Employment	36.00
Tertiary Employment	16.44
Industrial Product	42.00
Tertiary Product	27.16
Total Population	8.60
Area	0.09

Source: FIBGE, Census (1970).**

TABLE 2: PARTICIPATION OF SÃO PAULO IN THE BRAZILIAN INDUSTRIAL PRODUCT

Industry	MRSP*/Brazil(%)	Industry	MRSP*/Brazil (%)
transportation	**71.8**	chemicals	35.4
elect. & commerce	70.0	metallurgy	34.5
machinery	54.6	printing	34.3
rubber	70.6	non-metallic	
pharmaceutic	61.8	minerals	32.8
plastic	60.8	foodstuffs	28.8
furniture	**44.9**	beverage	27.2
soaps, toilet goods	44.5	tobacco	20.7
wearing apparel	42.5	lumber	10.5
paper	42.2	leather	7.4
textile	**42.1**	other	61.8

Source: FIBGE, Census (1970)**

* MR.SP: METROPOLITAN REGION OF SÃO PAULO

** *in* Campanário (1981)

2 CLASS STRUCTURE AND INCOME DISTRIBUTION

While the dominant mode of material production in an economy is what ultimately governs organization of space, that organization is carried out in any society by legal, administrative, cultural and manifestations of the class structure of that society. Specifically, class structure is a basis to the determination of a hierarchy of land users and of the means by which these latter are distributed over space.(7)

Singer's analysis(8) of the evolution of the Brazilian class structure between 1950 and 1970, though does not attempt to be an analysis of

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(7) Although that will never happen explicitly. "It is important to note that, however important they may be, [social] classes never appear as such on the scene. Each class comprises a whole range of social sectors, whose presence expresses itself by means of numerous class 'organisations': trade unions, business associations, professional associations, political parties, cultural entities,etc." (Singer, 1981, pp.17-18).

(8) Op.cit. The outline of the Brazilian class structure which follows relies heavily on this work.

class struggle,[9] traces the variation of the sizes of the classes in that period and it permits a finer analysis of the social structure of the population of São Paulo than the otherwise detailed census data (a condensed version of which is given in Table 3 for S2o Paulo and the other metropolitan regions of Brazil) on income distribution would allow.

The classes distinguished in the analysis are, according to the position individuals occupy in the relations of production, as follows:

1. Bourgeoisie, composed of those who own or control the means of production, i.e. capital. This class is composed of two fractions: entrepreneur bourgeoisie (bourguesia empresarial, composed of the legal owners of capital, and the managerial bourgeoisie (bourguesia gerencial), composed of those directors of enterprise whose authority over capital derives from endowment by the legal proprietors.[10]

2. Proletariat, composed of those deprived of both the ownership and the control of the means of production and thus must sell their labour force for wage. Again, two fractions are distinguished within proletariat: proletariat proper composed of those

(9) As Singer himself stresses: "This chapter does not deal with class struggle, that is, with the movement of classes, but endeavours only to enquire into how the class composition of society has evolved in the process of capitalist development of the Brazilian economy." p.25

(10) Singer here is knowingly (op.cit., p.104, fn.) at variance with Poulantzas (1975), according to whom this fraction belongs to a "new petty bourgeoisie". However, he argues that those of this fraction "obviously, even though they are juridically not more than well-paid labourers, socially they do not belong to the proletariat,but rather to the bourgeoisie" (p.21). This view is supported by other empirical studies carried out in Brazil, e.g. Bacha (1978), where it is stated that "the evolution of managerial salaries is not related to the course of workers' wages, rather it trails the movement of profits of the enterprises" (quoted in Singer, 1981:124).

TABLE 3: INCOME DISTRIBUTION IN NINE METROPOLITAN REGIONS

Metrop.Region	0-1.1 MS*	1.1-2.2 MS*	2.2-5.4 MS*	5.4- more MS*
São Paulo	34.8	29.4	26.4	9.4
Rio de Janeiro	40.6	28.6	21.9	8.9
Belo Horizonte	54.2	25.2	14.2	6.4
Recife	64.2	20.2	10.4	5.1
Salvador	58.7	21.4	13.4	4.4
Porto Alegre	46.5	28.0	18.3	7.2
Curitiba	46.3	28.9	17.4	7.4
Fortaleza	74.7	14.1	8.6	3.6
Belém	59.4	22.6	13.0	5.1

*Minimum Salary

Source: Emplasa (1979),in Campanário (1981)

effectively employed by capital (or the State) and a subproletariat composed of those who, though they have but their labour force to sell, do not encounter on the labour market a buyer who would pay for it a price, i.e. wage, which would ensure their reproduction at "normal" level of subsistence. Their living conditions fall below the standard of the working class as they are either unemployed or must sell their workforce for salaries under its value. This fraction of workers constitute largely the industrial reserve army which helps to control wages, that is, to maintain wages at the lowest possible subsistence level.

3. Petty bourgeoisie, composed of those producers who own their means of production. They are not, in Singer's words, "as it is sometimes supposed, an 'intermediary' class between bourgeoisie and proletariat",(11) but they have characteristics of both insofar as they do not depend on the labour market (as bourgeoisie do neither), but they produce (as proletariat do). In reality, they perform simple production of commodities and thus the petty bourgeoisie do not take part directly in the dominant capitalist production, though they make part of the social structure dominated by capitalism.

4. Peasants and landowners would complete the analysis of class structure in Brazil, but these classes have little relevance to the analysis of an urban agglomeration, on the one hand, and the historical existence of these classes has led to their virtual extinction in contemporary Brazil, on the other. For its rele-

(11) *Op.cit.*, p.18.

vance to the switching from land rents to land prices as a category of analysis of urbanism,[12] we may quote, however, the interpretation of Singer on the present situation of the class of landowners:

> "Historically, this class is a relique of a mode of production - feudalism - which the advance of capitalism has already eliminated in Brazil. The private property of land became capitalist and those who take part in it do not constitute a special class..."[13]

According to the analysis of Singer, therefore, the social structure of S3o Paulo may be viewed as being constituted by three classes, i.e. bourgeoisie, itself composed of two fractions (entrepreneur bourgeoisie and managerial bourgeoisie), proletariat or working class, again composed of two fractions (proletariat proper and subproletariat) and finally, petty bourgeoisie. Further, the major change Brazilian social structure underwent in the period of 1950 to 1976 is a huge increase of the participation of the proletariat, mainly at the expense of the participation (in relative numbers) of the subproletariat (see Table 4). The facts related to the organization of modern São Paulo will be analysed in the light of this transformation. Zoning bylaws, housing policies and infrastructure provision may be explained by the emergence of greater contingents of proletariat whose higher subsistence level and greater cohesion as a class as compared to those of the subproletariat, puts new requirements of organization of space. On the other hand, current class structure should provide a clue for the establishment of categories of land users according to which the regulation of land uses through zoning is carried out.

(12) See Part I and especially Section 2.5 .

(13) *Op.cit.,* p.19.

TABLE 4: BRAZILIAN CLASS STRUCTURE. Composition of social classes in urban areas, in 1960, 1970 and 1976.

Classes	Atividades Não-Agrfcolas					
	I960	%	1970	7.	1976	7.
(1) Burguesia	407.989	3.8	664.799	4,0	1.229.294	5,0
(2) Pequcna Burguesia	1.273.166	11.7	1.753.852	10.7	3.165.010	12,8
(3) Proletariado	3.135.669	28.8	5.074.287	30,8	9.464.711	38,4
(4) Subprolelariado	6.063.275	55,7	8.965.123	54,5	10.805.830	43.8
Total	10.880.099	100,0	16.458.061	100,0	24.664.845	100.0

(1) Bourgeoisie
(2) Petty bourgeoisie
(3) Proletariat
(4) Subproletariat

Source: Singer (1981), p.114

3 REGULATION OF THE USE OF SPACE

We have seen that the urban space is produced in order to fulfil the requisites of commodity production. Once it is produced, it must be occupied by individual users according to rules which aim to secure the use in accordance with the purpose.

That organization implies the assignment of a differentiated preference level to each land use in a way that they will be embedded in a hierarchical structure within which each use is allowed a preference over some others (and also is subordinated to the remainder). Thus, the exchange of commodities requires their being marketed at the more accessible localization, by its nature, while their production only comes after the former in priority, though certainly it comes before the housing of workers, although not necessarily before the housing of the middle classes. State intervention solves countless particular cases when general rules do not apply, and/or are hard to find or to ensure.

To ensure that activities are actually located according to their hierarchy --which ultimately stems from the "logic" of commodity production,[14]-- a series of means of regulation of land use are put into effect. We can distinguish at least the following means of land use regulation:

1. juridical (zoning laws)
2. economic (land prices)
3. coercion (police force, "desfavelamento"[15] ')
4. state intervention (expropriation/infrastructure)

The regulation of land use is performed through the joint use of the various means of regulation.[16] Legal and economic regulations are in permanent use as is institutional regulation (state intervention), which however deals with particular cases, while coercion is used only when everything else fails or becomes too expensive and the state can politically afford it without jeopardizing its own stability. The basic pattern of land use, therefore, is largely (but not exclusively) defined through the joint effect of juridical regulation, which appears in the form of a zoning system, and of economic regulation, which appears in the form of prices operating in a (severely restricted) market. For that reason, we will concentrate in

(14) Note that this occurs "under the surface", the same way as, for instance, capital accumulation and appropriation of surplus go in disguised form (where wages are less than the value produced by labour). "Agents" producing urban space behave according to explicit rules which are based on this implicit logic. Individual developers just "make most of it" when developing a piece of land (according to market situation, demand or whatever) and sell it to "anybody", subject only to legal restrictions. But the joint effects of economic, legal, coercive and inductive components do produce a space fitted to the purpose of hierarchy of land uses, just as capitalists do appropriate surplus (even without knowing it) as a result of their bargaining of "just" salaries.

(15) Slum clearance.

(16) 'Planning* is the coordination of these regulations including the creation of a rhetoric confounding the interests of capital with those of the "collectivity". Hence "rational" use of space etc.

what follows on these two permanent means of regulation: zoning laws and land prices, recalling the remaining two only when necessary.

The room of land prices in regulation of land use

We can now sum up the role land price plays in the allocation of economic, activities over the urban space. Within a zoning system, which establishes a spatially interwoven system of monopolies, land prices act as selectors of land use, excluding lower priority uses from areas reserved to higher priority ones. There is a balance between the use of zoning laws and of land prices. In a way that the level of prices in any portion of space is equal to the necessary to exclude from there any permitted less competitive (in particular, the

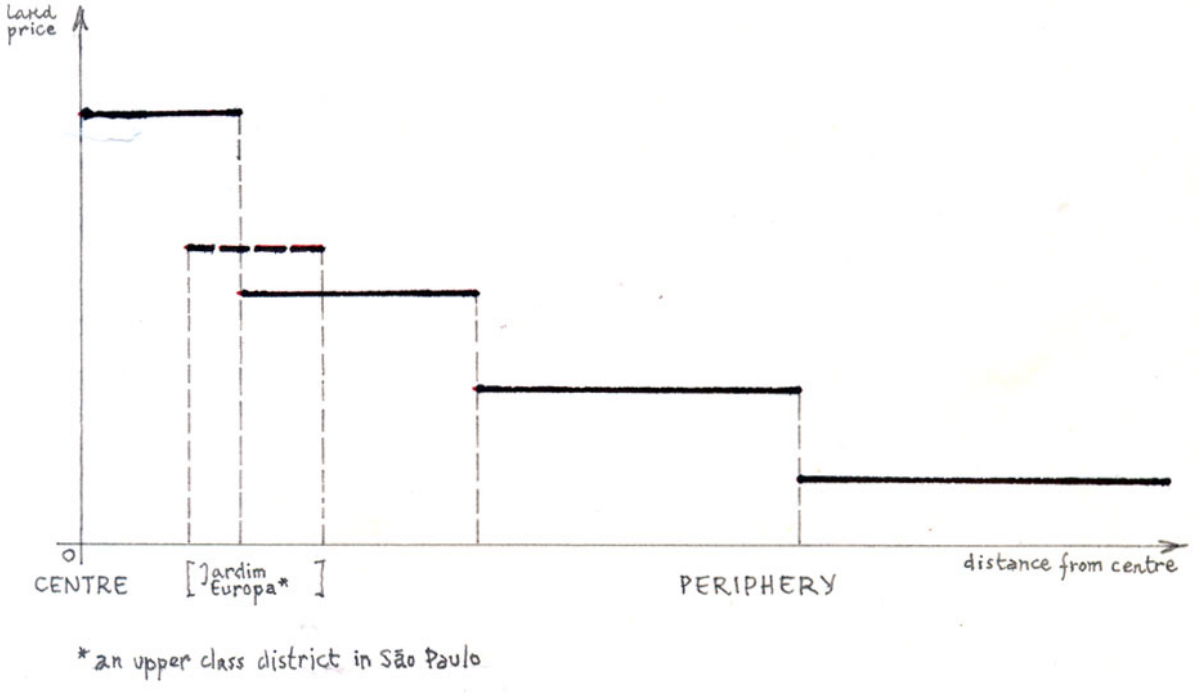

FIGURE 2 - The spatial configuration of urban land prices

immediately less competitive) land use. Given the very general condition that the more accessible localizations are more attractive to most activities, a roughly concentric pattern of prices results (and, as we will see later, of densities) as it is illustrated in Fig.2 above. Many particular circumstances, though, may introduce variations into the general pattern, such as geographical features and of course, local differentiation (main streets, corners etc). But more important, the urban structure in any given time is not an "instant product" but the result of an historical evolution, a series of successive transformations of urban space according to changing needs.(17) Before elaborating, therefore, the very crude model we have constructed so far in any more detail, we must turn now to the analysis of urban change. Analysis of the evolution, and observation of concrete situations, of the urban agglomeration of São Paulo should reveal details of the use of the various means of regulation of space and permit to assess the validity of the theoretical approach.

Hierarchy of land users

Within the view that land price and zoning bylaws are the main means of organization of space, which achieve discrimination of potential land users according to a scale of hierarchy, a categorization of land users will be elaborated on the basis of the social structure and the

(17) A stress on the 'structure[1] as opposed to the 'process' may produce such proposals as that which became popular in professional circles (of planners) in the mid-1970s according to which one should stimulate the intensification of land use in São Paulo by 'filling up' the vacant land within the urbanized area (thereby making existing infrastructure more 'efficient'). The 'vacancy rate' in São Paulo is high indeed (see Table 5 below), but that is both a result and a requirement imposed by high rate of growth.

TABLE 5: VACANCY RATE IN 81 GEOGRAPHICAL ZONES. Vacancy rate: proportion of urbanized but vacant land to total urbanized land.

Source: MUT (1977)

ZONE i	VACANT LAND	
	AREA (m^2)	%
001	730776	26.36
002	1415559	16.97
003	1220561	37.76
004	315470	17.97
005	759550	17.84
006	551638	31.27
007	151595	5.32
008	4999861	58.53
009	27303488	60.24
010	225283	8.13
011	5798668	68.29
012	1265762	23.05
013	205327	10.70
014	587673	20.63
015	4887556	33.80
016	848406	15.35
017	3002266	25.38
018	9788107	54.84
019	566865	14.57
020	1004018	15.32
021	5172986	30.71
022	253577	12.71
023	1316667	28.82
024	388014	12.81
025	3197219	34.33
026	324366	18.03
027	2005921	23.79
028	481241	8.41
029	686859	19.84
030	7507967	59.44
031	167632	9.49
032	177140	11.58
033	7174207	42.44
034	43824880	60.48
035	5253451	33.47
036	63501	9.69
037	27246496	68.69
038	5265603	30.49
039	9339071	33.81
040	1748672	30.17
041	2578517	37.05
042	1932172	33.94
043	582300	22.42
044	2957935	37.61
045	2069786	33.64
046	7772179	53.03
047	1258258	46.82
048	7708542	33.49
049	31216455	56.78
050	6185331	68.85
051	20146000	64.23
052	5779541	74.56
053	4105652	73.65
054	1620001	52.18
055	23609896	61.81
056	20969920	31.68
057	25022224	82.97
058	8988338	75.94
059	13148139	44.08
060	22121632	59.55
061	29912624	77.89
062	12535536	82.53
063	5187028	66.58
064	86456832	85.45
065	56314096	92.98
066	13909045	61.67
067	4404034	36.02
068	4550057	60.08
069	30487520	83.92
070	25181136	60.59
071	26289824	64.12
072	27906096	69.58
073	32308608	92.51
074	20305200	43.61
075	1573376	12.60
076	12485317	53.22
077	17243024	35.77
078	7254749	41.62
079	33867888	74.45
080	98101712	94.16
081	7789332	73.65

spatial organization of the urban agglomeration of São Paulo. Recent work carried out for the Municipal Co-ordination of Planning(18) provides an extensive and spatially disaggregated (see map of Fig.3) 'data base[1] for land use, zoning and land prices for the **urban area** of São Paulo in 1977. The zoning law structure is illustrated in Table 6, and the price structure is shown in Table 7 and Fig.4 for average land prices according to geographical zones, although prices for each geographical zone according to zoning law are also available, as illustrated in Table 8.

A tentative outline of a hierarchy of land users is put forward below, which distinguishes the main economic uses: production (industry) and circulation (commerce, services, administration) of commodities, on the one hand, and the residential use according to social classes. The hypothetic hierarchical order does follow some internal logic, but it will be verified against the empirical data throughout the subsequent analysis of the urban structure. More importantly, it should be borne in mind that such a hierarchy arises only in actual practice of land use regulation and according to the specific needs at any particular time. It is therefore contingent on the stage of development of the urban process, rather than an immutable order.

HIERARCHY LEVEL	LAND USERS
1	Commerce, services, administration
2	Bourgeoisie residential
3	Middle class residential
4	Industry
5	Residential proletariat
6	Residential subproletariat

(18) COGEP, for Coordenação Geral de Planejamento. This agency contracted a large-scale project involving the elaboration of a (contd.)

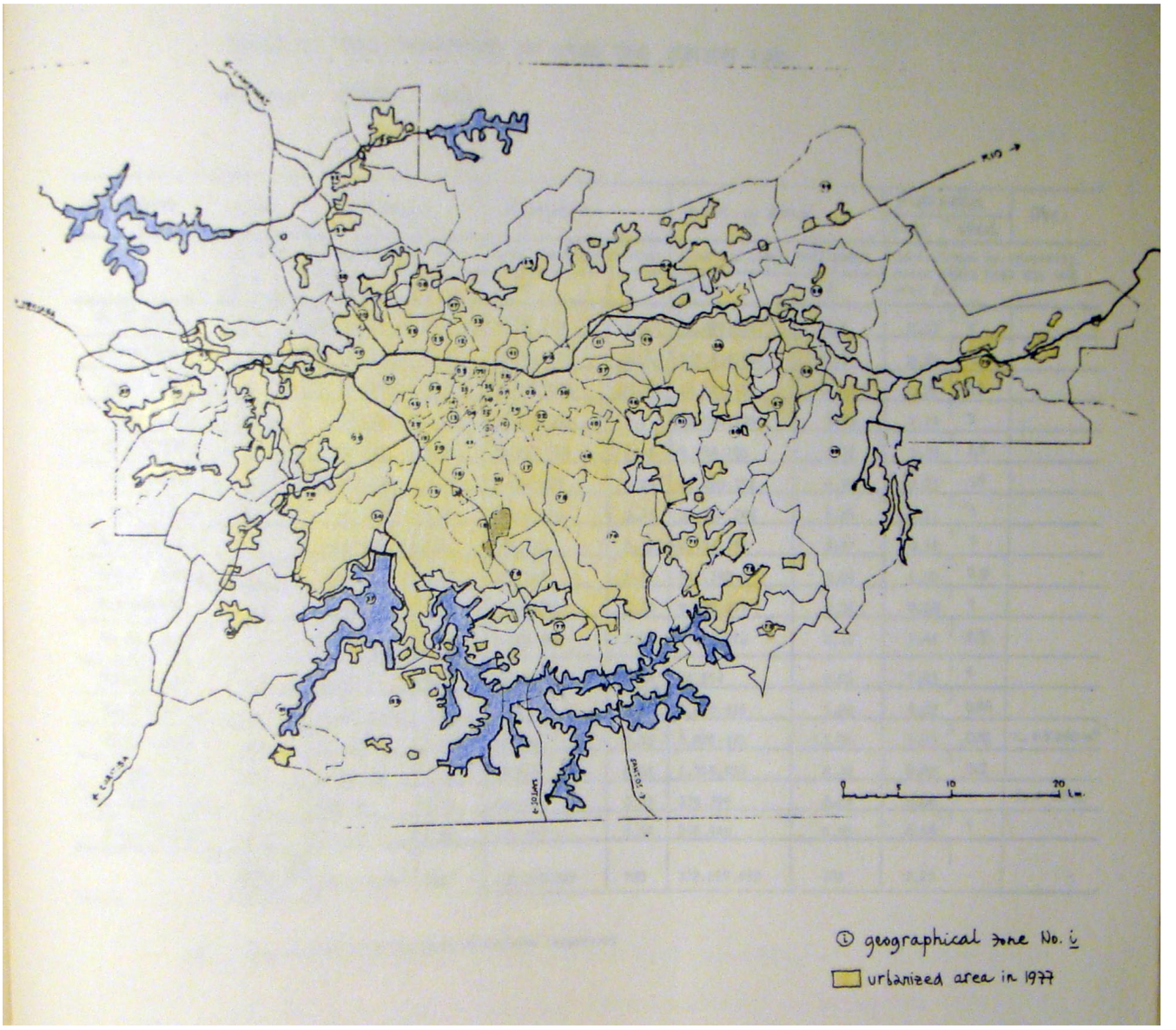

FIGURE 3: Spatial disaggregation of land use and transport data
Sao Paulo, MUT (1977)

TABLE 6: THE STRUCTURE OF LAND USE ZONING LAW

Source: COGEP, 1981

Description	Code	Plot area		Floorspace		Built-up area		Plot ratio		Obs.
								real	allwd	
	Zona de Uso	Áreas das Quadras		Área Total Construida		Área dos Lotes Edificados		Coeficiente de Aproveitamento médio real das quadras 2/1		
		Em m^2	%	Em m^2	%	Em m^2	%			
Excl. resid.	Z1	27.356.261	4,5	8.931.234	4,6	18.269.791	4,9	0,33	1	
Miscellan.	Z2	377.256.380	61,9	92.290.257	50,6	232.431.986	62,36	0,26	1	
Comm/.resid.	Z3	50.610.869	8,3	36.077.394	20,00	44.182.526	11,85	0,71	2,5	
Comm/resid.	Z4	11.272.925	1,8	13.392.062	7,3	10.390.576	2,78	1,19	3	
Comm/resid.	Z5	2.797.996	0,45	10.900.761	6,00	2.428.185	0,65	3,89	3,5	
Commercial	Z6	33.827.625	5,55	8.929.037	5,00	22.020.152	5,90	0,26	1,5	
Industrial	Z7	54.689.475	8,95	6.076.904	3,35	20.183.748	5,45	0,11	1	
Miscell. small	Z9	3.889.154	0,63	594.895	0,32	2.133.711	0,57	0,15	1	
Resid. high d.	Z10	287.809	0,04	749.351	0,41	257.382	0,06	2,60	2,5	
Residential	Z11	24.047.324	3,94	1.840.565	1,00	9.569.477	2,56	0,08	1	
Resid./shops	Z12	1.403.691	0,23	1.984.362	1,08	1.370.616	0,36	1,41	2.5	
Resid./shops	Z13	48.547	0,01	69.436	0,04	40.594	0,01	1,43	1	
Resid. low d.	Z14	10.096.125	1,66	191.793	0,11	3.630.539	1,00	0,02	0.26	
Excl. resid.	Z15	8.986.074	1,48	59.159	0,03	3.870.875	1,05	0,01	0.12	L ≥ 5000 m^2
Comm. centre	Z16	2.145.446	0,36	69.979	0,04	1.368.937	0,36	0,03	0.2	
Misc.+landsc. prot.	Z17	789.736	0,14	62.639	0,03	335.790	0,09	0,08	1	h ≤ 25 m
Pred. resid.	Z18	292.441	0,06	169.092	0,09	214.548	0,05	0,58	1	
	Total de Áreas das Zonas	609.797.878	100	182.388.920	100	372.699.433	100	0,29		

Obs.: Z8 is zone of protection of natural resources

Note that the hierarchy levels do not correspond to some economic hierarchy (as for instance commerce, i.e. circulation of commodities is ranked higher than industry, i.e. their very production), but to the requirements of production in terms of space organization. While production of commodities certainly precedes their exchange, this latter, by its very nature, has more strict requirements of location than production itself.

As a preliminary to the analysis of allocation of users over space according to their level of hierarchy, it will be established specifically:

a) what price each user (activity or residence) is able to pay for land, where both unit price and size of the plot will be taken into account,

b) what price each user actually pays for land and comparison of this price with the price the lower next user in the hierarchy could pay for land as established in a); and conversely,

c) to which price each user pushes up the price of land for the user upper next in the hierarchy.

The analysis of the price of the land according to land users will always take into account the discriminating, or selective effect of the existing zoning bylaws, as according to the hypothesis, discrimination of land use is carried out through the joint effect of price and zoning law.

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(18) (contd.) Land Use and Transport Model (MUT), henceforth **refe** to as MUT (1977), a simulation model designed to assess projected urban policies in transport, infrastructures and land use.

FIGURE 4: PATTERN OF LAND PRICES IN SÃO PAULO. Average according to geographical zones (rural land excluded), in Cr$/sq.m.

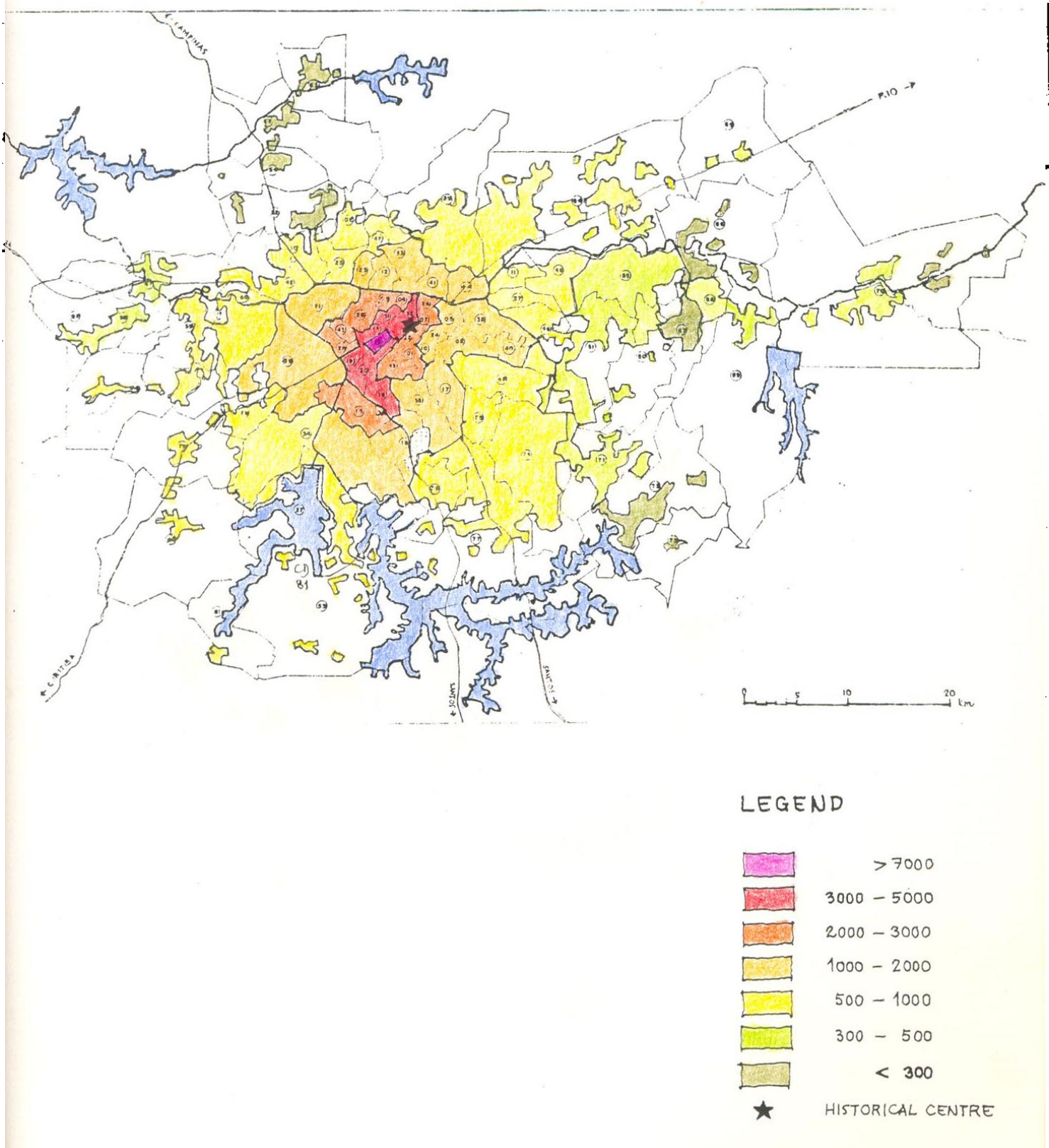


TABLE 7: AVERAGE LAND PRICES IN 81 GEOGRAPHICAL ZONES

Source: MUT (1977)

GEOGR. ZONE (i)	LAND PRICE Cr$/m²	GEOGR. ZONE (i)	LAND PRICE Cr$/m²	GEOGR. ZONE (i)	LAND PRICE Cr$/m²	GEOGR. ZONE (i)	LAND PRICE Cr$/m²
1	26 130 9	26	2 111 24	51	2 761 9	76	550 14
2	1 483 48	27	961 93	52	242 76	77	690 43
3	2 658 67	28	2 577 42	53	120 93	78	499 49
4	431 778	29	2 783 04	54	183 98	79	242 47
5	172 037	30	467 59	55	223 73	80	231 19
6	299 023	31	489 098	56	359 08	81	209 10
7	255 759	32	330 105	57	117 33		
8	529 02	33	100 352	58	156 35		
9	1 070 08	34	778 39	59	247 34		
10	1 700 16	35	1 649 55	60	567 90		
11	758 97	36	428 722	61	1 558 8		
12	1 320 65	37	470 07	62	1 085 5		
13	769 067	38	1 321 38	63	94 84		
14	455 740	39	81 462	64	476 94		
15	223 176	40	1 055 26	65	283 47		
16	306 299	41	1 094 36	66	197 67		
17	151 236	42	60 331	67	208 08		
18	129 139	43	2 475 20	68	379 94		
19	313 439	44	1 122 66	69	189 29		
20	395 997	45	2 452 24	70	263 40		
21	192 767	46	595 29	71	372 04		
22	299 952	47	861 89	72	126 55		
23	108 381	48	966 16	73	74 40		
24	179 978	49	648 62	74	786 44		
25	82 285	50	226 69	75	774 73		

TABLE 8: LAND PRICE IN SOME GEOGRAPHICAL ZONES, according to zoning law

Source: MUT (1977)

GEOGR. ZONE Nº	ZONING LAW	WATER & SEWAGE (*)	PRICE OF LAND	AREAS (ha)	
13	(1)	1	3134.	3,01	
13	2	1	6042.	24,57	
13	3	1	9090.	92,79	
13	4	1	4744.	30,69	
13	5	1	8101.	36,10	
14	(1)	1	2525.	48,75	
14	2	1	2725.	20,46	
14	3	1	4322.	86,13	
14	4	1	5372.	46,21	
14	5	1	5880.	81,42	
14	12	1	4322.	1,02	
15	(1)	1	2089.	545,72	
15	2	1	2015.	500,21	
15	3	1	3387.	95,116	
15	4	1	4243.	50,86	
15	6	1	1850.	68,28	
16	(1)	1	2650.	258,95	
16	2	1	2527.	157,34	
16	3	1	4495.	101,24	
16	4	1	4812.	85,29	
17	2	1	1364.	576,4	605,21
17	2	2	700.	28,7	
17	3	1	1906.	244,81	
17	4	1	2509.	51,87	
17	6	1	1311.	69,62	118,91
17	6	2	1000.	49,21	
18	(1)	1	1500.	14,98	
18	2	1	1356.	844,5	1.019,10
18	2	2	500.	174,5	
18	3	1	1667.	205,62	
18	6	1	1449.	20,17	
18	12	1	1667.	0	
19	(1)	1	3134.	174,11	
19	2	1	2728.	139,94	
19	3	1	3340.	26,99	
19	4	1	4748.	29,52	
20	(1)	1	2993.	202,61	
20	2	1	3012.	182,8	212,85
20	2	2	2000.	30,47	
20	3	1	6609.	120,88	
20	4	1	4917.	113,10	
21	(1)	1	2113.	235,86	
21	2	1	1950.	549,25	597,87
21	2	2	1100.	48,5	
21	3	1	2248.	188,77	
21	4	1	4664.	85,68	
21	6	1	1678.	312,35	439,79
21	6	2	1300.	127,35	
22	2	1	2780.	22,24	
22	3	1	3312.	60,71	
22	4	1	4460.	40,52	
22	5	1	4812.	21,34	
22	10	1	3312.	4,74	
22	11	1	2780.	3,34	
22	12	1	3312.	23,32	

(*) 1 – service available
2 – it is not available

The joint selective effect of price and zoning law

The selective effect of price is clear enough: the income **level** of any class establishes both a normal and a maximum price they **are** able to pay for land. One must only bear in mind that for a piece of land to be a location, which we may call a plot, it must have a minimum size and thus not only the unit price of the land, but also the total price of the plot is decisive. Indeed, for classes in the lower income ranges it is this latter which comes into the foreground. The establishment of the level of expenditure each class is able to afford on land will be aided by an.extensive research on domestic budget periodically carried out in São Paulo, whose 1975 version is now available.(19) A condensed version of domestic budgets is given in Table 9 as an illustration.

The selective effect of zoning law is the outcome of three main restrictions imposed by the zoning law structure of São Paulo. First, it is directly exclusive with respect to some uses in some zones. Activities on a larger scale are excluded from residential zones, or industry is excluded from commercial zones for instance, but there are cases in which unwanted uses are only discouraged (through, for instance, restrictions on density or others), rather than excluded. Second, zoning imposes maximum densities (plot ratios), frequently according to uses within a zone, which defines a minimum amount of land to be bought per unit of floorspace built. Thirdly, zoning imposes a minimum plot size according to use which may vary from a

(19) POF - Pesquisa de Orgamentos Familiar«s. This survey gives, over a sample of 25,000 households, the structure of domestic budget showing expenditures in housing, clothes, food, transport and others according to income bracket 1 SM (sal&rio mfnimo » minimum wage, or about £40) wide.

TABLE 9 : COMPOSITION OF FAMILY BUDGET ACCORDING TO LEVEL OF SPENDING
Metropolitan Region of São Paulo, 1974

	CATEG0RY OF TOTAL SPENDING (Ct$/1974)									
Type of Spending	TOTAL	< 9000	9000-15799	15800-22599	22600-31599	31600-45199	45200-67799	67800-S0399	90400-134799	134300->
Total	100.0	100.0	IOO.O'	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Current Spending	69.1	97.7	97.6	95.8	92.5	85.8	80.0	7S.3	68.4	47.8
Consumption	62.7	93.1	92.2	90.0	86.6	81.0	73.5	67.8	61.6	41.3
food	16.0	37.9	37.5	34.5	31.0	25.7	20.2	14.8	11.7	5.6
clothing	4.9	4.1	S.7	6.2	6.8	7.1	6.3	5.2	5.3	2.9
housing	2S.1	37.1	33.5	32.5	31.4	29.5	26.1	25.4	2S.3	19.9
transport	5.6	4.1	4.2	4.1	4.9	S.6	8.0	9.2	7.0	4.2
others(a)	11.1	9.9	11.3	12.7	12.5	13.1	12.9	12.2	12.3	ff.7
Other (b)	6.4	4.6	5.4	5.8	5.9	5.8	6.5	7.5	6.8	6.5
Increase of Credit (c)	25.6	1.6	1.4	2.5	5.1	9.2	14.0	17.7	24.3	46.1
Decrease of Dcbt (d)	S.3	0.7	1.0	1.7	2.4	4.0	6.0	7.0	7.3	6.1

Notes: **(a) health, education, leisure, others**
(b) tax, labor funds, social security, etc.
(c) acquisition or betterment of property, buying of bonds, etc.
(d) payment of loan, etc.

Source: F1BGE, ENDEF (1978).

permissive 100 sq.m. to over a quite restrictive 5,000 sq.m. (1.25 acre). According to the cases, any one of these regulations may be the more restrictive with respect to a determinate land use.

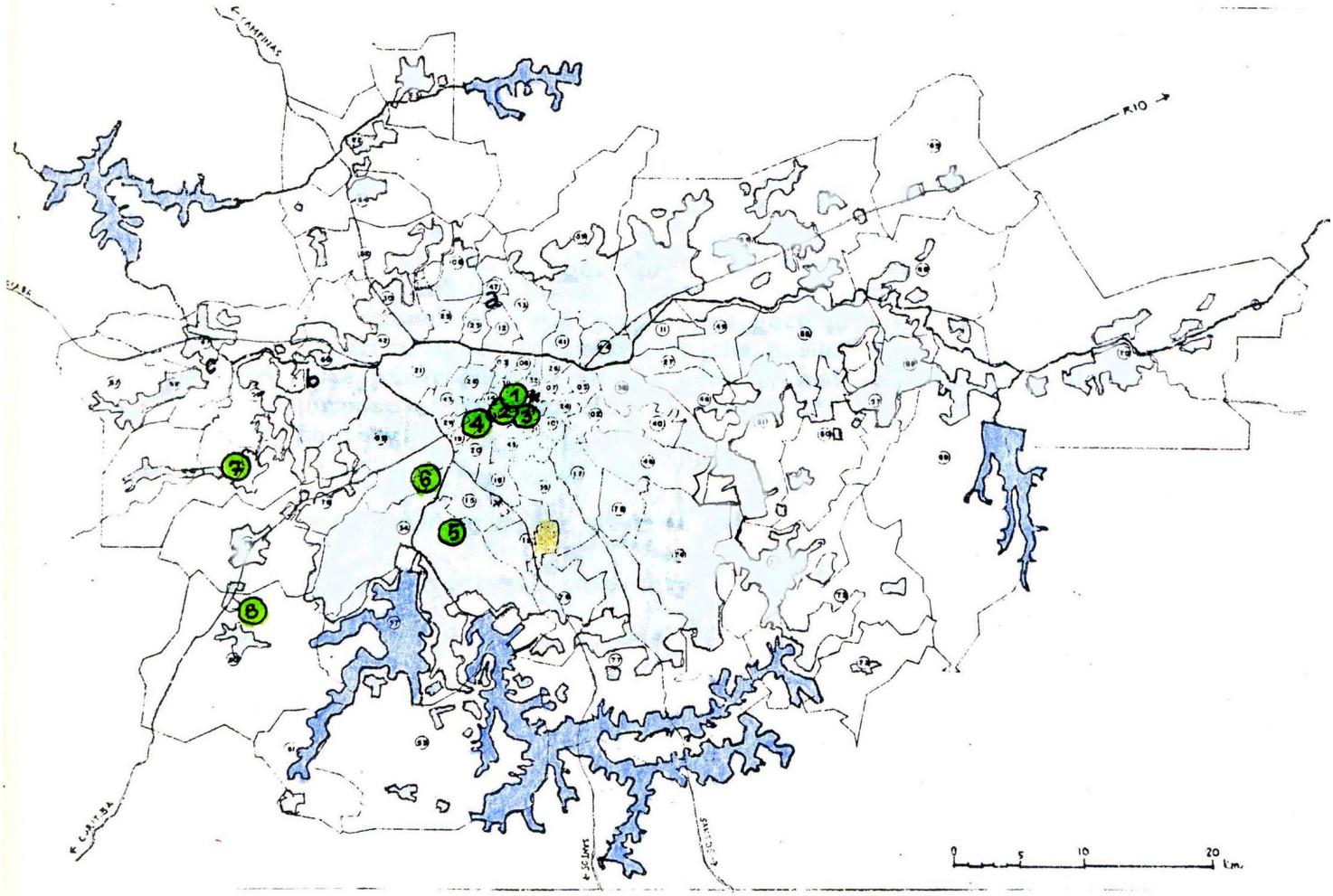
Jardim Europa: an example

As an example of analysis of the joint effect of price and zoning, we may cite the case of a Zl zone, which is called "exclusively low density residential", in the highest income residential district of São Paulo in the south-west sector(20) at 4-5*km* distance from the centre. Prices there are high at Cr$ 3,000/sq.m(21) (and plots are always over 500 sq.m. but frequently over 1,000 sq.m.), but half and less (one third) of the price of surrounding areas where high rise appartment blocks and office buildings, respectively, are allowed.(22) Those prices are sufficiently high to keep out from there middle and worker classes at the allowed density, i.e. detached houses. Commerce is eliminated by way of direct legal exclusion and high density middle class settlements (which could easily pay that price) by way of density restriction. Our hypothesis is that while it would be difficult to justify by any argument the exclusion from there of lower classes at the same density (something of the type: poor not allowed), and therefore price is sufficiently high to exclude these users, bourgeoisie is unwilling to pay a still higher price which would be

(20) The south-west sector is historically the preferred localization for the bourgeoisie in São Paulo. See Fig.5 below which shows that for the same distance from the historical centre, land prices in the south-west sector are consistently higher than in the other sectors.

(21) Cruzeiros of and price of 1977, about £80/sq.m (£ of 1982).

(22) See Table 8. Jardim Europa is in geographical zone i = 13.



LEGEND

1 Campos Elíseos 1900
2 Pacaembu 3 Higienópolis 1910-20
4 Jardins Europa, América 1930-50
5 Santo Amaro 6 Morumby 1960
7 Cotia 8 Itapecerica

Urbanized area in 1977

FIGURE 5: HISTORICAL LOCALIZATION OF UPPER CLASS DISTRICTS IN SÃO PAULO

needed **to** exclude middle class at high density (appartment blocks) or commerce, which is able to outbid any other user. Then zoning law comes in, in a way which encounters a socially acceptable justification through a "planning" rhetoric: low density residential zone is preserved there on ecological grounds. While the relevance **of** the argument that a built-up area of about 300 ha out of a total of 200,000 ha of urban area may constitute -- through its tree-sided streets and greening gardens, which do make of it one of the more pleasant places to live in São Paulo -- a "green lung" for São Paulo is doubtful, at least the argument is not explicitly offensive to the other classes. In this way, an isle of low density detached houses and of relatively low land price area is preserved in the middle of booming high density residential and commercial areas where prices are two and three times higher.(23)

(23) That does not go without some occasional fierce fighting as the pressure mounts for the incorporation of Jardim Europa to intensive urbanization. Sooner or later it will succumb to that pressure, as other similar areas in earlier times already did. (Campos Eliseos in the 1920s, Higienopolis in the 40s and Pacaembu's transformation is under way.) The hills of Morumby are already being prepared to be the next high income residential district, some 5 km further south-west (see map of Fig.5 above).

4 INTENSITY OF LAND USE

The previous section sought to establish a relationship between land users according to levels of hierarchy and corresponding land prices, centred around the capacity of spending of each category of land user. But for land to become a location for an activity, either economic or residential, a built floorspace must be erected on it in a way that a location is not land as such, but rather a building of a piece of land.(24) Expenditure on location is therefore the sum of two parts: a part going to pay for land and the other part, to pay **for** floorspace.(25) The proportion of the two parts depends, apart from the price of the land and the cost of floorspace, on the density of occupation, i.e., the plot ratio, or the ratio of total floorspace built on a plot to the size of that plot, which may vary greatly from location to location and according to the type of settlement. A

(24) In other words, land has use value only for the capitalist developer, to whom it is a factor of production, a part of capital advanced for the production of a building.

(25) The first to state this was Engels (1872), though he stopped short of the analysis of the proportions between,the two parts or of the influence of density on these proportions.

finer analysis of how much out of a total expenditure on location goes for land must therefore take into account an analytic of how intensity of land use relates to both land price and floorspace costs and ultimately to floorspace rents,(26) This is the objective of the plan outlined in this section.

The analysis of density of development will distinguish two cases according to the form of production of the building, namely, the case of a development realized by a capitalist developer for exchange of its produce on the market, and the case of self help housing realized by an owner-builder for immediate use.

In both cases, the analysis of density is carried out from the point of view of the individual developer to whom land price and floorspace rents appear as given. Subsequently, we introduce the requirement imposed by the circulation of capital, that is, the equalization of the rate of profit. That gives rise to relationships which must hold between land prices and floorspace rents and ultimately gives rise to related spatial patterns of land prices floorspace rents and densities over an urban area.

Density of development, given the price of land and floorspace rent

(or: the logic of individual capital)

We will consider land development as consisting of the purchase of a piece of land, or plot, at a given unit price l, followed by the

(26) Floorspace rents and floorspace price (just as in the case of land) may be made equivalent to one another through the interest rate and thus both will be used indifferently unless otherwise stated. In São Paulo both ownership and rental forms coexist in significant proportions as form of occupation of floorspace, both in residential and economic uses, but neither corresponds to specific class relations.

construction of a building on that land at a density α (where α is the ratio of total floorspace to the area of land) at a unit cost **c** (which may vary according to the density of development), and finally, renting (or selling at the corresponding price) the resulting floorspace at a given rent **R**.(27) Total investment in the development is then

> [etc. - Here came a description of the individual optimization of the density of development, very much in the way as the same is discussed in Chapter 8 (Section 8.2). The same also had been used in the simulation model "MUT" referred to earlier, where not only the land price, but 'floorspace rents' --i.e., selling price of new built floorspace-- were available through survey, according to geographical zones and 'building types', so that such calculations, the result of which is reproduced in Table 10 below, could be used for 'simulation' of the pattern of future settlements... CD, 1985]

Density of development in self help housing

(or: the logic of the owner-builder)

Self help housing constitutes a special case of development on land not in that it is rare (it is practised on a large scale in S£o Paulo), but in that built floorspace is erected on the plot not by a capitalist, i.e., a developer, but by the final user. There is no reason a priori to affirm that the logic of the owner-builder, who produces a product for its use value for himself,(28) is the same as the logic of the developer, who produces to exchange his produce on the market realizing profit. The densities of development through the method of self help building must therefore be anaalyzed specifically.

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(27) This represents how it appears to the individual capitalist, **or** developer.

(28) Which does not mean that it cannot, eventually, be sold or rent but this occurs occasionally and not as the primary objective of production.

TABLE 10: OPTIMAL VALVES OF DENSITY FOR SOME VALUES **OF LAND PRICE**

l \ h	1	2	3	4	5	6	7	8	9
0.50	.29	.24	.23	.70	.55	.26	.65	.27	.30
1.00	.34	.28	.27	.95	.78	.30	.92	.32	.36
2.00	.41	.33	.32	1.40	1.10	.36	1.29	.38	.43
5.00	.70	.41	.40	2.20	1.75	.51	2.00	.55	.59
10.00	.70	.80	.80	3.00	2.40	1.01	2.79	.70	.75
20.00	.70	.80	.80	4.00	3.20	1.51	' 3.85	.80	.80
50.00	.70	.80	.80	6.20	5.00	2.00	5.83	.80	.80
500.00	.70	.80	.80	16.00	13.00	2.00	15.06	.80	.80

Source: MUT (1977).

Note; **h** is 'building type', h = 1, 2 and 3 are low density (detached, semi-detached etc. housing) residential low, medium and high standards respectively; h = 4, 5 are high rise residential (apartment blocks) medium and high standard respectively; h = 6 is low density commercial building; h = 7 is high rise commercial and services (office towers); h = 8 is medium and large industry and h = 9 is warehduse etc.

Extensive surveys on self help housing[29] carried out in the suburbs of Sib Paulo have shown that, if density of development varies greatly from case to case for broadly similar land prices (see Fig. 6 below), the variation of density is due mainly to the phase of occupation of the land (see Fig. 7 further below). Unlike in the case of capitalist production of floorspace, when the investment is realized at once and the result is in its complete form,[30] the process of construction by owner-builders is typically many-phased and successive additions to an initial often very small nucleus may stretch over five years or more. However, when final development is considered, the resulting density is not very different (reaching a plot ratio of .57, as illustrated in Fig.7 above) from what would be expected from capitalist developers in the case of very low land prices (in the range of Cr$ 2-5, in monthly rent form) and low costs of production (see Table 10 above, building type h - 1). It may well be that the analysis of the density of development in the case of self help housing will lead to the conclusion that its relationship to land prices and construction costs is not very different from that relationship in the case of the capitalist developer. It is still essential however, to distinguish between both processes: production for the market, in the one case, production for own consumption (use value) in the other, that follow different paths of settlement and are themselves inserted into the urban process in different specific ways. In particular, self help housing, whereby more than half of all new housing is erected each year (or about 60,000 units/year) and the related processes of suburban plot subdivisions (loteamentos) and infrastructure provision, is one of the main means whereby new areas are incorporated to the urban agglomeration.

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(29) See, for example, Mautner (1981).

(30) Though minor additions may occur after the sale, in the case of detached houses.

a

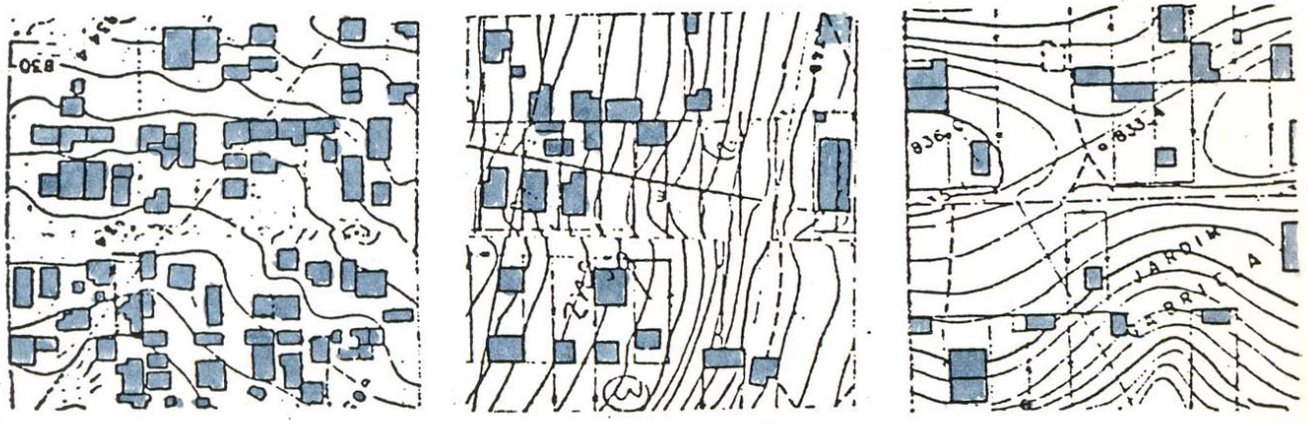
Brasilândia
V.S.João Batista

b

Osasco
J. Conceição

c

Jandira
J. Gabriela



Net densities: (a): 360 hab/ha
(b): 110 hab/ha
(c): 85 hab/ha

Obs.: localization of these districts is indicated on the map of Fig. 5, p. 274

FIGURE 6 - SELF HELP HOUSING: DENSITY OF OCCUPATION IN THREE DISTRICTS OF SÃO PAULO, (a) 35, (b) 20 AND (c) 5 YEARS OLD

Source: Mautner (1981)

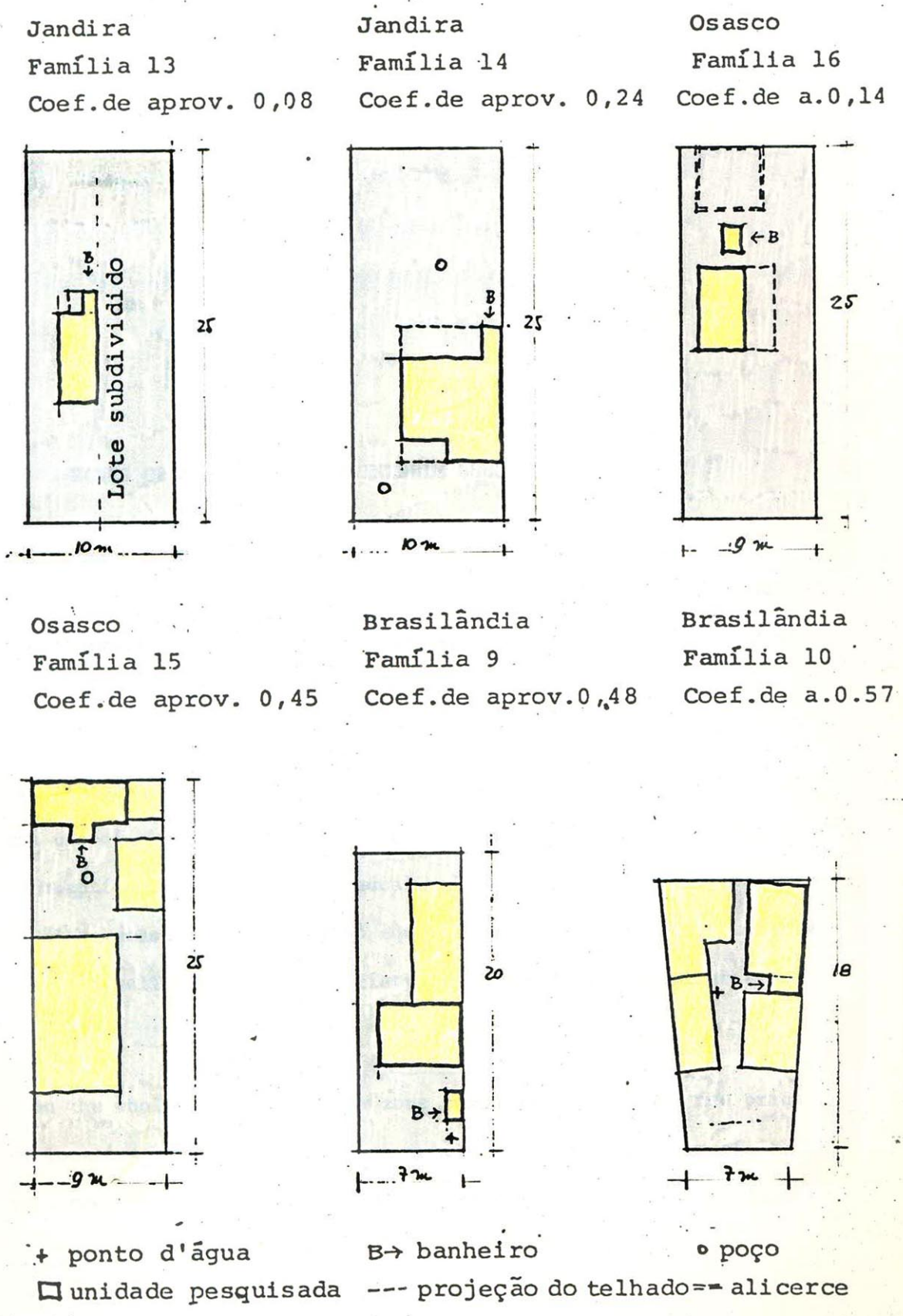


FIGURE 7 - SELF HELP HOUSING: EXAMPLES OF PHASES OF OCCUPATION AND CORRESPONDING DENSITIES WITHIN THE PLOT

Source: Mautner (1981)

5 ZONES OF TRANSITION AND INTERIM USES

A zone of transition arises[31] --whether through speculation or in 'planned' growth-- out of the dichotomy between the transformations of the use of space at the individual level and of the production of space at the collective level. The latter necessarily proceeds over greater portions of urban space including a set of locations at a time, while the effective transformation of the use of those locations by individual processes of production or consumption is necessarily gradual. This allows an interpretation of both vacant land (the urban equivalent of fallow) and of interim uses, as well as the great variety of land uses in actual urban practice.

When the whole of a transition zone commands already the new price of location but the new land use settled only on a portion of it yet, the remaining locations remain 'waiting' to be occupied by the

(31) See Section 8.3: "Speculation in land".

same use in the future and may remain vacant. Or, whether already in possession of the future final user or still in that of the 'speculator', they may be rented out on short-term contracts at whatever level of rent - which will be a pure gain anyway - as is indeed usual, for such uses (that necessarily use low composition of fixed capital) as parking lots, night clubs or tennis courts.(32) Conversely, old uses the fixed capital of which had not been devalorized yet, may remain within the zone for some time. The result is a variety of co-existing uses from vacant land and interim uses to the old and the new dominant uses that becomes interpretable only from within the perspective of the ongoing transformation of the land use.

To this it may be added that most of the urban area is constantly undergoing changes in land use, a 'zone of transition' being characterized as specific in this respect only for being at a stage of particularly rapid transformation, to be followed by a period of relative 'stability' or of 'consolidation'.

Both vacant land and interim uses and of course old uses as well, within the urban area are in fact as much a sign --here, at the spatial level-- of underproductive or partially devalorized fixed capital (here, as materialized in the infrastructure) as are old machines in the production process across the commodity sector.

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(32) These are some common examples in São Paulo. -- Obviously, the rents paid on such locations need bear no relation whatsoever to the price of these -- whether the old once-price or the new would-be-price.