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A new look at gentrification: 1. Gentrification and domestic technologies

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Abstract. In this paper I take issue with what I identify as a basic consensus in gentrification studies. I argue that gentrification studies have been conducted within a context framed by two basic models of urban development, namely the Burgess concentric-zone model and the Alonso bid-rent model. These two models lie at the heart of what are more usually seen as the parameters of the gentrification debate, namely the 'supply-side' rent-gap account of gentrification offered by Neil Smith and his followers and the 'demand-side' consumption-oriented explanations offered by David Ley and his followers. Both sets of explanations are, however, fatally compromised by seeking to answer the question 'why does gentrification occur?' before answering the question 'how does gentrification occur?'. Starting with the question 'how?', rather than 'why?', draws attention to the hitherto almost completely neglected role of domestic technologies in permitting gentrification to occur, thereby helping break the theoretical logjam in which the gentrification debate currently finds itself.

1 Introduction: pink elephants on parade

Gentrification has attracted the attention of commentators from a wide range of disciplines: demography, sociology, geography, and anthropology and economics. Amongst economists, this attention appears to have peaked in the early 1980s, as a consensus emerged that gentrification was only of minor importance, especially in US cities. Sullivan (1990, page 251), for example, appears to summarize the general consensus when he writes that "gentrification involves a relatively small number of households and does not signal a fundamental change in residential location patterns". Sullivan's citing of Kern (1984) as his authority shows that this consensus is not only widely held; it is also long established.

Nonetheless, gentrification has remained a topic of hot debate in the other social sciences. Bourne (1993b, page 95), for example, comments that "gentrification has been a major theme in urban studies, planning and geography for more than two decades. Indeed it may appear ... that this single subject has dominated academic debate ... in research on urban residential change". Van Weesep (1994) argues that gentrification still continues to constitute a 'research frontier'.

The reasons why gentrification should continue to attract so much attention in these other disciplines would appear then to be less the result of its empirical significance and more therefore of an apparent lack of agreement as to the fundamental causes of gentrification (for example, Badcock, 1993; Bourne, 1993a). Commentators at times claim to be resigned to the continuation of this fundamental lack of agreement. Nonetheless, it would appear that the "persistent fascination with and ... urge to pursue a course towards synthesizing, integrating or uniting very different approaches into a single total comprehensive explanation" (Clark, 1994, page 1034) continue to fuel the fires of debate. Thus Smith (1987b), Lees (1994), and particularly Hamnett (1984; 1991) have all in one way or another attempted to outline the points of difference between the various camps in the debate and arrive at, if not a synthesis of the various positions, then at least a set of guidelines by which such a synthesis may be achieved, even though disagreement may still exist over these guidelines, as for example in the exchange between Smith (1992) and Hamnett (1991).

However, these apparent disagreements mask a deeper consensus, an agreement to disagree, if you like. Take for example Hamnett's (1991) latest summary of the debate. "The blind men and the elephant: the explanation of gentrification". The imagery that both the title and the paper evoke is that of researchers from various schools of thought in gentrification studies groping around in the dark; each describing that particular bit of the elephant of gentrification that they have managed to discover; each believing (in the absence of any realization of the immensity of the beast with which they are trying to deal) that they have ascertained the whole of the elephant; and each therefore engaging in controversy with the other schools as to precisely what an elephant looks like. Gradually they realize that each has achieved only a partial knowledge of the elephant: to discover precisely what it does look like, they will have to combine their accounts. Naturally there will still be controversies where overlapping accounts do not quite yet fit together but, once they have resolved these differences, the true nature of the beast that confronts them will stand revealed to them in all its pachydermal splendour.

Note though, the presence of the underlying agreement in this account, namely that the blind men have all got hold of parts of the *same* beast. Thus, Smith (1992, page 111) cites approvingly Clark's (1988) contention that we stop asking which "theory of gentrification is true and explore instead the complementarity of theories *vis-à-vis* empirical evidence": the implied message being that we already have all the theories we need. All we need now to do is see how they all best fit together. In this scenario, the future for gentrification research appears merely to be a matter of dotting the i's and crossing the t's, reporting on new outbreaks of the phenomenon (Badcock, 1989), and integrating the explanations of gentrification with the latest developments in the field of cultural theory or postmodernism (Caulfield, 1989; Lees, 1994; Mills, 1988).

This consensus is, however, fragile and not easily maintained. The process of fitting together the already existing theories does not appear to be going smoothly. Thus Lees's (1994) paper is predicated on her dislike for the "anarchic eclecticism" (page 137) of previous and current attempts at synthesizing the different theoretical explanations of gentrification. The exchanges between Badcock and Bourne (Badcock, 1993; Bourne, 1993a) appear to echo the controversies of an earlier period and Clark's (1994) admission of a hankering after a general theory of gentrification indicates that the earlier willingness to let sleeping theoretical dogs lie (Clark, 1988) was either not long lasting or was never very deeply held.

Consequently the issues raised by gentrification have never really been settled, either in economics or the other social sciences. Hamnett's imagery of the blind men and the elephant is compelling, therefore, but it does highlight another fundamental principle about elephants—that they are in fact impossible to define, but you will know one when you see one. Gentrification, similarly is held to be impossible to define, that it is a 'chaotic concept' (Beauregard, 1986; Mills, 1988; Rose, 1984). This has not stopped the debate on gentrification from proceeding, however. Presumably therefore, those writers who hold to the belief that gentrification is a chaotic concept, nonetheless also believe that they can recognize it when they see it. Debate is then fuelled by a disagreement over what exactly is the beast on which the various schools are looking.

To push the elephant metaphor to breaking point, I argue that whatever the blind men of elephant studies have got hold of, it is not the gentrification elephant. Even if it *were* such an elephant, by the other fundamental principle of elephant studies, you still could not define it by calling back and forth about different sides of it. You would have to see the beast as a whole and in order for that to happen, you would need some definitional guidelines in elephant physiognomy. In plain English,

I argue that the 'theoretical closure' (Pratt, 1981) that has grown up around the nature, causes, and origins of gentrification has led students of gentrification down the path of elephant studies, rather than into a critical engagement with the phenomenon itself. What is required therefore is not more attempts at synthesizing the existing theories, but fresh attempts at theorizing the process as a whole.

I present an analysis of the evolution of the gentrification debate; to set the stage for the presentation of the model of gentrification which forms the companion piece to this paper (Redfern, 1997), but primarily to underwrite the contention that the gentrification debate as presently constituted and categorized does not and cannot adequately address the questions posed by the existence of gentrification, whether the explanation of gentrification that the model proposed in Redfern (1997) is accepted or not. Although this analysis may not always give this impression, the overall thrust of both papers is in fact in support of Smith's defence of the primacy of the economic and the primacy of supply-side factors in the explanation of gentrification. Such support, however, does *not* entail support for Smith's rent-gap model. Normally, rejection of Smith's rent-gap model would appear implicitly or explicitly to mean endorsement of the consumption-oriented accounts offered by Ley and his followers (Ley, 1980; 1986; 1987b; 1994; Ley and Olds, 1988; Mills, 1988). It is important to note that this is not the case here.

2 Explanations of gentrification

2.1 The gentrification debate from 1987

Elephants have four legs and a trunk. The beast of gentrification, however, is conventionally and conveniently regarded as having only two sides, supply and demand, or alternatively production and consumption. What goes under the heading 'supply' and what under 'demand' has altered at times over the years, but a basic reduction of positions in the gentrification debate into these two general categories is not hard to make, has been generally accepted in the past, continues to be accepted in the present, and is accepted in this paper. Thus, Lees (1994) proposes a synthesis that would unite economics and culture, more specifically Marxism and postmodernism. Therefore she argues that what is required is a Marxist account of the production issues in gentrification, and a postmodernist account of the consumption issues it raises (page 144).

Historically, the two sides in the debate on gentrification have been championed by Smith and his rent-gap model of gentrification (Badcock, 1989; Clark, 1988; Smith, 1979a; 1982) for the supply side, and by Ley for the demand side, initially with his work on the postindustrial city (Ley, 1980) and later on postmodernism and urban change (Ley, 1987b; Ley and Olds, 1988). The crucial exchanges took place in 1986 and 1987. Prior to these exchanges, dividing lines were fairly clearly drawn. In the conditions of the debate as it stood in the years prior to 1987, to reject the rent-gap model was not merely to reject the supply side but actively to endorse the demand-side approaches over and against supply-side approaches. Either, it would seem, you were for the rent-gap model of gentrification or you regarded this as excessively economistic and reductive and looked to other factors in order either to complement the rent-gap model or to supplant it altogether. Following these exchanges, however, the major issues, it seemed, were settled. Thus Smith (1992, page 111) declared that his position has evolved in the direction of Ley's concerns and claims to detect a parallel evolution in Ley's arguments in the direction of his own position. Something of the former categorical opposition still, however, lingers on in the debates (for example, Smith, 1992).

In 1986, Ley published the results of a multivariate analysis that he felt showed that although economic explanations were important, they could not be privileged over other 'cultural' factors (1986). Smith responded with a defence of the primacy of economic factors in gentrification (1987a); to which Ley in his turn responded by asking why, after almost a decade of publications since Smith's first article on the subject, did Smith have no empirical results of his own to report (1987a, page 466). Ley's criticism was cogent and compelling. Even Marxist commentators, who would in other circumstances be favourably disposed toward Smith's arguments, were divided over support for the rent-gap model. The 'production of gentrifiers' approach to gentrification issues (Beauregard, 1986; Rose, 1984) can be interpreted as an attempt to provide a Marxist alternative to Ley's emphatically *non*-Marxist account of the origins of 'new-middle-class' gentrifiers; to accept in other words Ley's account of the origins of gentrification in the attitudes of the new middle class, but to provide this account with a Marxist motor. Smith's own strategy was to consider the question of cultural factors in gentrification from a Marxist perspective (1987b). He conceded that cultural factors should be given their due, but nonetheless, as a committed Marxist, he still insisted on the primacy of economic explanations. However, once he started thus to modify his model, allowing (supposedly) noneconomic factors to have their say as well, interest in the model itself declined.

This was less because of any perceived deficiencies in the model itself than because a compromise, of sorts, had been reached. Smith's opening of the door to noneconomic factors (that is, 'cultural' factors—nomenclature, however, that was immediately taken to mean demand-side or consumption-side factors), the tacit abandonment of his claims to the explanatory self-sufficiency of his model, and his often prickly defence (Ley, 1987a, page 468) of his approach (his "adversarial patrolling of [his] own territory"), all led to the withdrawal of critical engagement with the model itself. The model was theoretically complete [following Clark's (1988) revisions] and therefore not really susceptible of any real development. For all these reasons, and also because of the self-imposed burden that demand-side explanations had laid upon themselves of trying to explain why supposedly all-encompassing social transformations such as the coming of postindustrial society led to a spatial reorientation of housing demand for only one social group (see below), interest and emphasis in explanations of gentrification has tended since 1987 to expand more and more into the exciting new areas of gender, class, and postmodern culture that were opening up during the same period (Bondi, 1991; Caulfield, 1989; Lees, 1994).

In this way, identification of the supply side in gentrification (if the supply side was discussed at all) with the rent-gap model became the norm, part of the consensus that we have all the theories we need. To reject this model has become tantamount to rejecting supply-side explanations altogether, unless you take the view that the 'production of gentrifiers' approach represents a supply-side explanation, a view that I have already indicated I do not share. If you were interested in supply-side explanations you used the rent-gap model; if not, you used, amended or adapted, the existing demand-side explanations. Consequently, it is also important to demonstrate that the demand-side explanations currently on offer are equally problematic. It is not my intention in this paper simply to reshape the supply side of the arguments to enable them to fit the existing demand-side arguments better. Both sides need reshaping. In the next part of this section, I indicate the bases of my disquiet with both sides of the existing consensus.

2.2 Neighbourhood life cycle and postindustrialism as the alternative explanations of gentrification

2.2.1 *Neighbourhood life cycle*

Traditionally, urban growth in Western cities has been modelled as a process of suburban development and in economics as a process whereby a circular city grows up around a single point—the Central Business District (CBD) (Alonso, 1960; 1964; Burgess, 1925; Muth, 1969; see also Smith, 1992). In what follows I argue that this basic model has continued, in various guises, to frame the context for discussions of gentrification whether they emphasize the supply side or the demand side. This is not a shortcoming in itself, as far as the gentrification debate is concerned. Indeed the contradiction that the existence of gentrification poses to this basic model originally spurred academic interest in the phenomenon (compare Smith, 1992). The problem lies in the lack of awareness that this basic model continues to frame the debate and therefore constrains the debate in various ways. I shall argue in particular that two perspectives on this basic model continue to be invoked in the debate. These are on the one hand the Burgess model of concentric growth and on the other the Alonso model of urban land use and residential differentiation. Both are of course concentric-zone models, but, it is important to note, Burgess's model is dynamic, whereas Alonso's is static.

In whatever guise they may take, gentrification poses a problem for these models as they contain no provision for a reversal of the trajectory of demand, away from the suburbs and back to the inner city. The notion of gentrification as a 'back-to-the-city' movement has of course long been disproved (Laska and Spain, 1980). Although gentrifiers have typically moved to the inner city, this has been when they were students, in their late teens, and before the embarked on a middle-class career and lifestyle. Even so, however, this does not offer much succour to the typical model of urban growth described above. Gentrification remains a problem because the middle classes who do gentrify *actively* want to remain in the inner city. According to the traditional model, if supply and demand were in equilibrium, there should be no middle-class people in the inner city at all, as the middle classes would all have moved to the suburbs. Inner-city residence would only have been a transitional stage in a middle-class family life cycle.

The original metaphor employed in the theorization of gentrification was that gentrification should be understood as a stage in neighbourhood life cycle. Hamnett (1984, page 296) cites Hoover and Vernon's (1962) five-stage "cycle of growth, decline and (potential) revitalization and renewal" as the origin of theories adding gentrification as a stage in the life cycle of a neighbourhood. The imagery created by Hoover and Vernon was so influential that Lang (1982, pages 49 and following) for example argued that the urban life cycle was *the* paradigm in urban theory. In the neighbourhood life-cycle approach, gentrification is theorized as a newly emergent, optional, stage in the filtering down process (Myers, 1992). Decay and abandonment are no longer the final stages of the life cycle but merely transitional states. Examples include Ahlbrandt and Brophy (1975), Lang (1982), Smith (1979a; 1982; 1987a; 1987b), P Smith and McCann (1981). Note that arguments may rage over what drives the cycle, or what the cycle consists of, but that a cycle is the problem to be explained generates unanimous consent.

In these explanations, the Burgess model acts as the fundamental point of reference. I do not mean by this to suggest that anyone who adopts this approach subscribes to the propositions that underlay the Burgess model. Its effect is fundamental, not immediate. To paraphrase Weber (1976, pages 181 – 182), the ideas of human ecology "prowl around" the notion of neighbourhood life cycle "like the ghost

of dead religious beliefs". Burgess's model frames the explanations offered, it does not endorse any particular causal standpoint other than that it be a dynamic process. Its particular impact is to suggest that gentrification be understood as a particular stage in the neighbourhood life cycle.

In the concept of neighbourhood life cycle, two ideas dominate. The first is that the life cycle is inevitable in the history of a neighbourhood. Given that it is a *life* cycle moreover, this inevitability is because of an implicit vision of the unit of analysis, be it a city or city block, as an organism. Thus Ahlbrandt and Brophy (1975) present a five-stage cycle that begins with: (1) 'healthy viable neighbourhoods'; proceeds via (2) 'incipient decline'; (3) 'clearly declining'; (4) 'accelerated decline'; and ends with (5) 'abandonment'. The medical analogy employed by calling neighbourhoods 'healthy' or 'viable' clearly betrays the organicism implicit in such thinking. Based on Ahlbrandt and Brophy's ideas, Lang (1982, pages 85 and following) went so far as to use the term 'triage' in discussing housing policy options for residential neighbourhoods. Triage is the exercise of medical judgment on a battlefield to decide which injured soldiers have a reasonable chance of survival if treated and those who would have no have chance even after treatment. Triage would therefore be a policy of selective abandonment of those neighbourhoods deemed 'hopeless cases'.

The second idea dominant in neighbourhood life-cycle ideas is that the cycle works itself out in economic terms. Competition between groups leads to residential differentiation of communities, or 'natural areas'. This competition takes place at the economic level (Ley, 1983). Thus the natural expression of the natural life of the neighbourhood is in terms of house prices. Thus Lang (1982, page 61) explained the onset of incipient decline as occurring "as a neighborhood begins to lose its competitive edge". The loss of competitive edge shows that the neighbourhood is beginning to lose the vigour of youth and starting to weaken. However, the evidence for this weakening lies in the house prices which the properties can command, indicating the extent to which the community inhabiting the neighbourhood is able to compete with other communities.

2.2.2 *Postindustrialism*

'The loss of a neighbourhood's competitive edge' implies the existence of other neighbourhoods; the tendency therefore of neighbourhood life-cycle analysis is to concentrate upon changes internal to the neighbourhood itself. The focus of demand-side explanations by contrast is upon changes in society at large that have led to shifts in demand taken as a whole which in their turn have *imposed* gentrification upon certain neighbourhoods.

Thus for example, the most influential of demand-side explanations argue that the coming of postindustrial society has created a new middle class, whose novelty includes the fact of their choosing to reside in the inner city rather than with the old middle class in the suburbs (Ley, 1980; 1987a; 1994). Thus, whereas the neighbourhood life-cycle approach sees gentrification as one more stage in the life cycle itself, post-industrialist, demand-side explanations, in addition to their emphasis on demand, see gentrification as a process that *overcomes* the operation of neighbourhood life cycles. This is a fundamental conflict which is not always appreciated in the literature. Its existence, however, makes it hard to see how the two schools of elephant studies will in fact be able to reconcile their different perspectives on the nature of the gentrification elephant.

Postindustrialist explanations have acquired a postmodernist gloss in recent years (Lees, 1994; Ley, 1987b; Ley and Olds, 1988; Mills, 1988), but this has not fundamentally altered postindustrialism's fundamental thesis, as gentrification is used as

evidence of the coming of a postmodern society rather than as an opportunity to practice postmodern modes of social interpretation (Lees, 1994). The references have been to postmoder*nity* as a new social situation rather than postmoder*nism* as a new mode of interpretation (Baumann, 1992).

Although Bell (1973) is always credited in the gentrification literature as the source of the idea of postindustrial society, Bell himself cannot be held responsible for the use of his ideas in gentrification studies. The postindustrialist explanation of gentrification is better traced to the Alonso model (1960; 1964), as I shall now seek to demonstrate.

Alonso's neoclassical model of urban differentiation describes residential differentiation in terms of how much rent any income group is prepared to bid to occupy a particular location. Though both rich and poor are willing to trade off commuting costs against the cost of land, the greater financial ability of the rich to afford the costs of commuting yields shallower slopes for their bid-rent curves, and means that the poor will tend to live in the centre of the city and the rich on the outskirts.

Ipso facto, inner-city gentrification challenges the conclusion that such a pattern of residential segregation by income, with the poor in the centre and the rich in the outskirts, is the inevitable result of competition for urban land. However, challenging this conclusion, "to point out that the phenomenon of gentrification has confounded the predictions of land-market theorists about land values and land uses in the inner city ..., does not amount to a critique of the theoretical underpinnings of land-market models" (Rose, 1984, page 49, footnote 1).

The theoretical underpinnings of neoclassical land-market models lie in the 'comparative statics' approach to modelling economic change. Two equilibrium situations are considered, which differ in one single characteristic, for example the presence or absence of a tax on land. One equilibrium is called 'before' and the other 'after'. The presence in the one of the characteristic under investigation (the tax) and its absence in the other is then held to account for the differences between the two equilibria, and hence to account for change over 'time'. Gentrification would then be explained by a change in the characteristics of the good to be maximized:

> "It is quite possible to model or predict that the inner city will be inhabited by wealthy people within a neoclassical framework. All that is needed is to replace a 'space maximising' criterion with a 'free-time maximising' criterion ... To do this it is not necessary to alter the underlying assumptions of consumer sovereignty and purely exogenous changes affecting 'tastes and preferences'" (Rose, 1984, page 49, footnote 1).

The postindustrialist explanation of gentrification tries to account for precisely such changes in maximization criteria. Like neoclassical economic explanations, it too is divided into 'before' and 'after' states: 'before'—industrialism, and 'after'—postindustrialism; 'before'—space maximising, and 'after'—free-time maximising. There is the same exogenous change in 'tastes and preferences'. Before, everyone wants to live in the suburbs; after, they all want to live downtown.

Well, maybe not 'all', let us say maybe only a specific 'fraction' of the middle class. However, the general problem to be explained for the postindustrialist hypothesis is how and why the transition to a postindustrial society changes the spatial pattern of demand downtown, in the direction of gentrification. This problem is only exacerbated if you insist in particular that only a specific 'fraction' of the middle class is so affected by the general social transformation caused by the shift to a postindustrial or postmodern society that it acquires an urge to gentrify. Arguing that the shift is only partial so far and not universal, even in those societies which could be said to be postindustrial or postmodern in their outlooks, does not ease

this exacerbation. If the transition is only partial, then the shift in demand that this specific 'fraction' has experienced to date is but the harbinger of a general shift in demand toward living downtown.

The difficulty with the postindustrialist position derives from the fact that it tends to infer *from* the existence of gentrification *to* the inference of shift in demand, rather than the other way round. This tendency explains the popularity of interviews with gentrifiers (case studies) among researchers on gentrification (Mills, 1988; Munt, 1987). The interviews are intended to discover what made these gentrifiers engage in this behaviour, what makes them 'tick'. The results are then analyzed to find what are the common factors in their decisions to gentrify, but then these common factors are presented as though they formed the basis of the gentrifiers' class positions. Inevitably then, the explanations offered by such demand-side explanations tend to be *ex post facto* rationalizations of the fact that gentrification has occurred. If we ask what are occupations of the new middle class, we discover that these occupations [doctors, architects, university lecturers, etc (Ley, 1980)] are remarkably similar to those of the old middle class involved in the 'gentrification of the professions' in the 1890s (Stedman Jones, 1974). Similarly if we ask what if anything is postindustrial about cities in which gentrification has occurred, it is that they have become dominated by the politics of the new middle class (Ley, 1980; 1994). If we ask what distinguishes the new middle class from the old, it is that they gentrify. If anything in gentrification studies is open to the charge of chaotic conceptualization, it is this approach.

2.3 Smith's 'rent-gap' model as an example of neighbourhood life cycle

The attractiveness of the neighbourhood life-cycle approach then is that it explains gentrification in terms of *changing opportunities* for the satisfaction of *unchanged demand* (Occam's razor), rather than identifying the cause in some mysterious change in demand that is only revealed following gentrification and not prior to it. Nonetheless given the organismic overtones of the neighbourhood life-cycle model (overtones that derive directly from the Burgess model and its human ecology background), it is not hard to see why it is that, despite their own deficiencies, postindustrialist explanations have dominated the literature in recent years, whereas the neighbourhood life-cycle approach has only really survived in the form of Smith's rent-gap model of gentrification (Smith, 1979a; 1982; 1987a; 1987b).

The neighbourhood life-cycle approach survives in Smith's rent-gap model of gentrification because Smith originally presents his model in the form of a *critique* of the then current neighbourhood life-cycle accounts of gentrification, of which Lang's account, discussed above, is probably the most lurid. As a critique, it operates from the inside, sharing many of the presuppositions of its subject, in particular agreeing with its formal appearance, but seeking to show that the factors creating that appearance are not in fact as they first appear: 'this is indeed the way all the experts tell us this thing works: but isn't this crazy?' So while Smith's arguments in favour of his model have evolved considerably since its first publication, at heart, they continue to depend on the non-Marxist notion of neighbourhood life cycle, but seek to provide it with a Marxist motor.

Smith's model, as an instance of neighbourhood life-cycle approaches, is not, however, simply a challenge or a complement to the postindustrialist position. It also staked a claim for the continuing relevance of Marxism in urban analysis (compare section 2.1 above). In this manner, gentrification becomes a proxy, a battleground over which the validity and relevance of Marxist approaches to urban analysis could be contested and, over and beyond this, a contest over the primacy of structure

(rent-gap) versus agency (postindustrialism) in social science explanation (compare Ley, 1982; Walker and Greenberg, 1982a; 1982b). This raised the stakes in the gentrification debate immensely, and helps account for why the players in the gentrification debate have traditionally been so eager to jump as quickly as possible to the meaty issues of gender and class, and to see gentrification as somehow 'standing for' or 'representing' something else, whether that be the rise of postindustrial society or the advent of postmodernism, or responses to accumulation crises in the capitalist city. Elsewhere (Redfern, 1992), I argue that gentrification is too slender a reed to bear the burden of such weighty theoretical hopes.

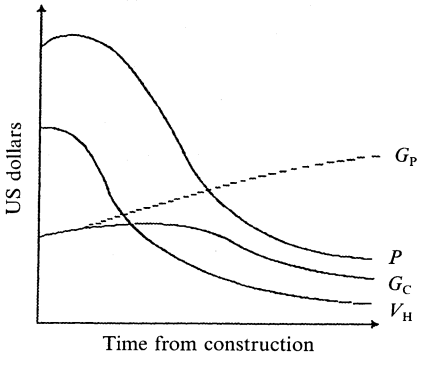
For Smith, capitalism is above all a process of uneven development (Smith, 1982; 1984). Uneven development creates suburbs which depreciate in value as new suburbs are created (Smith, 1979a; Smith and LeFaivre, 1984). The creation of these new suburbs is itself predicated on the continued growth of wealth in the city, which translates into higher ground rents generally. Eventually a rent gap develops whereby the returns from the capitalized ground rent exceed the cost of redeveloping the buildings in the old suburbs (Smith, 1979a). Developers take advantage of this rent gap and the middle classes respond to the opportunities thus provided for them. In this account, gentrification is a child of capitalism, Marxist reasoning is still relevant, and Marxist categories still apply (Smith, 1987b; 1992).

Accounts of the theoretical bases of the rent gap are given only in Smith (1979a) and Smith (1982). The original formulation was presented in Smith (1979a) as a conclusion to a discussion as to whether gentrification did represent a 'back to the city' movement. Smith argued that gentrification did represent a "back to the city" movement, but "by capital, not people" (1979a, page 547). The basic model is summarized in figure 1.

In its original formulation, the rent gap arises as the result of the operation of neighbourhood life-cycle processes, in particular, 'filtering down'; though it could simply be the result of upward revaluation of potential land values through comparisons of alternative uses for a site. Gentrification occurs when the rent gap is "wide enough" (Smith, 1979a, page 545).

Smith (1982) contained two modifications to his argument. First, the rent gap was conceptualized in terms of a 'devalorization cycle' instead of a 'depreciation cycle':

> "Depreciation refers strictly to changes in price, whereas devalorization is a deeper economic process implying the loss or negation of value as a necessary part of the valorization process" (page 147, footnote 3).



Rent gap = $G_P - G_C$,

where
G_P is the potential ground rent,
G_C is the capitalized ground rent,
P is the price,
V_H is the house value.

Figure 1. Smith's rent-gap model (source: after Smith, 1979a, figure 2, page 544).

Second, the account was placed in the wider context of the necessity for 'uneven development' in the course of capitalist accumulation. "Gentrification is part of a larger class strategy to restructure the economy" (1982, page 153). However, despite these allegedly wider *and* deeper conceptualizations, the processes described appeared much the same (Hamnett, 1984, page 311).

As noted earlier Ley, probably Smith's most persistent critic, commented unfavourably on the fact that "Smith ... has no empirical results of his own to report" (1987a, page 466). However, even he does not appear to notice the tautology that lies at the heart of the concept of the rent gap despite the refinements and concessions Smith has made over the years. From first [gentrification occurs "when the gap is wide enough" (Smith, 1979a, page 545)] to last [gentrification "is most likely to occur in areas experiencing a sufficiently large gap between actual and potential land values" (1987a, page 464)], the criterion of 'sufficient wideness' serves to protect the rent-gap hypothesis from any empirical criticism. The proof of 'sufficient wideness' lies in the pudding of the gentrification phenomenon—no gentrification, rent gap 'insufficiently wide'.

Clark's (1988) studies of urban development in Malmö, Sweden, are always cited in defence of the charge that the rent-gap hypothesis is impervious to empirical testing. Clark concluded that the "empirical evidence ... supports the view outlined by Neil Smith" (page 252). However, Clark does argue that Smith's definition of "capitalized land rent" is ambiguous and would be better split into two terms "actually realized land rent", which continues to decline, and capitalized land rent proper, "namely the valorization of future land rent income by the sale of land" (page 252). So whereas in Smith's original account the rent gap continued to widen indefinitely, in Clark's revised account the rent gap closes immediately prior to gentrification, as can be seen by comparing figure 2 with figure 1.

However, neither Clark's empirical findings nor his revisions to Smith's definitions rescue the rent-gap model. If the gap does start to close immediately prior to gentrification, this is because the capitalized ground rent component represents *expectations* of future revenues from redeveloped land: *landlords* expectations based on *prior* decisions by developers to gentrify. Clark's revised version is therefore as self-fulfilling as Smith's original formulation—no expectations, no closure, no gentrification.

Far from being a necessary centrepiece to any theory of gentrification, as Smith insists, the rent-gap model is not, strictly speaking, an hypothesis at all. It describes a condition of the gentrification process, but qua description, it is not an explanation. It is not an hypothesis because it is incapable of being falsified. Although I discuss

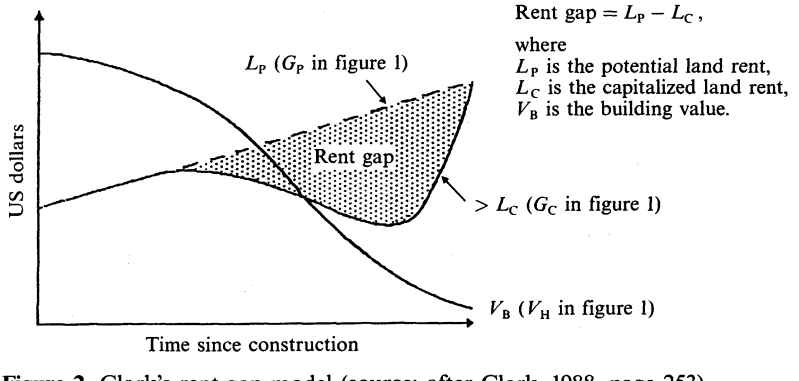


Figure 2. Clark's rent-gap model (source: after Clark, 1988, page 253).

Clark's work for completeness, in fact the question of empirical evidence is irrelevant to the criticisms made here. The darkest hour is just before the dawn, but the depth of the darkness does not bring about the dawn, nor will assembling any amount of evidence from each, every, or any part of the world showing that the darkest hour is indeed just before the dawn demonstrate that the depth of the darkness provokes the coming of the dawn. The rent gap is not a *causal* explanation of gentrification—as with the darkness and the dawn; to claim that it is, is to claim post hoc, ergo propter hoc. But note well, this is the problem with the postindustrialist explanation also.

3 Recategorizing devalorization

3.1 Rent as a barrier

If this criticism is accepted, then the next question must be where does Smith's argument take a wrong turning? The problem does not lie wholly in the fact that Smith's model operates within the context set by neighbourhood life cycle, although this context does explain the functionalism inherent in this model. This context nonetheless does permit gentrification to be viewed in terms of changing opportunities for the exercise of a fundamentally unchanged demand, and in terms that are dynamic and supply oriented. Rather, I argue, the problem lies in the particular categories of analysis that Smith brought to his critique, in particular those categories linked to his devalorization cycle. This problem can be brought into focus by following the chain of reasoning which led Smith to consider rent as a barrier.

An obvious question that can be asked of the rent gap is why a gap arises at all. If the effect of the existence of rent is to allocate land to its 'highest and best' use, to use Ricardo's famous phrase, how is it possible that a situation could ever arise that the effect of the existence of rent were to *prevent* the allocation of land to its highest and best use, as indicated by the rent gap? Smith argued that, as an interception of surplus value, rent also acts as a *barrier* to accumulation, and as accumulation proceeds more smoothly when land is allocated to its highest and best use, the nature of that barrier lay in the form of misallocation of land away from its highest and best use. Haila argues that this attitude toward rent, as a barrier to accumulation, forms a specific phase in the modern history of rent theory: "of consensus in the 1970s" (1990, page 278), just about the time that Smith was first formulating his ideas.

Smith argued that capital fixed in the built environment resolved one immediate accumulation problem (1979a, page 541; 1982, page 150), but stored up another for the future. The built environment creates a barrier to further accumulation because of the long turnover period of capital invested there.

> "The physical structure must remain in use and cannot be demolished without sustaining a loss, until the invested capital has returned its value. What this does is to tie up whole sections of land over a long period in one specific land use, and thereby to create significant barriers to new development" (1982, page 149).

New developments therefore take place elsewhere, in particular in the suburbs: "It is this spatial shift of capital investment that led to ... the *rent gap*":

> "To summarize, the investment of capital in the central and inner city caused a physical and economic barrier to further investment in that space. The movement of capital into suburban development led to a systematic devalorization of inner and central city capital, and this, in turn, with the development of the rent gap, led to the creation of new investment opportunities in the inner city *precisely because* an effective *barrier* to new investment had previously operated there" (page 149; emphasis original).

Bourassa (1993) has recently provided an extensive and compelling set of criticisms of the rent-gap model. He argues that it has no economic basis, as the rent-gap model compares an accountancy definition with an economic one. Actual rent is an accounting concept, whereas potential rent only can be given an economic meaning, namely opportunity cost. He argues, as do I, that neoclassical concepts of urban land-use succession provide a more coherent account of the factors that must be taken into account when deciding whether or not to gentrify a property. However, Bourassa is concerned to ensure that his comments are not taken as an endorsement of neo-classical over Marxist explanations of gentrification, a concern I also endorse.

Bourassa's arguments, however, are, by and large, limited to one aspect only of the rent-gap model, namely its internal coherence. While of course internal coherence is always desirable in a model, lack of internal coherence does not prevent it from stimulating questions about how the phenomena it seeks to model actually do interact. Given that Bourassa successfully debunks the notion of rent gap at all, an examination of the notion that it is the fact that rent constitutes a barrier to accumulation that accounts for the rent gap arising may seem a pointless exercise. However, he does argue that gentrification is the result of a value gap (1993, page 1741 and footnote 6), and this is the tack taken by the companion piece to this paper in the construction of the model it employs (Redfern, 1997). Furthermore Bourassa concludes by commenting on the failure of both Marxist and neoclassical theories of gentrification to account for "the sources of the changes in value that constitute gentrification" (page 1742), and it is towards a remedy of this deficiency also that criticism of Smith's categories of analysis is directed.

3.2 Productive labour and productive consumption

Smith argues that the cause of the barrier that leads to the rent gap is the slow physical decline of the building stock. However, Smith describes this decline in terms of devalorization of capital, in other words in terms of *value, not* of physical quality (1982, page 149). Smith justifies his substitution of physical quality for value by reference to Marx's definition of productive labour, which he links to Marx's definition of productive consumption (Smith, 1979b, page 164). However, the meaning Marx gives to 'productive' when referring to productive *labour* is different to that which he uses when referring to productive *consumption,* and Smith confuses them.

'Labour', for Marx, is an active process of consumption of raw materials in the creation of new products (Marx, 1967, page 290). The consumption of raw materials for this purpose is productive consumption. The latter can be accomplished whether or not labour itself is productive, that is, productive of surplus value. Smith quotes Marx's example of the jobbing tailor patching a capitalist's trousers. The tailor is paid out of the capitalist's income, that is, out of surplus value. The tailor's labour is therefore not productive, as it generates no surplus value on its own account. However, raw materials, cotton threads, needles, and labour power, have been used up in the production of the use value of the patches. The tailor's consumption of raw materials is therefore productive, even though his labour is not.

'Capital' for Marx, is made up of two equal aspects: the labour process, which creates it; and the valorization process, which realizes it (Marx, 1967, page 317). The means of production and labour power are to the labour process as constant and variable capital are to the valorization process. Both aspects are different moments of the dialectic of capital as value-in-process. As value-in-process, *capital cannot be consumed,* it can only be transferred from the means of production and labour power to commodities. Smith's belief that Marx argues that capital can be productively consumed is therefore also erroneous. Smith appears to believe that the term

'productive consumption' applies to capital as value-in-process, whereas in fact it applies only to the consumption of raw materials, that is, only to labour. Productive consumption *is* the basis of the formation of constant capital, but *only* when means of production are used up in the creation of a use value for sale as a commodity, that is, in productive labour.

Consumption of the use value inherent in raw materials (supplied of course in commodity form) results in the enhancement of labour power, that is, variable capital is enhanced by the transfer of constant capital (people work better if they have had a good night's sleep). The money handed over for the right to consume a use value is the price equivalent of the value transferred from the commodity embodying that use value (which may be an item for productive or unproductive use) to labour power in the course of its consumption.

Once sold therefore, it is a commodity's use value, not its value, that is productively consumed. A consumer of a use value looks at the commodity bearing that use value as a source of use value only. Smith was incorrect therefore to state that a mortgage represented the productive consumption of capital (1979b, page 164). It is as money, the universal commodity, that a mortgage advance is productively consumed, not as capital. The mortgage is capital for the mortgage finance institution, but a commodity for the mortgagee.

The productive consumption of a mortgage is virtually instantaneous. Its use value is to enable the purchase of the property for which the mortgage advance was made. By contrast, the productive consumption of the property will typically be over many years, during which time its building services contribute to the reproduction of the labour power of its occupiers. The productive consumption of this use value may continue long after the proportion of the value of the constant capital transferred to the value of the labour power enhanced has fallen to a very low level [note, I am dealing here only with the question of the consumer qua consumer: the question of how to deal with the investment potential of a property is discussed in Redfern (1997)].

3.3 Gentrification, capital vintages, and technical progress

So, therefore, when Smith argues that "the physical structure must remain in use and cannot be demolished without sustaining a loss, until the invested capital has returned its value" (1982, page 150), he is wrong to link this to the physical depreciation of the building. The building certainly can be demolished, at any time, only provided that the rentals from the building replacing it cover the cost of any unrealized value from the building which is demolished (compare Bourassa, 1993, pages 1741 – 1742).

Admittedly Smith could always argue that it is not the physical condition of the building which counts, but the rent gap between its present and its highest and best use. There is nonetheless a constant suggestion in Smith's writings that this gap will only appear when the physical deterioration of the building has reached an advanced stage, one at which its present value is minimal [for example, "devalorization leads to physical decline, which in turn lowers the market price of the land on which the dilapidated buildings stand" (1982, page 149)].

In linking devalorization to the physical dilapidation of a property, Smith falls into that same trap in which Marx claimed to have found Ricardo (Howard and King, 1975, page 115):

> "Those economists who like Ricardo, regard the capitalist mode of production as absolute, feel ... that it creates a barrier itself, and for this reason attribute the barrier to Nature (in the theory of rent), not to production" (Marx, 1981, pages 349 – 350).

Smith's barrier argument succumbs to this same problem. Nature, in the guise of the physical attributes of the building stock, is made the reason for the long turnover time of the capital invested in the stock. Nature, in the guise of the pace at which the building deteriorates, is made to determine the rate at which the capital is released in the form of rent income to the owner of the property.

Smith in other words confuses the value of a property with its use value and thereby mistakenly links its value as capital, in which form it would be relevant to value analysis (and which determines the decision whether to demolish, abandon, or renovate the property) with its physical condition, that is, its use value.

In fact, the fall in the flow of value of building services is only contingently related to the physical deterioration of the property as such. Buildings, like all other commodities in productive consumption, transfer their value as constant capital via the services they provide to the services produced through their use. But this does *not* imply a rate of physical deterioration, a loss of use value, along with that transfer of value as capital.

The value of a house is transferred as constant capital, via the housing services it provides, to the labour power reproduced in that house. The 'devalorization' of the property arises because wage rates *rise,* as part of the general increase in productivity of the economy at large, that is, of social labour. Consequently, the proportion of constant capital utilized in the reproduction of labour power, the value transferred in productive consumption from the house, *necessarily* falls.

One useful way, therefore, of understanding the issues involved in gentrification is through the insights offered by capital-vintage theory. The theory of capital vintages assumes an historical sequence of more and more productive machinery coupled with rising real wage rates. Capital vintages are therefore distinguished by the advances in technical progress 'embodied' in each vintage. Machinery of a particular vintage is scrapped when the rising wage rates mean that the value of that vintage's output is entirely absorbed by wage costs. The scrapping, in other words, is entirely a result of economic, not physical, reasons (Harcourt, 1972).

Capital-vintage models were developed as a defence of neoclassical concepts of capital (Harcourt, 1972), but the principle is nonetheless applicable to the analysis of the origins of the rent gap. Buildings are scrapped (or abandoned) because the rising productivity of social labour reduces the contribution of their services to the reproduction of that labour to a minimum, not because of their physical condition (see section 3.3 below). To paraphrase a well-known proposition in economic development theory, the rent-gap arises not because buildings are exploited, but because they are not exploited enough.

4 Domestic technologies and the rent gap

4.1 Domestic technologies: the missing factor in explanations of gentrification

How then are the potentials of buildings to be exploited more fully, the services they provide brought back into line with the rising productivity of social labour? By 'doing them up', etc, that is, by investing fresh capital in them. However, this is not nearly as straightforward a proposition as it might at first appear.

Builders working on converting an old building into something new is such a familiar sight that the very fact that such activity can take place at all is taken for granted. Smith (1992, page 113) criticizes Hamnett (1991) for limiting the definition of gentrifiers to middle-class individuals and for neglecting to take into account other kinds of individuals "responsible for the actual physical transformation of urban landscapes". But only one group out of all the kinds of individuals cited by Smith, "builders, property owners, estate agents, local governments, banks

and building societies", is actually responsible for the physical transformation of the urban landscape, namely the builders (and even then I would suspect the builders are thought of by Smith only in their roles as capitalist employers or developers, not as workers). All the rest provide key services such as finance or plans, but it is the building workers alone who actually engage physically in the transformation of the urban landscape. The rest of the actors may supply the financial capital, but that capital has to be converted into physical capital—capital goods. Builders need the *material,* not simply financial, wherewithal to undertake these transformations. So far as gentrification is concerned, this means the availability of domestic technologies; in such a form as enables the housing services offered by an old property to be brought into line with the services offered by a new property. Yet the question of domestic technologies is almost completely absent as a topic for analysis in gentrification studies.

I follow Du Vall (1988) in defining domestic technologies as covering food production, preservation, cooking facilities and utensils, clothing, cleaning, water and waste disposal, heating, and lighting. Du Vall traces developments in these technologies from Neolithic times onwards. As Cowan (1983) and others have shown, modern developments in these technologies have led to the devolution from the home of clothing, food production, and, to a certain extent, food preparation. Although these are extremely important from the point of view of gentrification studies, the key developments only occur after the introduction of piped water and sewage, and especially external energy sources, gas and electricity, into the home. The term 'domestic technologies' is therefore taken here to apply particularly to cooking, cleaning, water and waste disposal, heating, and lighting in so far as the operation of these technologies depend on piped water, sewage, gas, and/or electricity (Hardyment, 1988; Nye, 1991).

Once pointed out, the relevance of domestic technologies to gentrification is obvious: you cannot have gentrification without being able to do up a house. Doing up a house means putting in all 'mod cons' and you cannot put in all mod cons if they have not been invented yet. Yet the lack of attention paid to this issue is amazing. Ley (1986) for example, searching for the causes of inner-city gentrification in Canadian cities, makes no reference to domestic technologies out of a total of thirty-five variables in his correlation exercise; neither does Bourne (1993b). It is possible that the participants in the gentrification debate genuinely do not consider domestic technologies as worthy of attention. But without electricity or household appliances for cleaning, cooking, and heating, what good does it to do spend money on repairing the structure of a house which can only be run with the aid of these technologies, or with the aid of servants. If they do hold the view that domestic technologies are not worthy of attention, one purpose of this paper is to show that this would be a mistake.

As late as 1950 in England, the cost of a vacuum cleaner, fifteen guineas—excluding purchase tax of 25%—was approximately that of the average weekly wage, and the price of a washing machine, around £125. Bendix, the first automatic washing machine, was so expensive that no prices were quoted in *Ideal Home* magazine, the source of these figures, during the first three years following its introduction in 1951. Instead, generous, but unspecified, hire-purchase terms were advertised. One can only speculate that it must have been so expensive that quoting a price would have frightened off even the wealthy. The nearest competitor, the Servis twin tub, introduced 1953, cost £95, including tax. Hunkin (1989) compared the price of that machine with approximately that of a small car. The price of a house in Canonbury, in the heart of gentrified Islington, at this time was £2650 (Humphries and Taylor, 1985, page 151), that is, a washing machine alone cost between 5% and 10% of the cost of a gentrifiable

house, and about ten times the average weekly wage. If washing machine prices had kept pace with prices of Canonbury properties, they would cost in the order of £12000 to £15000 today. Figures such as these render redundant most case studies on gentrifiers' motivations.

The reason why domestic technologies have an impact on gentrification is because of the dramatic fall in prices of these technologies since the early 1950s. Taking the United Kingdom, London and Islington, as the example, the trends in house prices with those of an automatic washing machine over the period 1951 – 1981 were compared (table 1 and table 2). A washing machine is obviously not the be-all and end-all of domestic technologies though, as Cowan (1983) and Hardyment (1988) both make clear, it has been possibly the most significant of all domestic technologies in terms of its impact on the management of domestic work and its class relations. Attempts at creating a mechanical alternative to scrubbing clothes by hand form among the earliest of applications of technological principles to domestic labour. Despite all the attention given to their development, the cost of these machines in 1951 was still extremely high. As the flagship domestic technology, the comparison is therefore instructive.

The price of a fully automatic washing machine (Bendix, Indesit, Hoover Keymatic), incorporating all the latest improvements, fell from around 4% of the purchase cost of housing to less than 1% over this period (less than 0.5% in Islington).

These trends are graphed out in figure 3. Despite the absence of data for 1961 (as a result of the reorganisation of the LCC into the GLC), the trend is clear. Domestic technology prices have fallen sharply in relation to house prices. It is the existence of domestic technologies at all that permits gentrification to occur. It is, however, the fall in the comparative cost of these technologies that has permitted its diffusion. It is true that these technologies were available in the 1920s and 1930s, but they were so expensive then, that they were only a feasible option in suburban developments, where essentially the house was built around the technology, which

Table 1. Automatic washing machine prices 1951 – 1981 (current prices) (sources: *Ideal Home*, *Exchange & Mart*, *Islington Gazette*).

Machine	Year			
	1951	1961	1971	1981
New	£110	na	£145	£220
Secondhand	£80	£70		

na not available

Table 2. Automatic washing machine prices (new) as a percentage of average housing costs 1951 – 1981 (sources: Redfern, 1992, table 9.4, table 9.7).

	Year			
	1951	1961	1971	1981
Islington				
average	4.1	na	1.45	0.46
unimproved housing	na	na	na	0.52
flat				0.69
London or South East	4.74	na	2.09	0.73
United Kingdom	na	na	2.5	0.95

na not available

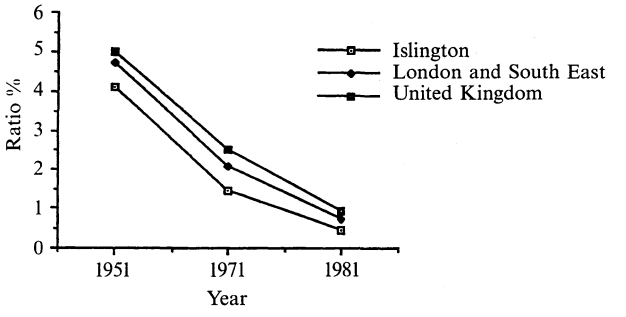


Figure 3. Ratios of washing-machine prices to house prices 1951 – 1981 (source: table 2).

was therefore 'embodied' in the property. It is not until the late 1950s and early 1960s that the costs of these technologies falls to the point where it becomes feasible to consider investing them in an existing building, as a permitting 'disembodied' technical progress. And as they have continued to fall in cost relative to the cost of purchasing a building, so also has gentrification spread far and wide beyond the boundaries of Islington.

To argue that the explanation of gentrification lies in the ability to invest domestic technologies to an already existing structure does push the burden of explanation on to the qualities of these technologies themselves, just as the postindustrialist argument for concentrating on the production of gentrifiers pushes the burden of explanation on to the qualities of the gentrifiers, with, as I have argued, disastrous consequences for their claims to account for gentrification. To account for the particular qualities of domestic technologies which permit them to act as the basis of gentrification, the contingencies in the development of domestic technologies must also be considered. There are a number of complementary possible defences to any charge of technological determinism in this account.

Accounting for the qualities of domestic technologies which make gentrification possible means investigating why their provision took the form they did, together with developments in domestic labour associated with their introduction. The available forms of domestic labour, performed by (mainly female) servants in the 19th century and housewives in the 20th, greatly affected forms of housing provision and the development of these technologies (Cowan, 1983; Hardyment, 1988; Nye, 1991). Space constraints prevent further discussion here but see Redfern (1992; 1997). Any such investigation will therefore directly and immediately confront issues of class and gender in gentrification, rather than trying to force these issues into discussions of gentrifiers' so-called characteristics. Bondi (1991) for example criticizes the current state of the gentrification debate for its lack of attention to gender issues. Her proposal for remedying this, and this is indicative of the hegemony of postindustrialism in gentrification studies, is, however, for the production of a gendered gentrifier or member of the new middle class by students of gentrification.

An account which places the explanation of the causes of gentrification in the introduction of domestic technologies into existing houses must also include in its account the forms under which the original housing was provided. In London, it is the possibility of investment of domestic technologies in a housing stock originally built to be operated by servants that permits the 'recolonization' of that stock by the middle classes and which fuels the rent gap. It is this hypothesis that forms the basis of the model presented in Redfern (1997).

4.2 The neglect of domestic technologies as a supply factor in gentrification studies

I have already remarked on the absence of domestic technologies from the multivariate analyses carried out by Ley (1986) and Bourne (1993b). In this neglect of domestic technologies they, however, follow a general trend. Saunders (1989; 1990) contains no reference to this aspect of the history of the home [although there is no end of feminist literature on the impact of domestic technologies on the organization of the home (for example, Cowan, 1983; Hardyment, 1988; Nye, 1991)]. The closest any of the gentrification literature comes to acknowledging the importance of domestic technologies is Hamnett's (1973) examination of the use of "Improvement grants as an indicator of gentrification in inner London". Hamnett, however, does not problematize the creation of the possibility of improvements. Smith (1979b, page 170) has similar passing comments on improvement grants. These comments are, however, made in the context of a discussion of the role of the state in the gentrification process. Smith (1987b, pages 167–169) refers to consumer durables in passing, but only as part of a discussion of suburbanization, not of gentrification, as does Myers (1992).

The issue of domestic technologies in gentrification is presumably simply dismissed by Smith because of his opposition to consumption-side explanations, and domestic technologies are most typically encountered as *consumer* durables. On the postindustrialist side, however, the existence of the possibilities of home improvements serves merely as a peg on which to hang arguments about class distinctions formed on the bases of conspicuous forms of consumption. Smith summarizes the postindustrialist approach here rather well:

> "gentrification and the *mode of consumption it engenders* are an integral part of class constitution ... they are part of the means employed by new middle class individuals to distinguish themselves from the stuffed shirt bourgeoisie above and the working class below" (1987b, page 168, emphasis added).

His mistake is in imagining that the only way in which the contribution of domestic technologies can be analyzed is as a part of a mode of consumption.

That gentrification is possible at all is not problematized in the postindustrialist approach but taken for granted, so that the discussion can move on to the meaty business of class. So for example, P Williams comments that "style and the income which makes it possible can in turn be traced to developments around the mode of production, changes in the class structure, and residential differentiation; in other words, it is not an autonomous response but one that *mirrors* continuing social tensions and conflicts" (1984, page 219, emphasis added).

The metaphorical use of the verb 'mirrors' here demonstrates the close connection between the neglect of domestic technologies and the implicit use in gentrification analysis of 'base-superstructure' metaphors. In such metaphors, characteristic of, ironically, Marxist thought, activities which take place in the superstructure (for example local cultures, including gentrification) and which therefore appear to have the character of agency are theorized in terms of subsidiary metaphors, as being some form of reflections, typifications, or mediations of relations in the economic base. All developments in the superstructure are therefore determined, in the last instance, by developments in the base (R Williams, 1977, page 81). Thus P Williams, who otherwise would find himself in the opposite camp to Smith, shares with him the same basic attitude toward gentrification namely that it *reflects* something else that is going on that is more important than simply gentrification, namely class, or class constitution.

Use of the base-superstructure metaphor shuts off enquiry and replaces it with the demonstration of already and otherwise known truths ["What is already *and otherwise* known as the basic reality of the material social process is reflected, of course in its own ways, [in the superstructure]" (R Williams, 1977, page 97]—just like

in the story of the blind men and the elephant. In other words, "There is a persistent presupposition of a knowable (often wholly knowable) reality" (Williams; 1977, page 102). Superstructural elements are of interest only as they can be fitted into (and so illustrate the nature of) this reality, not because they have any intrinsic interest in themselves. These metaphors are pervasive in gentrification studies and bear strong parallels with 'Orientalist' studies of the Orient, which according to Said (1991) consisted of an elaboration of ignorance rather than positive knowledge (1991, page 62). The tendency to discuss gentrification in terms of *results,* of achieved housing situation, of elephants, and not in terms of *means,* that is, in functionalist terms (compare Runciman, 1969, pages 40–41, 113), is closely associated with base-superstructure theorizing.

Whether gentrification explanations are oriented toward consumption-side accounts such as postindustrialism, or production-side accounts such as the rent gap, they tend to share a common perspective, namely, functionalism and the use of base-superstructure metaphors. Smith is justified therefore in defending his position against the postindustrialists' criticisms (Hamnett, 1984; 1991) but only to the extent that they cannot offer a fundamental critique of his model, as they share so many of the same presuppositions with Smith's own.

5 Conclusion

In this paper I have argued, along with many others (Hamnett, 1984; 1991), that the issue of gentrification can be approached from either the demand or the supply side. However, I have argued in particular that the conceptualization of demand and supply in gentrification studies has been haunted by the Alonso and Burgess models of urban growth, respectively, and that these account for the particular form in which the debate between the primacy of demand and supply factors in gentrification studies has been couched, between postindustrialism on the one hand and neighbourhood life cycle on the other. I have further argued that both sets of explanations are tautological. Postindustrial explanations of gentrification are tautological because postindustrialism is used as the explanation for gentrification, whereas gentrification is used as the evidence for the transition to postindustrial society. Neighbourhood life-cycle explanations of gentrification, in the form of the rent-gap model, the only form in which they survive into the present day, are also tautological, as they depend on the criterion of 'sufficient wideness'. It is largely for this reason that gentrification debate has become a debate about blind men and elephants.

Having made these general observations, I then concentrate in particular on the rent-gap model. I argue that Smith's metaphor of rent as a barrier depends upon a confusion between productive labour and productive consumption in Smith's original accounts of the rent gap. Despite Smith's later emphasis on devalorization rather than depreciation as the fundamental cause of the rent gap, this confusion lies at the heart of his continuing insistence that physical depreciation accounts for devalorization. Using arguments derived from neoclassical capital vintage models, I argue that devalorization of real property occurs because the social productivity of labour rises, not because the physical qualities of such property deteriorates. The physical qualities of a building may be completely unaffected by the passage of time, yet the use value that such a building can contribute to the reproduction of social labour may continuously fall in percentage terms as the productivity, and hence the value of social labour, continuously rises.

Such an argument focuses attention on how a building may maintain its percentage contribution to the reproduction of social labour. I argue that this is only possible through periodic investments in the structure, not simply to maintain the

fabric of the building, but to bring the services it potentially could provide up to 'modern-day' levels, that is, through the investment of domestic technologies—mod cons. This is a generally applicable principle. Gentrification specifically could only occur once the prices of these technologies had fallen sufficiently, with reference to the cost of a house, to make such investment in older properties worthwhile. I present figures to show how the prices of domestic technologies fell with respect to the prices of housing in the United Kingdom, in Greater London, and in gentrified Islington over the period 1951 – 1981, the period of most active gentrification in Islington.

Smith's argument, like all neighbourhood life-cycle explanations, implies that gentrification is a cyclical process. The argument from domestic technologies would endorse the postindustrialist view that, historically speaking, gentrification is a 'one off', associated with the effective transition of domestic technologies from 'embodied' to 'disembodied' technical progress, to use the terminology of the capital-vintage models; a transition brought about by the fall in the prices of these technologies relative to the costs of gentrifiable properties.

Domestic technologies are a mysteriously neglected topic in gentrification studies, but the neglect is, I suspect, symptomatic. At various stages in the argument I have suggested that both postindustrialist and rent-gap explanations of gentrification are functionalist. Smith's argument fetishizes rent, giving it a causal power that it does not possess. His metaphor of rent as a barrier similarly fetishized and the functionalism of his arguments is directly consequential on this.

Runciman (1969) points out that functionalist tautologies are unavoidable in biological explanations. Thus, regardless of the specifics of his arguments on rent and capital, the organic analogies in which, as I showed in section 2, Smith's arguments are rooted, also lead ultimately to problems of functionalism. Similarly the metaphors of reflection etc that surround postindustrialist arguments, as well as the fact that the postindustrialist explanation of gentrification is tautological, also would explain why it too suffers from problems of functionalism.

Ultimately, however, all these problems stem from the predisposition noted above, common to both sides of the debate, to discuss gentrification in terms of results rather than means, to ask 'why?', before asking 'how?'. And in asking 'why?' before asking 'how?', *both* sides diminish the importance of human agency, which is dissolved away in a welter of causal explanations on both sides: subjects of capital on the one hand, of social class position on the other. Despite the intensity of the debate, both sides share a common presumption, that gentrifiers, in their various ways, gentrify because they *have to*. I want to argue that they gentrify because they *can*.

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