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# Centrists, Decentrists and Compromisers: *Views on the Future of Urban Form*

## Introduction

The sustainable development imperative has revived a forgotten, or discredited, idea: that planning ought to be done, or can be done, on a big scale. Up to the 1960s planning had a long, and reasonably creditable, history of visionary ideas. After that date, the public lost confidence in planners, and planners lost confidence in themselves. Subsequently, pragmatism has ruled. However, there is now a fascinating debate underway about the role of planning in promoting sustainable development, and - here we have the big idea - about which urban forms will most effectively deliver greater environmental protection. Viewed as a narrow environmental debate, the issue is profoundly important. But when the broader economic, social and cultural repercussions are taken into account, it soon becomes apparent that nothing less than the future of western lifestyles is at stake.

This debate is not the preserve of unworldly academics. It is taking place at inter-governmental, governmental, and local government levels across the world. Following the Brundtland Commission report of 1987 (World Commission on Environment and Development, 1987), the notion that the natural environment should become a political priority - under the 'sustainable development' banner - has taken hold to a remarkable degree. In many countries there have been profound changes in policies and in political and popular attitudes, as commitment to the sustainable development idea has increased. The fundamental question in all places, however, has been how to deliver major environmental improvements. One common answer seems to be to use planning systems to achieve these gains; and, in turn, to use those planning systems to achieve greater urban compaction. Thus, a legitimate, indeed profound, research question is whether such compaction - 'the compact city' - will deliver the gains demanded by the politicians.

The political urgency of this debate is demonstrated by the fact that we have a rare case of politicians racing ahead of academics, pressing for specific policies before the research community is able to say with any confidence which policies will have what effects. Perhaps this arises because national governments are

keen to meet - and be seen to meet - international environmental obligations.

Although, as we will see, the debate is tending to favour heavily one solution, the scope of the debate can be usefully summarised by classifying stances initially into two groups: 'decentrists', who favour urban decentralisation, largely as a reaction to the problems of the industrial cities; and 'centrists', who believe in the virtues of high density cities and decry urban sprawl.

The decentrist and centrist views of urban form have long histories, albeit that the motives for their promotion in the past have been somewhat different from those driving the current debate. These histories are important, however, because although they do not cast much direct light on the sustainability question, they do put that question into a wider context. They also act as a reminder that decisions made on environmental grounds will have broader - economic, social, and cultural - repercussions that must not be ignored. There is a danger at present that the sheer weight of the environmental argument will swamp all other considerations. Indeed, for some this is the hope.

Thus, the review presented here will (a) reflect briefly and selectively on the histories of the decentrist and centrist arguments, and (b) outline the contemporary debate, focusing as it does on the environmental issues. In the historical review the decentrist and centrist approaches will be considered in turn. In the contemporary review, the two will be considered together. This is because the current promotion of one or the other consists largely in criticism of the opposite position, to a much greater degree than in the past. This makes for a slightly messy presentation, but does allow the richness of the interplay of ideas between the two stances to emerge. When the decentrist and centrist positions have been reviewed, it will be argued in conclusion that the existence of a third stance ought to be recognised: a conscious middle line in this debate - the 'compromise' view.

The weight attached in this review to various positions reflects the material readily available to the author. Thus, it has a strong Anglo-American flavour, with a bias in favour of the British material. In turn, within the British literature there is an inevitable focus on projects with which the author is particularly familiar or has been involved. Thus, the perspective is partial, perhaps even narrow. However, it is hoped that the coverage is sufficient to map the boundaries of the debate.

### **Historical advocacy of centrism and decentrism: radiant city, garden city or Broadacres?**

Different protagonists in the centrist versus decentrist debate over the years have had different motives. The mainstream concern has been with the quality of urban and rural life and, to a lesser extent, the aesthetics of urbanity. As Hall (1988) says, the history of 20th century planning 'represents a reaction to the evils of the nineteenth-century city' (p.7). From Howard, Geddes, Wright, and Le Corbusier, through to Mumford and Osborn and many followers, this was the motive. In the post-1945 period, with the cities appearing to be rather less evil and the problems being increasingly of 20th century origin, planning motives became more diverse, more specific and less visionary. Nevertheless, centrist and decentrist camps remained clear, and, as we will see, the occasional big idea did emerge, through to the early 1970s.

Many wonderful histories of planning have been written. The ideas and practices explained below have all been covered thoroughly and expertly elsewhere

(for example, Hall, 1988; Fishman, 1977). Indeed, this review relies heavily on these sources. What is different here, however, is the attempt to see elements of this planning history directly in terms of the decentrist versus centrist debate.

It is difficult to know where to start in reviewing the history of discussions about appropriate urban forms. It is probably fair to say that the decentrist view has the longer pedigree. Conscious practical town planning developed in Europe and North America in reaction to the squalor of the towns and cities thrown up by the Industrial Revolution. Although this reaction included initiatives within those towns and cities, it also spawned decentralised solutions. In the UK these took the form of private, philanthropic ventures from the early 19th century onwards, most obviously at New Lanark, Saltaire, Port Sunlight, Bournville, and New Earswick. The common denominator of all of these initiatives was a desire to plan for communities in healthy and efficient surroundings, away from the disease and congestion of the industrial towns. These planned communities made only a minor dent in the dominant process of urban centralisation, which continued in Europe until the immediate post-1945 period. Nevertheless, they are important in this history because they established, for the first time, the idea that there might be a conscious alternative to centripetal urbanisation.

The most important period in the history of the debate about urban form was from 1898 through to 1935. During this period the boundaries of the debate were mapped out. The extreme cases were both proposed in full in 1935; by Le Corbusier the arch-centrist, and Frank Lloyd Wright the champion decentrist. Both had the benefit of being able to reflect on the work of Ebenezer Howard, in terms of his ideas and their practical application at Letchworth, Welwyn Garden City and Hampstead Garden Suburb. In fact, both felt the need to propose antidotes to Howard's influential views. The following brief historical review will be built around these three contributions; because they all proposed big, total solutions to the urban problem, and also because they represent the extreme position. Other contributions to the debate can be built fruitfully around the three defining views of planning history's most important 'seers' (Hall, 1992).

Placed alongside the extremes of La Ville Radieuse and Broadacres City, Howard's Garden City proposal seems to hold the middle ground. Indeed, later it will be suggested that Howard ought to be regarded not as a centrist or decentrist, but as a representative of a compromise position. However, others, and most obviously Jane Jacobs, have cast him firmly as a villainous decentrist; indeed, as *the* villain.

The order in which these three sets of solutions should be reviewed is not obvious. The extremes of Le Corbusier and Wright might be presented first, in order to demonstrate that Howard is best cast in the middle ground rather than as the decentrist villain portrayed by some commentators. The alternative is a more obvious chronological coverage, because this both reflects the sequence of ideas and allows the work of Le Corbusier and Wright to be seen, in part, as a reaction to Howard. The latter approach is adopted, with Howard and Wright, considered as decentrists, followed by Le Corbusier as the classic centrist.

### *Decentrists in planning history*

As we will see later, both Wright and Le Corbusier were presenting antidotes to the profoundly influential ideas of Ebenezer Howard: 'the most important single character in this entire tale' (Hall, 1988, p.87). Howard, a stenographer by trade,

became an amateur social reformer, pondering the large social and economic issues of the 1880s and 1890s, but with a particular concern with the urban squalor created by rapid industrialisation. To him the cities were 'ulcers on the very face of our beautiful island' (Fishman, 1977, p.38).

Howard concluded that 'Radical hopes for a cooperative civilization could be fulfilled only in small communities embedded in a decentralized society' (Fishman, 1977, p.37). He acknowledged that the cities did have some attractive characteristics. Hence, Howard was looking for a marriage of the best of town and country. The famous three magnet diagram asked the question: 'the people: where will they go?'. The answer was to 'town-country', or the 'garden city'. Howard's garden cities would accommodate 32,000 people, at a density of approximately 25-30 people per acre; a density level that Fishman (1977, p.42) suggests might have been borrowed from Dr Richardson's 1876 plan for *Hygeia: A City of Health*, and Hall (1988, p.93) says was higher than that in the historical city of London. The 1898 version of Howard's book showed groups of garden cities, linked by railways, all forming a polycentric Social City (Hall, 1988, p.92). Residential areas, each built around a school, would be separated from industrial areas. The central area would have civic buildings, a park and an arcade or 'crystal palace' containing shops. The town would occupy 1,000 acres, surrounded by a 5,000 acre belt of agricultural land. This belt would provide the town with produce, but would also act as a green belt, preventing the town from spilling into adjacent countryside. Thus, despite Howard's view that 'every man, every woman, every child should have ample space in which to live, to move, and to develop' (Fishman, 1977, p.45), the solution is one of contained decentralisation. This point is important for present purposes. It places Howard at some considerable distance from the arch-decentrists.

Howard's legacy is well known. Letchworth and Welwyn Garden City became direct, practical, and ultimately very successful, applications of his ideas. Howard's Garden City Association established a forum for the promotion of garden city principles that continues through to the present in the form of the Town and Country Planning Association. The postwar new towns programme in Britain had a direct lineage back to Howard, as, arguably, did such programmes around the world. Even the burst of proposals for privately-funded new settlements in the UK in the 1980s (Breheny, Gent and Lock, 1993) can be claimed to have roots in Howard's modest book.

Powerful advocates of Howard's ideas carried the torch through a large part of the 20th century. Most notable amongst these were Lewis Mumford and Fredric Osborn, who were willing to take on all-comers in the long-running debate about appropriate urban forms. The mutual development of their ideas is revealed in their fascinating published letters (Hughes, 1971). Apart from an ongoing disagreement over housing densities - Osborn favoured marginally lower densities than Mumford - they consistently promoted moderate decentralisation, new towns, and urban regeneration, while opposing extreme centrist and decentrist views. In their respective countries they were very influential, but felt that they were generally fighting a losing battle.

To centrists at least, Ebenezer Howard and his followers represent one clear decentrist camp. However, Frank Lloyd Wright represents much more clearly the extreme case:

Wright wanted the whole United States to become a nation of individuals. His planned city, which he called 'Broadacres', took decentralization beyond the small community (Howard's ideal) to the individual family home. Wright believed that individuality must be founded on individual ownership. Decentralization would make it possible for everyone to live his chosen lifestyle on his own land. (Fishman, 1977, p.9)

Wright's advocacy stemmed from a mixture of ideology and simple acceptance of the inevitable. In the 1920s Wright saw that the motor car and electricity would loosen cities, enabling them to spread out into the countryside. Here was an opportunity to use new technology to take people back to the land, for them to reclaim their native birthright. For him the basic living unit was to be the homestead, with factories, schools and stores scattered across a fundamentally agricultural landscape. The new technologies would emancipate Americans from ties with the city: each citizen would have 'all forms of production, distribution, self-improvement, enjoyment within the radius of, say, ten to twenty miles of his own home' (Wright, 1945, quoted in Hall, 1988, p.288). Like Howard and Le Corbusier he hated the industrial city and industrial capital. But unlike Howard, who wanted cooperative socialism, and Le Corbusier who favoured centralised control, Wright - in the Jeffersonian, pioneer tradition - wished to free individuals to live and work in the countryside. As Hall (1988, p.287) says, Wright did not wish to marry town and country, he wished to merge them.

The Broadacres vision was not, however, meant to be a decentralised free-for-all. It was to be planned and it was to be controlled aesthetically. However, Wright was correct in anticipating the popularity of his decentralised vision; he was wrong in assuming that it would be planned. From the 1920s onwards a variety of forces combined to create massive suburbanisation, and later counter-urbanisation, in the United States.

An important thread in planning history that spans virtually the whole of the period reviewed to date is that of regional planning. In principle, the advocacy of regional scale planning implies neither a centrist nor decentrist stance. However, there is little doubt that ardent centrists have regarded the regional planning movement as decentrist in effect. This movement is usually traced from French 19th century geographers through Patrick Geddes and many subsequent proponents including Patrick Abercrombie, and Lewis Mumford and the Regional Planning Association of America. The consistent theme was the need to put any locality into a wider economic, social and physical context. This led to the idea of the civic or regional survey, and to planning at a city region scale. The grandest practical manifestations of these ideas were Thomas Adams' Regional Plan of New York of 1927-31 and Abercrombie's Greater London Plan of 1945. The overall drift of the regionalist argument was generally to accept the inevitability of centrifugal forces, and to plan for it accordingly. The centrist critics, however, most notably Jane Jacobs, have argued that one is either with them or against them. They have no truck with the middle ground. Thus, by virtue of accommodating, if not promoting, decentralisation, the regionalists would have been cast as confirmed decentrists.

#### *Centrists in planning history*

Le Corbusier, reviled in recent years as the inspiration for the disastrous high-

rise programmes of the 1960s, may be due for rehabilitation: as a champion of the centrists. Le Corbusier was very much a maverick, for his solution to the same - Victorian city - problem as perceived by Howard, Wright and many others was to increase rather than reduce urban densities: 'to decongest the centres of our cities by increasing their density' (Hall, 1988, p.207). High tower blocks would increase open space and improve circulation. This was all to be done by total clearance, the 'urban surgery' to which Jane Jacobs (1962) took such exception even before the idea was taken up with such vigour across the world in the 1960s. Le Corbusier's ideas were at their most advanced in La Ville Radieuse of 1935. This was a collectivist city, with everyone living in giant high-rise blocks, in apartments built according to rigid space norms. By this time, Le Corbusier was concerned not just with urban surgery, but also with new high-rise cities in open countryside.

Although Le Corbusier was singularly unsuccessful as a practising architect, his legacy of ideas had profound effects, most notably in the building of Chandigarh, and influencing the design of Brasilia, the new capitals of Punjab and Brazil. Hall (1988) charts the effects in Britain, both on theory and practice. In the postwar period, the students and staff of the Architectural Association in London took up Le Corbusier's ideas with what Osborn described to Mumford in 1952 as 'animal unreason' (Hughes, 1971, p.205). The consequence was a stream of proposals for high-rise blocks, many of which were implemented in the 1960s: the monuments 'from generations of AA graduates, were scattered across the face of urban England' (Hall, 1988, p.222).

But the centrist movement was wider still. One of its most vociferous advocates in the UK in the postwar period was Ian Nairn. Nairn, an architectural journalist, produced two influential special issues of *Architectural Review* in the 1950s, each of which railed against the 'creeping mildew' of urban sprawl. The first piece, *Outrage* (Nairn, 1955), issued a prophecy of doom:

the prophecy that if what is called development is allowed to multiply at the present rate, then by the end of the century Britain will consist of isolated oases of preserved monuments in a desert of wire, concrete roads, cosy plots and bungalows. There will be no distinction between town and country. (1955, p.365)

Nairn's fear was of creeping suburbia, but also of the disappearance of the distinction between town and country as the new, crude suburban trappings - 'the excreta of suburbia' - were adopted everywhere. The planners were largely to blame for the promotion of 'subtopia' (suburb + utopia) because of their adherence to a policy of low density dispersal, on the grounds that 'England was of unlimited size' (p.367). He was concerned that subtopia would produce subtopians: people so inured to the new ways that they would lose all critical faculties.

The *Outrage* polemic was followed a year later by a second paper: *Counter-Attack Against Subtopia* (Nairn, 1956). This second paper in fact consists of a series of contributions, each offering ideas by which the 'outrage' of subtopia might be countered. Nairn himself offers an ABC of aesthetic control. A paper entitled *Oversprawl* by Elizabeth Denby was prescient in questioning the continuing validity of dispersal from the major cities and towns. Her exhortation might have come from a modern-day centrist: 'The time is ripe - over-ripe - for looking back

into the towns and particularly into the old industrial areas, redeveloping according to human needs - that is, planning with, not for (or against!) the people' (Denby, 1956, p.427).

The 'looking back into the towns' philosophy was taken yet further by the *Architectural Review*, which published in 1971 a vision of the high density city - *Civilia* (de Wofle, 1971) - that would be the antidote to suburbia and to the advocates of planned decentralisation. The *Civilia* book despised the dominant decentrist stance, blamed largely on Mumford and Osborn, arguing in the most aggressive way that society has a natural centripetal tendency, which had been disturbed temporarily by the recoil from the Victorian city. Sudjic (1992) describes the proposal as the 'highest and the most absurd point of the campaign for congestion, an urban fantasy launched at a moment when all but the most myopic had realised that suburban life was an overwhelmingly popular choice for those who could afford it, and that every restriction on development outside the city simply raised the price of decent housing.' (p.12).

Despite Sudjic's criticisms, today's centrists might take a fruitful look at *Civilia*. The overall logic is very fashionable: deplore sprawl and the car, promote urban regeneration and high urban densities. Indeed, one of the features of the book is now a much vaunted solution: the 'multi-centred city', in which new, intensive transport and activity nodes are created within suburban areas. All of this is in *Civilia*. It is also contained in more extreme form in Dantzig and Saaty's (1973) proposal for a 'compact city', aimed at reducing urban sprawl and preserving open countryside. A quarter of a million people would live in a two mile wide, eight-level tapering cylinder. In a climate-controlled interior, travel distances between horizontal and vertical destinations would be very low, and energy consumption would be minimised. Steadman (1979), in a review of urban form and energy consumption, is sceptical about Dantzig and Saaty's claims about the energy efficiency of their proposal.

Perhaps the most articulate of the centrists during the 1960s was Jane Jacobs (1962). Whilst she can be placed fairly and squarely in the urbanist camp, her advocacy of centrism had very different and specific roots. Her enemies were the classic decentrists, such as Mumford and Howard. Howard started the rot, having 'set spinning powerful and city-destroying ideas' (p.18) in his advocacy of garden cities.

But her enemies also included the centrist urban surgeons, like Le Corbusier, who wanted a clean sweep in the cities. They were criticised for their crude physical solutions, and also for their egotistical authoritarianism. She wanted to retain the urban vitality and diversity that she found in her New York neighbourhood. She advocated high urban densities on the grounds that density creates diversity; and that diversity creates the richness of urban life that she enjoyed in New York. Her views did eventually prevail to some degree. The backlash that followed the wholesale urban renewal of the 1960s favoured physical rehabilitation and the retention of established communities. Sudjic (1992) suggests that Jacobs' view of urban life was coloured both by a neighbourhood - even if it was as cosy as she suggests, which he doubts - that was the exception not the rule, and by a mis-placed romanticism: 'Hudson Street was clearly never the soft focus idyll that Jacobs portrays.' (p.25).

The fundamental contradiction in Jacobs' work is that she failed to accept that big problems - the decline of cities and the dominance of urban sprawl - require

big solutions. No amount of neighbourhood protection and promotion of diversity could reverse the decentralisation trends that she so despised. They might help, but no more.

Fishman (1977) concludes his elegant critique of Le Corbusier, Howard and Wright by arguing that by the 1970s planners had lost faith in the one thing that united all three: a belief that a solution to the urban problem can be found. Planners had become mere pragmatists, either no longer interested in 'big' ideas or convinced that the big idea is that there should be no such idea. Fishman's parting remarks, however, were prescient. He anticipated that energy crises and uncontrolled urban sprawl would eventually necessitate a return to serious, large scale planning; that the anti-planning strategies of Jacobs and others cannot be effective:

The ideal cities of Howard, Wright and Le Corbusier have not been pushed aside by more up-to-date solutions. They have been superseded by the belief that no such 'solution' exists...There is now a widespread reaction against the idea of large-scale planning. Its most profound source, I believe, is the loss of confidence in the reality of a common good or purpose which can become the basis of city life. (1977, p.267)

Perhaps we have now found just such a common good: sustainable development! This constitutes a big problem, somewhat equivalent to the 19th century industrial city problem faced by the 'seers'. The big idea in response is the compact city.

#### **The contemporary debate: urban compaction or decentralisation?**

The contemporary debate on urban form was sparked off in the late 1980s as it became clear that planning, and hence urban form, would be central to the promotion of sustainable development. Suddenly, urban compaction became the order of the day. The decentrist view, having stolen the debate for so long, has now become distinctly unfashionable as the debate focuses on environmental sustainability. Nevertheless, there are bands of protagonists. At the risk of oversimplifying matters, these latter-day decentrists can be split into two groups:

- The 'free-marketeers', who claim that it is interference by planners in land markets that causes problems, and that market solutions will optimise urban forms.
- The 'good-lifers', who argue for a lifestyle that is decentralised, both geographically and institutionally, and a return to 'rural values'.

The centrists hold sway, however, in the current debate. The particular motives differ a little in different countries, but all are driven by the sustainability imperative. The two dominant motives are global warming, and hence the reduction of pollution, and the loss of open countryside to urban uses.

The logic behind the first motive is that stricter urban containment will reduce the need for travel - which is the fastest growing and least controlled contributor to global warming - by facilitating shorter journeys and inducing greater supply and use of public transport. Thus, the use of non-renewable fuels will be reduced along with harmful emissions. This argument reflects the weight given to concerns



over global warming in the current passion for environmental sustainability; and, in turn, the concern over the growing contribution of transport to CO<sub>2</sub> and other pollutants. The second, but generally subsidiary, motive is that urban containment might deliver other environmental benefits, such as reductions in loss of open land and valuable habitats. Interestingly, another motive is the improved quality of urban life that would result from higher densities in cities. This particular concern is interesting because it is a centrist motive that is common to the current and earlier debates. Just as it was much disputed earlier, so it is now.

The centrist view is being promoted academically and politically. Because the focus of the debate is now on technical questions, rather than the less tangible focus of the historic discussions, much of the concern is to gather or challenge evidence. Opinion still matters, but the quest for hard evidence dominates.

### *Evidence on decentralisation*

Much of the evidence adduced in this debate relates to the merits and demerits of compaction. Breheny (1995b), however, has argued that a fundamental set of prior questions has largely been ignored. These concern the degree to which urban decentralisation is continuing, and, if it is, the power of the trend. An understanding of the causes of decentralisation is crucial in any attempt to slow or halt it. Rapid urban decentralisation has been a feature of most Western countries from the second world war onwards, and earlier in the United States. The nature of this decentralisation has differed in different countries. In the United States, Canada, Japan and Australia it has tended to take the form of massive suburbanisation, creating at its extreme form The 100 Mile City (Sudjic, 1992). It is this massive sprawl that is now so reviled by centrist commentators in the US. In European countries, decentralisation has taken the form of suburbanisation of larger cities and towns, but also of growth of smaller towns and villages down the urban hierarchy: a process sometimes referred to as 'counter-urbanisation'. This discontinuous growth results in part from the existence of sacrosanct green belts around the larger cities.

Interestingly, census evidence across Europe for the 1980s shows that this process of decentralisation is no longer pervasive. It persists in some countries, but seems to have been countered by modest renewed urbanisation in others. This may be good news for the modern centrists. The evidence for the UK, however, suggests that the process of decentralisation continues. The absolute scale of change has slowed down, but the geography remains clear. An official urban typology is used in the UK to monitor change in the urban hierarchy. Fig. 1 shows percentage employment change for the period 1981-91 for each type. The logic could not be neater. The largest losses are in the older industrial cities, and the largest gains in the most rural categories. A similar, if slightly less clear, pattern is shown by population change. The centrist task in the UK, then, is to turn around this clear process of decentralisation. It seems like a tall order. This is particularly so when the powerful forces underlying the changing space economy are taken into account, and with a planning system that is often accused of being able to do little more than tinker with the market.

The neglect of these questions about decentralisation is rather surprising because there is a solid body of literature on decentralisation, or more particularly on the extreme version of counter-urbanisation (see for example, Cheshire and Hay, 1986, Champion; 1989). This literature, by and large, has not been related to the

urban compaction literature.

### Urban densities

In the absence of any great concern with the direction and strength of decentralisation, the quest for hard evidence in the compaction debate focuses on two issues: the effects of urban densities and urban size on travel, and hence on emissions. In other words, are there specific urban forms that will induce less travel? Or, given the strength of commitment to the idea, will the compact city induce less travel? If the evidence does show that higher densities and larger towns and cities do generate significantly less travel, then urban decentralisation is the villain, and compaction the solution.

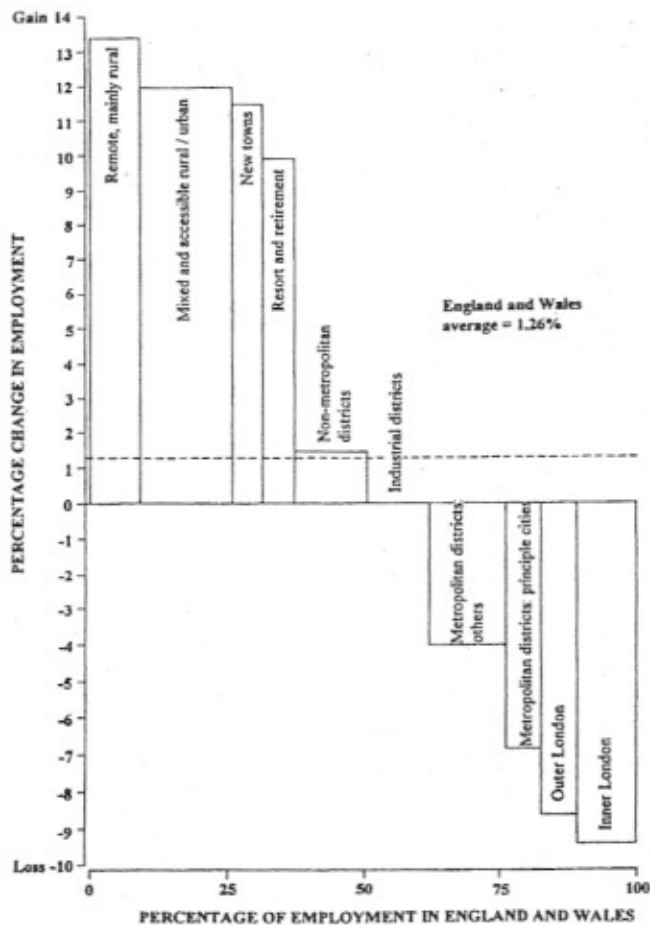


Fig. 1. Employment change by urban types, 1981-91, England and Wales.

Source: NOMIS

Much of the technical case for compact cities has revolved around the supposedly lower levels of travel, and hence lower levels of fuel consumption and emissions, associated with high urban densities. Central to the debate has been the work of the Australian academics Newman and Kenworthy (1989a; 1989b; and Newman, 1992). For a number of large cities around the world, they have related petroleum consumption per capita to population density. They found a consistent pattern with higher densities being associated with lower fuel

consumption. The cities with the lowest densities, and hence the highest consumption rates, were in the United States. European cities were relatively fuel-efficient, but Hong Kong, with very high densities and a large mass transit system, was by far the most efficient. The conclusion from the exercise was that, if fuel consumption and emissions are to be reduced, there is a need for policies to promote urban compaction and public transport. A similar message emerged from the ECOTEC (1993) study for the UK Government. This also produced evidence to suggest that higher densities are associated with less travel. Table 1 shows a neat inverse correlation between total distances travelled per week and population density. Car travel accounts largely for the differences. People living at the lowest densities travel twice as far by car each week as those living at the highest densities. Given the high political priority afforded to questions of global warming in the sustainability debate, and the knowledge that transport is the fastest growing contributor to CO<sub>2</sub> emissions, the Newman and Kenworthy and ECOTEC message has been accepted readily. Nevertheless, although accepted politically, the message remains controversial in the academic world.

Density (Persons per hectare)	All Modes	Car	Local Bus	Rail	Walk	Other
Under 1	206.3	159.3	5.2	8.9	4.0	28.8
1 - 4.99	190.5	146.7	7.7	9.1	4.9	21.9
5 - 14.99	176.2	131.7	8.6	12.3	4.3	18.2
15 - 29.99	152.6	105.4	9.6	10.2	6.6	20.6
30 - 49.99	143.2	100.4	9.9	10.8	6.4	15.5
50 and +	129.2	79.9	11.9	15.2	6.7	15.4
All Areas	159.6	113.8	9.3	11.3	5.9	19.1

Data exclude trips less than 1.6km and only refer to the main mode used for a trip.

As might be expected, the strongest free-marketeers - and by obvious extension, decentrists - come from the United States. In the planning field, Gordon and Richardson and colleagues have been both the most active promoters of this line and the strongest critics of the now fashionable growth management and anti-sprawl campaigns in the US. Their contribution to the debate consists of both promoting the efficacy of markets generally (e.g. Richardson and Gordon, 1993) and a critique of the Newman and Kenworthy work (Gordon and Richardson, 1989), as described above. Obviously, they object to Newman and Kenworthy's reliance on intervention to resolve urban problems, preferring to leave the market to determine optimum solutions. The likelihood is, they argue, that market mechanisms will produce polycentric cities, with relatively low energy consumption and congestion. They are deeply sceptical about the prospects for massive public investment in transit systems, pointing to the immense subsidies required to support large scale systems around the world.

Gordon and Richardson also object to the Newman and Kenworthy work on empirical grounds. In the United States they have found that commuting distances have tended to remain stable or fall in recent years, despite continuing decentralisation. This arises, they argue, because of the co-relocation of people

and jobs. Thus, most work - and now non-work - trips are from suburb to suburb (see also, Gordon, Kumar and Richardson, 1989; Gordon, Richardson and Jun, 1991; Bae, 1993). This observation is supported by Levinson and Kumar (1994), who find that travel times have remained stable, and attribute this to the 'rational locator'. In contrast, Spence and Frost (1995) have found that in the UK, despite changes in locations of both homes and workplaces, the characteristics of work travel seem enduring, but with average trips being longer.

The Newman and Kenworthy work has been criticised for focusing too heavily on the single variable of density, when other factors, some intertwined with density, are likely to be important in explaining travel behaviour. Gomez-Ibanez (1991), in a review of Newman and Kenworthy's (1989a) sourcebook, pursues this point. In particular he argues that household income and gasoline price are important determinants of such behaviour. Likewise, he points out that the relationship between income and density may make it difficult to identify clearly the link between density and gasoline consumption. This latter point has been made in a preliminary study of densities and modal split by Breheny (1995a). Gomez-Ibanez (1991) also makes a rare but fundamental point: the costs of radical containment policies - in terms of economic losses, reduced quality of life etc. - have not been weighed against the supposed environmental gains. For deep-green environmentalists these losses are acceptable by definition. But for most policy-makers a degree of balance - and hence an understanding of gains and losses - will be required. Hall (1991), who as Director of the Town and Country Planning Association represents an unbroken line of new town advocates stretching back to Howard, takes Newman and Kenworthy to task on a number of counts. He criticises their naive review of density issues, and argues that travel distances and modal splits are as much to do with urban structures as urban densities. He also regards their criticism of the 'Anglo-Saxon pastoral or anti-urban tradition' as being simplistic. He says that they fail to justify the claim that low density living dampens the 'higher aspects' of human communities. Most importantly, Hall argues that the authors - along with many others, one might add - do not appreciate that even with higher urban densities, a substantial proportion of future housing development will have to take place outside existing urban boundaries, a point stressed by Breheny, Gent and Lock (1993).

Newman and Kenworthy (1992) have responded to their critics by stressing the importance of the role of planning in addressing these issues. They make the point that land use planning - and hence a focus on densities - is likely to remain a major tool for reducing urban energy consumption because of governmental fear of economic measures, and particularly prices. This logic certainly applies in the UK, where there is a heavy focus on the planning system and a reluctance on the part of government to address pricing mechanisms (although the consumption tax on petroleum is set to rise each year at 5% above the rate of inflation). Indeed, the most direct policy initiative, *Planning Policy Guidance 13* (PPG13) on land use and transport, is aimed at reducing the need for travel. This acknowledges the fact that, without price rises, the propensity or 'inclination' to travel, as Owens (1995) puts it, will not reduce. Thus, there is in place one part of a two part policy: the need to travel will be reduced, but price mechanisms to reduce inclination are awaited. Newman and Kenworthy are rather dismissive of their opponents' empirical evidence, suggesting that a focus on just US cities can be misleading; 'heaven help us' they say if Los Angeles is held up as a model

(Newman and Kenworthy, 1992, p.360).

Herskowitz (1992) and Bourne (1992) have supported the Australians. The former suggests that, despite Gordon and Richardson's evidence, urban sprawl continues to aggravate transportation problems. Bourne is unwilling to allow market planning to determine the future form and health of cities. He suspects that the continued promotion of urban dispersal will contribute to 'the evolution of future urban forms that are increasingly inefficient and socially inequitable.' (Bourne, 1992, p.513).

### *Urban size*

Relative to the debate on urban densities, the link between urban size and transport energy consumption has received little attention. The ECOTEC (1993) study mentioned above did address this issue. Using empirical evidence for the UK, it concluded that urban size is negatively correlated with transport energy consumption. The average weekly distance travelled per person in the UK rises down the urban hierarchy, with residents of the most rural areas travelling twice as far as those in the largest cities. Virtually all of the difference is accounted for by car travel. Although public transport usage accounts for a very small proportion of overall travel, the highest levels of patronage are in the most urban areas. This logic clearly supports a policy of urban compaction, because this would tend to halt or slow down urban decentralisation. In principle this process seems to be profoundly unsustainable, with people and jobs moving to areas where car-borne travel is necessarily high, and away from the places where such travel is lower and public transport provision is highest.

The obvious answer, in line with the views of Newman and Kenworthy (1989a), seems to be greater compaction, preventing development at the more profligate end of the urban hierarchy. However, Breheny (1995b) has tested this logic. He has tried to simulate the total transport energy consumption in Great Britain at 1991, given knowledge of population levels by urban type, average mileage per capita in each urban type, and consumption rates per kilometre. He then simulates the equivalent energy consumption as if no urban decentralisation had occurred for the 30 years from 1961; this being a crude equivalent to a draconian policy of allowing no further decentralisation over the next 30 years. The result is an energy saving per week nationally of 2.5%. This is hardly the scale of savings politicians are expecting when asking the planning system to take the lead in confronting the sustainability problem. Breheny (1995b) warns that the gains to be made from compaction policies may be trivial relative to the 'pain' - in terms, for example, of unpopular restrictions on movement - required to deliver such policies. Perhaps one problem in the whole debate is that politicians are reluctant to specify, and professionals and academics unwilling to predict, expected environmental gains from compaction policies.

Nevertheless, national governments around the world, and the European Union, are committed to policies of urban containment. The UK Government has promoted this approach in, for example, the *UK Strategy for Sustainable Development* (UK Government, 1994) and in PPG13 on transport (Department of the Environment and Department of Transport, 1994). The latter - drawing very much on the ECOTEC (1993) study - calls specifically for higher urban densities in general and for exceptionally high densities around public transport nodes. Amongst other policies, this radical document proposes the following under the heading of

'Planning for Less Travel':

Development plans should aim to reduce the need to travel, especially by car, by:

- influencing the location of different types of development relative to transport provision (and vice versa); and
- fostering forms of development which encourage walking, cycling and public transport use (para 1.7).

PPG13, which provides a series of detailed policies designed to induce less travel, is a radical document, and one which overturns much government thinking on planning and transport policy. The overall effect of the policies is to promote much stronger urban containment, to promote, in effect, the 'compact city'.

Other centrists adopt a broader advocacy of urban containment. They are conscious of the energy-saving possibilities of containment, but choose also to stress other potential merits. The Council for the Protection of Rural England (1992; 1993), for example, has reiterated a long-standing grievance: that planning policies are using up open land at an unacceptable rate. They argue that current plans for the accommodation of new housing development alone will lead to an environmental disaster. Consultants Llewelyn-Davies (1994) also argue that greater urban intensification is necessary to safeguard precious open countryside. They attempt to demonstrate how higher housing densities can be achieved without loss of quality of life. Interestingly, this report demonstrates that higher housing densities are very dependent on the degree to which off-street parking is provided on housing developments. In turn, the prospects of reducing off-street parking are dependent on the scope for on-street parking. In turn again, on-street parking is dependent on car ownership. The logic seems to suggest that high residential densities can only be achieved in poorer areas with low car ownership. An innocuous-sounding policy - higher densities - thus seems to have marked distributional effects. There may be a valuable warning here: that the effectiveness of grand urban sustainability strategies may rest or fall on the degree to which modest-sounding initiatives - densities, car parking standards, mixed uses - can be made to 'stick'.

The major practical focus for the urban form debate in Britain in the immediate future will be the accommodation of housing development. In recent years central government has required regional planners to plan for regional housing allocations as derived from government-produced household forecasts. This allocation process has been very controversial, particularly in pressured southern England, where there is great resistance to further development. To date, the Government view has prevailed despite confrontations with a number of county councils. All counties have been required to plan for the housing level allocated to them in regional planning guidance. In 1995, however, a new set of household forecasts (Department of the Environment, 1995) added nearly one million households to the previous forecast of 2.5 million additional households in England over the 1991-2011 period. The prospect of finding land to accommodate the implied extra houses fills local planners and politicians with dread. Environmentalists have argued that the household forecasts are too high and that, even if correct, they need not be converted directly into an additional housing demand. This view has to be countered, however, by the fact that over the last decade or so all

official forecasts have tended to underestimate not overestimate household growth. The likelihood, then, is that the forecasts are realistic and additional housing provision has to be made (Breheny, 1995c).

The big question, of course, is where to put this additional housing. The environmentalist centrists (for example, the Council for the Protection of Rural England) will argue for urban infill and the protection of open countryside. A moderate decentrist line - from the Town and Country Planning Association, for example - will argue that new settlements should have a role. There is no obvious extreme decentrist view. The Government, sensitive to - or even frightened of - this issue is encouraging debate about household numbers and their physical accommodation. This issue is a real test of strength for the centrist and decentrist camps in Britain.

### *Urban compaction and the market*

The question of the direction and strength of urban decentralisation, raised above, is but one example of the potential clash between planning policy and the market. In principle such clashes might arise in the case of both centrist and decentrist policies. In practice, given the general dominance of decentralisation trends, it is centrist policies that are most likely to go against the grain of the market, as Gordon and Richardson (1989) have argued in the United States. Little attempt has been made in the current urban form debate to gauge the degree of likely practical confrontation between policy and the market. Two studies that begin to approach the issue are those by Breheny, Gurney and Strike (1995) and Fulford (1995). The former study considers the problems of implementing PPG13 on land use and transport, from the perspective of both local authorities and the private sector.

In the case of the private sector, it is evident that there will be some resistance to policies that run counter to the logic of the property market. The chief fear is that sustainable development policies, as in PPG13, will not be sustained by governments. Thus, any concessions to PPG13 now might leave investors with 'inferior' property (with, say, low parking provision or mixed uses) when the policy regime relaxes in the future. The issue is not immediate for many property interests because of substantial pipelines of planning permissions granted before sustainable development was discovered. Interestingly, those property and business interests that have low stocks of permissions, such as retailers, have resisted changes in policy but have also adopted new coping strategies (such as new in-town 'metro-stores'). Fulford (1995) has interviewed house-building companies to gain their views on urban compaction policies. Surprisingly, given their record of preference for greenfield sites, he found these companies to be less antagonistic towards the prospect of operating on urban infill sites than might be expected. In contrast, Breheny, Gurney and Strike (1995) found office developers to be extremely wary of urban brownfield sites, to the point of avoiding them at all costs - unless, that is, some of those costs were to be heavily subsidised.

The free-marketeer group of decentrists will argue that resistance from the property market to policies that are against the market grain is inevitable. Indeed, they will argue that it is desirable. For them, the market is the best and most efficient device for resolving our urban problems. This group indirectly supports decentralisation by arguing for a relaxation of planning policy, which they say is to blame for high land and property prices. The case of Gordon and Richardson

has already been explained. Less directly associated with the compaction debate is the camp represented by, for example, Evans (1991), Cheshire and Sheppard (1995), and Simmie (1993). They argue in favour of a relaxation of planning controls in order that land and property prices be reduced. As a straight economic case, this argument is disputed. As planning policy, it flies in the face of everything that the British planning system stands for. This system has, at its root, the assumption that the use and development of land should be controlled. The power of the state to do this since the 1947 Planning Act is a bedrock of the whole planning system, and one much copied around the world. Planners accept the effects on land and property prices, if true, to be a regrettable but acceptable consequence. The group of economists favouring relaxation of planning control for this reason, tend, in turn, to ignore both the benefits of the planning system and the effects of the decentralisation that would inevitably result from their proposals. Unlike their fellow free-marketeers Gordon and Richardson, they do not address these effects.

### *Quality of life*

In addition to the search for hard empirical evidence to support their stance, modern day centrists are also trying to base their case on the superiority of high density urban living. It is crucial that they can demonstrate that higher densities are compatible with a high quality of urban life; and to demonstrate this to a public that is voting with its feet for low density, suburban or ex-urban lifestyles.

The resulting revival of interest in urban culture and quality of life has served to revive interest in Jane Jacobs. Her ideas now warrant particular attention because, despite her overly-romantic notions of the city, many of those ideas have come full circle. On a more prosaic level, as has been demonstrated, questions of urban residential densities are very much part of the current compaction debate (Breheny, 1995a). Likewise, mixed uses are suddenly fashionable. But there is also a new romanticism.

The European Commission (Commission of the European Communities, 1990) has attempted to argue that containment will deliver both environmental and quality of life benefits. This document has been treated with suspicion by a number of commentators, who find it difficult to reconcile the image of the Italian hill town that the authors clearly have in mind with the reality of inner or suburban areas of cities across Europe. The naivety of the report is also demonstrated when the contempt for suburban areas shown by the authors is compared to the inevitability - no matter how our cities are changed - that most urban dwellers will continue to live in such areas. Other commentators (Yanarella and Levine, 1992, for example) also see the Italian hill town as the ideal to which we might aspire as we focus on the compact city. The architect Richard Rogers in his 1995 Reith lectures has promoted the compact city, with the same 'pavement-cafe' view of urban life. Culture in cities, including the promotion of diversity (Parkinson and Bianchini, 1993; Montgomery, 1995), has become a serious policy issue. Sennett's (1970) desire that urban residents should feel 'uncomfortable' is now echoed in the idea that it is their 'edge' that makes cities exciting. It is a neat play on words that for many people it is the very existence of urban 'edge' that is driving them to 'edge cities' (Garreau, 1991).

The creation or re-creation of small, intimate neighbourhoods is also part of this renewed interest in community-level solutions. Proposals take the form of



new urban villages or free-standing new settlements in the UK (Urban Villages Group, 1992; Breheny, Gent and Lock, 1993) or equivalent 'neo-traditionalist' developments in the United States. In the latter case, the movement has gained considerable momentum, under the 'new urbanism' label. The development of the small community of Seaside, Florida, designed by Duany and Plater-Zyberk, has created considerable interest (Mohny and Easterling, 1991), as have the ideas of Calthorpe (1993). He promotes both regional planning, to encompass problems of decaying cities and dispersed suburbs, and Transit-Oriented Development, along the lines advocated by the Dutch for some time. Bourne (1995) suggests that 'new urbanism' is as yet little more than a fad in North America, but that it does reflect a new twist to the contemporary planning debate.

Quality of life is the prime motivation for the second group of modern decentrists identified above - the good lifers. This group might in turn be split into two factions. There is the very rare, but rather exotic, anarchist tendency. In the UK a version of this view has been expressed over a long period by Colin Ward, who traces the lineage back to Kropotkin, to the early 'beards and sandals' residents at Letchworth, and to the residents of the inter-war plotlands scattered across the UK and in some cases still thriving (although sadly one of the more famous plotlands - Jaywick Sands in Essex - has recently suffered physical and social disintegration). Perhaps the 'new age travellers' represent a peripatetic version of this group.

The second, more mainstream group of good lifers (for example, Robertson, 1990; Green and Holliday, 1991; and Holliday, 1994) argue, against the grain, that the answer to our problems is decentralised living - geographically and institutionally - and a focus on 'rural values'. In this case, the argument is not for planned garden cities, but for geographically dispersed communities in which households have enough land to become near self-sufficient in crop production; this is a solution owing more to Wright than Kropotkin. It is now assumed that such decentralised living would supplement traditional rural values with the optimum use of telecommunications: the often discussed, but slow to emerge, 'electronic cottage' model of life. There is evidence of increased telecommuting, but the popular view that new technology will 'unglue' the cities is in dispute. Richardson, Gillespie and Cornford (1995), for example, suggest that the case is over-stated, while Handy and Mokhtarian (1995) find confusing evidence of the scale of telecommuting in the United States.

### **Conclusion: centrists, decentrists or compromisers?**

There is, then, a long history of views on the appropriate form of urban development. Throughout the 20th century these views have tended to polarise between clear decentrist and centrist camps (see Table 2). From the turn of the century onwards, factions have tended to rally around, and elaborate on, the classic stances of Howard, Wright and Le Corbusier. A clear lineage can be traced for each of the camps through to the late 1960s and early 1970s. Big ideas, however, went out of favour at that time. Now that a big problem - sustainable development - and a big solution - the compact city - have emerged, the debate has been revived. The old factions have been re-formed and are presenting their cases with as much vigour as was the case sixty years ago. But does the answer have to lie at one extreme or the other? Will town and country only survive under a decentrist or centrist regime? Could they survive satisfactorily under a middle

line, a compromise?

Compromise positions are never very fashionable. This may be why advocates of a position between the centrists and the decentrists have been slow to emerge. Nevertheless, this slowness is surprising, because it is clear that there are merits to be taken from each of the extreme positions and demerits to be discarded. The compromise position results not from any ideological stance, but from a realisation that - for anyone wishing to adopt a realistic stance - this mixture of merits and demerits precludes the unbridled advocacy of either of the extremes.

Centrists		Decentrists		
Solution	Protagonist	Solution	Protagonist	
1800		New Lanark	Robert Owen	
1850		Saltaire Bournville Port Sunlight	Titus Salt George Cadbury William Lever	
1900		Garden Cities movement	Ebenezer Howard	
1935	La Villa Radieuse	Le Corbusier	Broadacres City: A new Community Plan	Frank Lloyd Wright
1955	Counter-attack against 'Subtopia'	Nairn	New Towns movement	Mumford, Osborn TCPA
1960	Urban Diversity	Jacobs, Sennett		
1970	Civilia	de Wolfe		
1975	Compact city	Dantzig & Saaty		
1990	Compact city	National governments	Market solutions	Gordon & Richardson Evans, Cheshire, Simmie
		Newman & Kenworthy ECOTEC, CPRE, FOE	'Good life'	Robertson, Green & Holliday

The case against the centrists rests on four main points: first, the likelihood that it will not deliver the environmental benefits claimed; second, the probable impossibility of halting urban decentralisation, whether it is regarded as desirable or not; third, that some greenfield development is inevitable even with compaction policies; and fourth, that higher urban densities are unlikely to bring about the high quality of life that the centrists promise. On the first point, although some reduction in energy consumption might be expected from compaction, evidence presented above suggests that the gains will be very modest compared to the discomfort likely to be caused by the necessary draconian policies. As Breheny (1995b) puts it, the policies designed to reduce travel 'had better be worth it'. He concludes that they probably will not be worth it, demonstrating that only marginal savings in fuel consumption and hence emissions would result from such

containment policies. On the second point, it is clear that urban decentralisation, in the UK at least, continues apace, despite a continuing planning regime of containment. During the period 1981-91 something like 1.2 million people moved to rural and semi-rural areas. Although this might not be a pure expression of locational preference, it obviously does reflect a major desire for lifestyles in such areas. It also implies that strict containment policies are likely to be very unpopular.

On point three, while the extreme centrist case argues that all future urban development should be contained within existing urban boundaries, the truth is that some greenfield development is inevitable. Breheny, Gent and Lock (1993), in reviewing alternative ways of accommodating development, conclude that unless much tougher containment policies are introduced - at the very time when concerns are being expressed over urban intensification - it is inevitable that significant greenfield development will take place in the UK. The third case against the centrists is that, arguably, urban quality of life will deteriorate with higher densities, not improve as they suggest. This case suggests that the majority of people, in the UK at least, gain satisfaction from living at moderately low densities. Resources permitting, they will choose to avoid the kinds of densities now being advocated by the centrists. Clearly, there are groups of people - of particular ages, occupations and levels of income - who may choose high density, urban living. Likewise, there are high density urban areas - usually historically and architecturally interesting and socially exclusive - that remain popular through time. However, these people and these areas are very much the exception. Many people who do live in high density urban areas, as in inner rings, are more likely to be trapped by virtue of employment opportunities and the availability of rented housing than they are to have made a conscious decision to live there. There is now a concern that in some urban areas, and most particularly in suburbs, a consequence of past containment policies has been 'town cramming'. This suggests that policies aimed at preventing development in the countryside have pushed pressures back on urban areas, resulting in the loss of urban green spaces, and increased congestion. Thus, the argument goes, protection of the countryside and the quality of life of rural dwellers has lowered the quality of life of urban dwellers.

The case against the extreme decentrists has been articulated - albeit to extremes - by the centrists. If the energy consumption argument does not stand - as Breheny (1995b) has suggested - then the land loss argument probably does stand. Although the CPRE (1992; 1993) has tended to exaggerate the annual loss of open land to development, the case is generally valid nevertheless. Although the dispersed electronic cottage model is different from the suburbanisation to which the centrists object, it is unlikely to be any more acceptable. Millions of people developing their one acre plots in the countryside is not an attractive proposition. Also, it is not at all clear that the full benefits of telecommunications - on which much of the modern decentrist case rests - will ever be available in every small town and hamlet. Another profound argument against the decentrists is the ongoing fear that continuing decentralisation will further sap the lifeblood of cities: the Jane Jacobs argument. There is abundant evidence that if planning policies allowed it, there would be greater decentralisation of business activity from our cities than is the case. A more relaxed attitude to decentralisation would hasten the demise of the cities.

Given the merits and demerits of the centrist and decentrist cases, a compromise

position has many attractions. From the centrist case it can adopt continued, indeed tougher, containment, urban regeneration strategies, and a whole range of new intra-urban environmental initiatives. There will be environmental gains, but not at the expense of quality of life. From the decentrist case it can allow for the controlled direction of inevitable decentralisation - to suburbs and towns able to support a full range of facilities and public transport, and to sites that cause the least environmental damage. It takes account of the grain of the market, without being subservient to it. It might allow for some development in the form of environmentally-conscious new settlements.

This compromise position is rarely espoused in the current, compaction-dominated debate. However, there are a few adherents to this middle ground. This is the general line taken, for example, by the TCPA (Blowers, 1993) in their promotion of the 'sustainable social city' (Breheny and Rookwood, 1993), a label deliberately invoking memories of Ebenezer Howard. Indeed, rather than representing an extreme decentrist position, as portrayed by Jane Jacobs and others, Howard's views fall close to this compromise position. He did favour urban regeneration; he did favour protection of the countryside; he did favour containment; and he did want to marry the best of town and country. Hooper (1994) and Lock (1991; 1995) are other advocates of this position. Hooper reviews the extremes of the urban form debate and concludes, very unfashionably, that suburban development is much maligned. It has, he argues, played, and will yet play, a relatively successful role in our towns and cities. Lock rehearses the gains and losses from more intensive use of urban areas, and concludes that there is 'still nothing gained from overcrowding', a play on the title of a famous pamphlet by Raymond Unwin - Howard's architect at Letchworth - of 1912.

One of Hall's (1992) parting shots in his review of the 'seers' of planning history was that they tended to ignore the practicalities of the real world. The unwillingness of extreme advocates now - particularly the centrists - to see the modern day practicalities is evidence that we have come full circle. The desire for the big idea has returned. However, the world is now more complex and political than it was when Howard, Wright, and Le Corbusier were in full flow. Even if sustainability gives us a motive for the big idea, that idea necessarily has to be tempered by a dose of realism. The compromise line might seem like a little idea; perhaps properly packaged it could be big.

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