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Centenary Paper

V. Gordon Childe and the Urban Revolution: a historical perspective on a revolution in urban studies

'The Urban Revolution' by V. Gordon Childe (*Town Planning Review*, 1950) is one of the most heavily cited papers ever published by an archaeologist. The intellectual context and influence of Childe's paper are examined here. Childe was the first to synthesise archaeological data with respect to the concept of urbanism, and the first to recognise the radical social transformation that came with the earliest cities and states. This paper traces the influence of his ideas and shows their relevance to studies of ancient urbanism today. Although Childe's treatment of urban planning was brief, his ideas presaged current research into ancient urban planning. The paper ends with a call for renewed interaction between scholars of ancient and modern urbanism.

V. Gordon Childe (1892–1957) was the most influential archaeologist of the twentieth century. His early fieldwork and research in the 1920s overturned archaeological models of European prehistory. He then turned to theory and synthesis and for the first time applied social models to archaeological data concerning the major transformations in the evolution of human society. His synthetic work was disseminated widely through two scholarly yet accessible books: *Man Makes Himself* (1936) and *What Happened in History* (1942). Childe was a Marxist, and in these and other works he employed two key concepts to organise his discussion: the Neolithic Revolution and the Urban Revolution. Childe's models for these revolutions largely created the modern scholarly understanding of two of the most fundamental and far-reaching transformations in the human past. Childe's paper 'The Urban Revolution' – first published in *Town Planning Review* (Childe, 1950) – is one of the most widely cited papers ever published by an archaeologist.[1]

I first review Childe's contributions to the archaeological research on the origins of cities and states. His concept of the Urban Revolution continues to have relevance

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1 I performed an internet search using the software Publish or Perish, which organises the citation data of Google Scholar. 'The Urban Revolution' ranks eighth in the total number of scholarly citations (among journal articles by archaeologists), and first in citations of articles about ancient complex societies. It is the most heavily cited paper published in TPR. I should note that Childe's paper is incorrectly attributed in Google Scholar (it is not listed under TPR), but a check of the Google list of subsequent works that cite the paper confirm that they do indeed cite the paper in TPR.

today, both within and beyond archaeological study. Then I comment on the relevance of Childe's Urban Revolution model for our understanding of the nature of planning in the earliest cities. Although Gordon Childe published little on urban morphology or planning, his ideas have contributed to current models of ancient urban planning. Readers interested in the life and intellectual contributions of V. Gordon Childe can consult a substantial body of works (e.g. McNairn, 1980; Trigger, 1980; Green, 1981; Manzanilla, 1987; Peace, 1988; Gathercole, 1994; Wailes, 1996; Greene, 1999; Patterson, 2003).

The historical context of Childe's concept of 'revolutions'

Cultural evolution

> Most of all, perhaps, we will remember him as the man who made order out of archaeological chaos… It hardly matters that some details of Childe's scheme don't fit the current North American data. What matters is that Childe had a vision of evolution at a time when other archaeologists had only chronology charts. (Flannery, 1994, 109–10)

Over the past several millennia, human societies have undergone major transformations in their social orders. Ten thousand years ago, all humans lived in small, mobile groups that subsisted on wild plants and animals. In several areas of the earth, early hunting groups domesticated local plant and animal species to forge a farming way of life. Agriculture was accompanied by greater sedentism and population growth, and its adoption was typically followed by the expansion of the farming (Neolithic) way of life into new territories through a combination of migration and trade. After some time, a number of these farming societies transformed themselves into much larger, more complex social systems characterised by cities, political states and class inequalities. Again, the new way of life quickly expanded beyond its zones of origin through conquest and trade. Rulers and dynasties rose and fell, and the potsherds and stone tools of archaeology made way for written documents as the major source of evidence for human history. These early complex societies are sometimes referred to as the early civilisations, but for a variety of reasons that term has fallen out of favour with many archaeologists

The processes of change outlined above are generally referred to as cultural evolution (or sometimes social evolution). The story of cultural evolution is one of the fundamental contributions that the discipline of archaeology makes to general knowledge. Theoretical models and intellectual approaches to cultural evolution have waxed and waned over the several centuries that archaeologists have studied the past (Trigger, 2006). At times, cultural evolution – particularly the search for patterns and regularities – has been the dominant research theme for most archaeologists, and at

other times the concept has fallen into disfavour as archaeologists focused on particular local settings. But throughout the existence of the discipline, excavations have steadily generated new data on past societies and their changes through time. And throughout the past seven or eight decades, many archaeologists have steadily applied a diverse array of social theory to the comparison of sites and regions in order to document and explain processes of cultural evolution.

Within this tradition of research on cultural evolution, Gordon Childe's concepts of the Neolithic and Urban Revolutions rank among the most important theoretical advances. In the words of Colin Renfrew (1994, 123), 'His vision of change in *Man Makes Himself* (1936) and in *What Happened in History* (1942), along with his concepts of the Neolithic Revolution and the Urban Revolution, may be regarded as the first coherent analysis of the processes of change at work in prehistoric times'. Systematic research on cultural evolution began with a group of nineteenth-century anthropologists, of whom the most prominent were Herbert Spencer and Lewis Henry Morgan. Morgan (1878), for example, classified modern non-Western cultures into categories of increasing social complexity that he called savagery, barbarism and civilisation. The early evolutionists asserted that their classifications of modern peoples could be applied to the past, and that ancient peoples evolved from savages to barbarians to civilised people. But in the mid-nineteenth century, there was virtually no archaeological information available to support or refute such schemes, which were of necessity quite speculative.

In the early twentieth century, anthropologists led by Franz Boas turned away from such speculation. Ethnographers studied living non-Western peoples whose traditional ways of life were rapidly disappearing, and they analysed local cultures from a very particularistic perspective. Meanwhile, archaeologists were steadily accumulating data about past societies using a conceptual framework based on tools and technology. Their organising concepts (e.g., old stone age, new stone age, bronze age and iron age) were derived from artefacts and their stratigraphic occurrences, with only limited consideration of social institutions or social changes through time. Gordon Childe's most important contribution was to reconceptualise the archaeological data in social terms and to identify two major social transformations – the Neolithic and Urban Revolutions – that brought about new ways of life and new forms of society. Although the resultant three broad evolutionary stages (Paleolithic, Neolithic and Urban) could be matched with Morgan's speculative scheme of savagery, barbarism and civilisation, Childe's formulation was based on actual evidence.

After the interlude of Boasian particularism, cultural evolution and comparative perspectives made comebacks in the 1940s and 1950s. Childe is generally acknowledged as one of the scholars who, along with US cultural anthropologists Leslie White and Julian Steward, spearheaded this movement (Carneiro, 2003, 115; Patterson, 2003). Childe contributed both materialist theory and archaeological data to the new

synthesis of cultural evolution, and he also influenced a number of archaeologists – particularly Robert Braidwood, Robert McC. Adams and William T. Sanders – who took up the flag to become the leading cultural evolutionists of the mid-twentieth century.

The two revolutions

Gordon Childe chose the phrase 'revolution' deliberately in order to compare the major social transformations of prehistory to the Industrial Revolution. As discussed by Kevin Greene (1999), Childe started using the word in the 1920s, and then cemented his usage in *Man Makes Himself* (Childe, 1936), in which there are chapters entitled 'The Neolithic Revolution' and 'The Urban Revolution'. To Childe, these periods of changes were 'real revolutions that affected all departments of human life' (Childe, 1935, 7).

The Neolithic Revolution describes the transition from hunting and gathering to farming. This process, which relied on the domestication of wild plants and animals, occurred independently in seven or eight parts of the world (Bellwood, 2005). The shift from a total reliance on wild resources to the use of domesticated foods led to a number of fundamental and far-reaching changes in human society. Most human groups gave up a mobile lifestyle and adopted year-round sedentism, which was accompanied by a major surge in population. Families expanded, villages grew, and

Figure 1 Locations of the six areas where the Urban Revolution happened independently

the agricultural way of life spread widely around the globe. These changes set the scene for a more complex division of labour and the development of social inequalities. Childe was one of the first to observe that this was truly a 'real revolution'.

Whereas the Neolithic Revolution combined technological breakthroughs with social transformations, the Urban Revolution was almost entirely a transformation of social institutions and practices. Kings with real power emerged for the first time, accompanied by institutions of government and social stratification. Economic activity of all sorts expanded greatly, and the first cities were built. Childe used the phrase 'Urban Revolution' to refer to this interconnected series of changes; he did not limit the term to the development of cities. For him, cities were just one component of the overall process by which complex, state-level societies came into being. By the 1970s, cultural evolutionists started using the phrase 'the rise of the state' for this process, and for the most part that is how it remains conceptualised today (e.g. Spencer and Redmond, 2004; Peregrine et al., 2007).

Early cities and states arose independently in six parts of the world (Figure 1). The earliest state societies in these regions evolved out of simpler societies without substantial influence from pre-existing states. This process is known as 'primary state formation' (Spencer and Redmond, 2004). Some primary states expanded through conquest, and in other cases nearby areas developed state institutions of their own as a result of trade or political competition with prior states.

Childe's concept of 'revolution' has been much discussed by archaeologists and historians. Andrew Sherratt (1989, 179) argues that, 'Despite his use of the term "revolution", it is clear that he did not see it in Marxian terms, as the resolution of a contradiction: it is a consensualist model in which all parties initially benefited – although unequally – from the change'. Thomas Patterson (2003, 47–51), on the other hand, suggests that as a Marxist, Childe deliberately selected the word 'revolution' to label such fundamental social transformations. Adam T. Smith (2003, 187) notes that 'the Urban Revolution was also not about revolution, at least not in the traditional sense of a rapid, radical overturning of political regimes'. Childe's use of the term 'revolution' is reviewed in detail by Greene (1999).

Gordon Childe's model of social transformations may be summarised as follows. The adoption of an agricultural subsistence and lifestyle – made possible by the domestication of key species of plants and animals – led to fundamental changes in society and people's lives. After a period of time (millennia in most areas), some Neolithic societies underwent another fundamental transformation with the development of the earliest states and cities.[2] In some ways, the social changes associated

2 I should perhaps mention a persistent error in the non-archaeological literature that posits the development of cities prior to the adoption of agriculture. This was first suggested by Jane Jacobs (1969, 3–48) as part of an ideologically motivated argument for the importance of cities in human life (Hill, 1993). Although a glance at any introductory textbook in prehistory would show the error of such an assertion, Jacobs' ideas have been repeated

with the Urban Revolution were even more drastic and fundamental than those of the Neolithic Revolution, since former freedoms and independence were replaced by servitude, taxes, rules and regulations. The earliest urban society developed in Mesopotamia, and excavations at Ur in the 1920s (Woolley, 1954) provided Childe (1934; 1936) with abundant data and illustrative material for his writing on the Urban Revolution (Figure 2).

Although our understanding of the details of these processes and their operation in different regions has advanced considerably since Childe's time, his basic model has held up remarkably well. Some archaeologists have argued that the long temporal and social interval between the two revolutions witnessed an additional jump in economic and social complexity that could be called another revolution. Andrew Sherratt (1997), for example, proposed an influential model of the 'Secondary Products Revolution' that emphasised the developing reliance on renewable secondary animal products (e.g. milk, wool, traction), and Kent Flannery (1994) has suggested that the development of the pre-state complex societies known as chiefdoms (Earle, 1991) should be termed a separate social revolution.

The article in *Town Planning Review*

Gordon Childe was concerned with making the results of archaeological fieldwork known to a wider audience (Trigger, 2006, 345–46) and he may have published his article in *Town Planning Review* (*TPR*) to further this interest. Gordon Stephenson, editor of *TPR* at the time, noted in his autobiography that his assistant, R. E. M. McCaughan, 'persuaded eminent historians to prepare contributions, which they did handsomely. The historians prepared a series of articles especially for planners and planning students' (Stephenson, 1992, 130–1). As the pre-eminent archaeologist of the day, Childe may have been asked to contribute an article in this way. In his introductory comments to the issue, Stephenson (1950, 2) says: 'Professor Gordon Childe, who contributes the first article in this number, is known not only as one of the foremost pre-historians in the world but also as one who has often reminded planners that there have in the past been clear economic and social reasons for change in urban development'. Authors of other papers on ancient cities in *TPR* around this time, however, stuck much more closely than Childe to the topics of planning and urban

with approval by a number of subsequent authors, including Edward Soja (2000, 42–6) and Peter Taylor (2007). The archaeological record is quite clear and consistent throughout the world; in all areas investigated by archaeologists, the Neolithic revolution (agriculture) occurred first, and only after several millennia did the first cities emerge. A related error (Jacobs, 1969, 42–6; Soja, 2000, 42–6) is to classify the 15-hectare Neolithic village site of Çatalhöyük as 'the world's first city' (Shane and Küçük, 1998), a notion that is debunked by Ian Hodder, the chief excavator at the site (Hodder, 2006, 36–49).

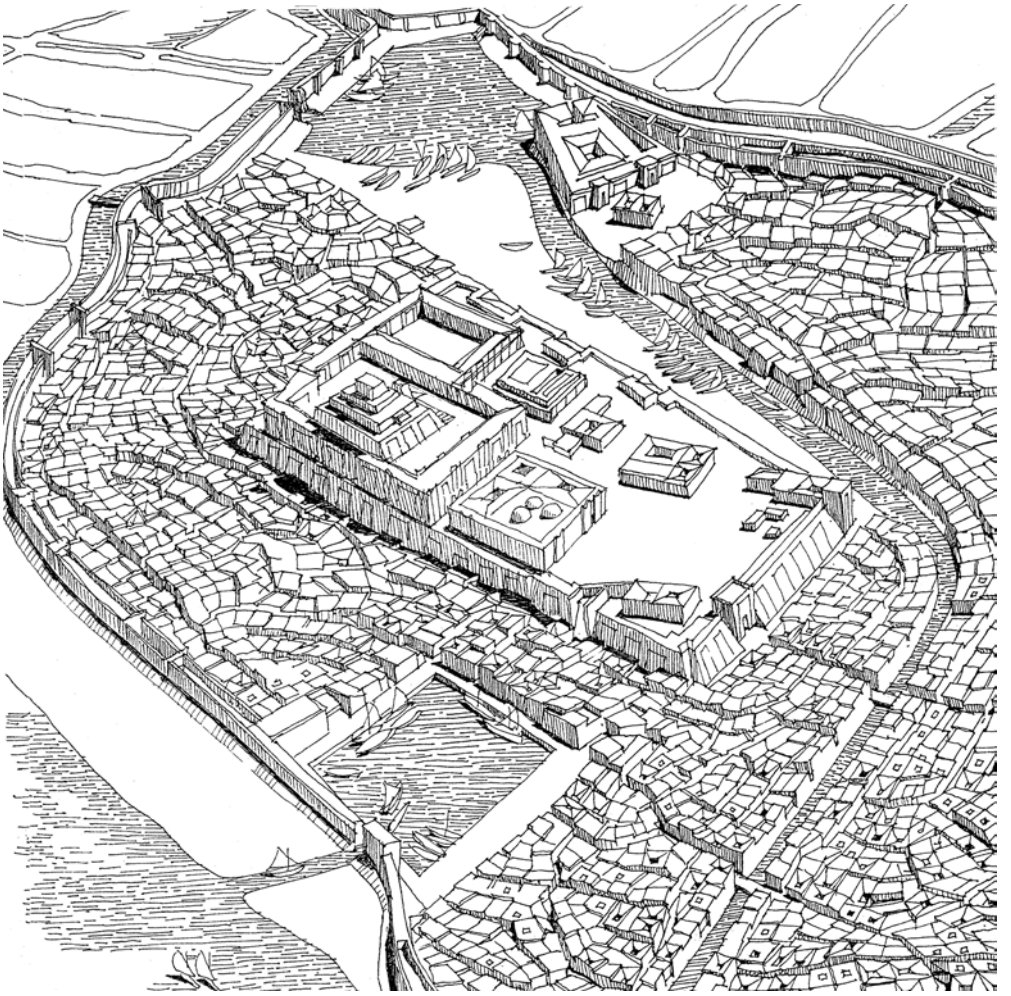

Figure 2 Reconstruction drawing of the Sumerian city of Ur, one of the earliest cities
Source: Barnow (2001, 51). Drawing by Claus Roloff, from the Cities and Modes of Production project. Reproduced by permission.

design (Fairman, 1949; Frankfort, 1950; Hutchinson, 1950, 1953a, 1953b; Wycherley, 1951a, 1951b).

How did a paper published in a planning journal become one of the most heavily cited articles ever published by an archaeologist? Three characteristics were responsible for its popularity and influence. First, it had a short, clear title and its content was limited to this single concept. Secondly, publication in *TPR* made the paper more visible to geographers, urban historians, planners and other scholars of urbanism

than it would have been if published in an archaeological journal such as *Antiquity*.[3] Thirdly, Childe synthesised and organised his model in this article, making it clearer and more succinct than in his earlier books. Although the basic model was contained in those books, in the article he expressed it in terms of ten concise characteristics.

The Urban Revolution

The ten-point model

Childe began his famous paper by noting: 'The notion of "city" is notoriously hard to define. The aim of the present study is to present the city historically – or rather prehistorically – as the resultant and symbol of a "revolution" that initiated a new economic stage in the evolution of society' (Childe, 1950, 3). As noted above, it is important to keep in mind that Childe's model is not so much about cities or urbanism per se as it is about the series of interrelated social, economic, political, and cultural changes that led to the earliest states and cities. After reviewing societies before the Urban Revolution, Childe presents his famous list of ten criteria for early states: 'Ten rather abstract criteria, all deducible from archaeological data, serve to distinguish even the earliest cities from any older or contemporary village' (p. 9). His ten traits are as follows:

1 'In point of size the first cities must have been more extensive and more densely populated than any previous settlements.' (p. 9)
2 'In composition and function the urban population already differed from that of any village … full-time specialist craftsmen, transport workers, merchants, officials and priests.' (p. 11)
3 'Each primary producer paid over the tiny surplus he could wring from the soil with his still very limited technical equipment as tithe or tax to an imaginary deity or a divine king who thus concentrated the surplus.' (p. 11)
4 'Truly monumental public buildings not only distinguish each known city from any village but also symbolise the concentration of the social surplus.' (p. 12)
5 'But naturally priests, civil and military leaders and officials absorbed a major share of the concentrated surplus and thus formed a "ruling class".' (pp. 12–13)
6 'Writing.' (p. 14)
7 'The elaboration of exact and predictive sciences – arithmetic, geometry and astronomy.' (p. 14)
8 'Conceptualised and sophisticated styles [of art].' (p. 15)

3 Childe's paper in *TPR* continues to be widely cited outside archaeology. In recent years, for example, it has been cited in the fields of hydrology (Delleure, 2003), health research (Jamison et al., 2003) and sustainability studies (Takács-Sánta, 2004). The phrase 'urban revolution' has also been used to refer to divergent phenomena (e.g. Lefebvre, 1970).

9 'Regular "foreign" trade over quite long distances.' (p. 15)
10 'A State organisation based now on residence rather than kinship.' (p. 16)

This model, comprising ten traits that distinguished early states from the Neolithic societies that preceded them, has seen endless discussion in the archaeological literature. I will mention just a few of the ways these traits have been discussed by archaeologists. Several early commentators complained that Childe did little to relate the different processes and institutions to one another (Adams, 1966, 10–11; Wheatley, 1972, 612), a criticism that continues today: 'it is hard to see the use of such a shopping list of items with no functional relationship between them' (Osborne, 2005, 6). Colin Renfrew, on the other hand, has suggested that the functional relationships are implicit in Childe's model, which he views as a precursor to the systemic and processual models of state formation of the 1970s and 1980s (e.g. Wright, 1986). According to Renfrew, Childe's model 'really is as good a general analysis as any written since, in the mainstream of processual archaeology. With his ten interlocking factors, this was close to a systems analysis' (Renfrew, 1994, 127). Eric Wolf (1994, 5) agrees with Renfrew, as do I.

A number of archaeologists have used Childe's ten traits as a checklist. For example, in his study of early states in the Old World, Charles Maisels idiosyncratically splits the tenth trait into three parts (organic solidarity of society, ideological focus on temples, and the institutions of state), and goes on to explain: 'I use Childe's criteria as a twelve-point checklist concluding each chapter' (Maisels, 1999, 25). Catherine Morgan and James Coulton use Childe's traits as a checklist in their comparison of the built environments of Greek *poleis* (Morgan and Coulton, 1997). They are criticised by Osborne (2005) for employing the model as a 'shopping list' (see above), but in fact their usage makes sense as a way to standardise observations of a diverse collection of cities; they are not making grand theoretical pronouncements.

Many archaeologists have taken Childe's ten traits as a starting point and proceeded to evaluate the usefulness of the individual items (e.g. Adams, 1966; 1968; Sanders and Price, 1968; Flannery, 1994; Maisels, 1999; Trigger, 2003). I follow this tradition here, briefly summarising current thinking on Childe's ten traits under three headings: fundamental processes, other important characteristics of the early states, and a questionable trait.

Fundamental processes

Five of Childe's traits describe social processes and institutions that are still widely recognised as key developments in the rise of early complex societies. All of these traits have received major attention from archaeologists over the past half century, and they are all the target of considerable research today.

Trait 1 says, in effect, that the early states were urban societies; they had large, dense settlements, or cities (Figures 2 and 3). The close link between urbanism and

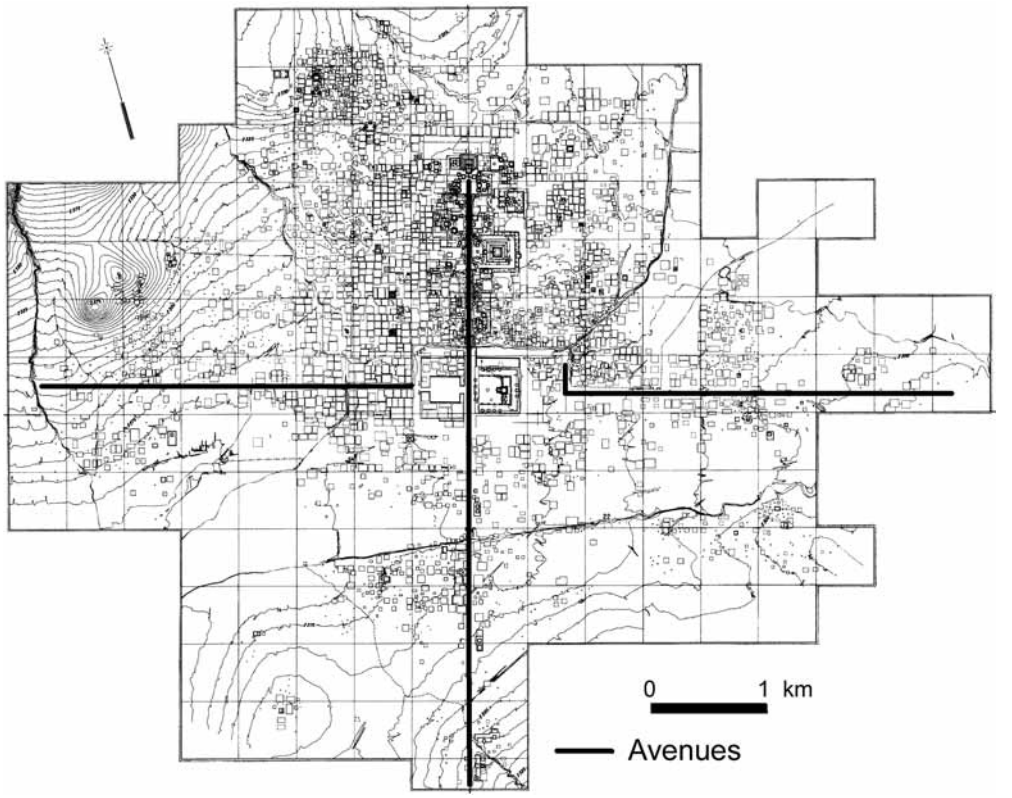

Figure 3 Plan of Teotihuacan in central Mexico (modified after a map created by the Teotihuacan Mapping Project, directed by René Millon). Courtesy of René Millon, provided by George L. Cowgill

early state dynamics has been a consistent theme of research into early complex societies (Adams, 1966; Blanton, 1982; Algaze, 2008; Marcus and Sabloff, 2008).

Trait 2 notes the more complex division of labour in early states, and says that many specialists lived and worked in cities. Craft specialisation and its relationship to early social complexity and change continues to be a heavily researched topic in archaeology (Brumfiel and Earle, 1987a; Clark and Parry, 1990; Costin, 2004), and Childe's legacy for craft production studies is broadly acknowledged (Wailes, 1996). During the period when Childe was developing the concept of the Urban Revolution, Sir Leonard Woolley (1954) was directing excavations at Ur (Figure 2), where he uncovered evidence for many craft specialists in the residential neighbourhoods.

Trait 3, the production of a social surplus by commoners to pay for government and the division of labour, gets to the heart of the economic and political transformations that brought about early complex societies. The social and economic means

by which agriculture was intensified to produce a surplus is the subject of a huge literature. Archaeologists have both borrowed models from economic history (Allen, 1997) and contributed their own data and models on early intensive agriculture and its relationship to political and economic change (e.g. Morrison, 1994; Thurston and Fisher, 2007).

Trait 5 is the formation of social classes, seen as perhaps the greatest change in people's lives that can be attributed to the Urban Revolution (Adams, 1966). The origins and operation of inequality and social stratification in early states, again, are still major themes of archaeological research (Price and Feinman, 1995).

Trait 10 describes the political organisation of society: the state. Whereas political power in more egalitarian societies was widely distributed among people and families, in states, power became centralised around key institutions such as the ruler and other components of government. As pointed out above, many archaeologists now recognise an earlier round of centralisation in the hands of chiefs (Earle, 1997), but the transition to states is still considered a crucial development. Much research has focused on exploring the variation in the forms of ancient states, from city-states (Hansen, 2000) to empires (Alcock et al., 2001), and on the dynamics of power (Earle, 1997).

Other important characteristics of early states

Four of Childe's traits describe features important to our understanding of early cities and states, but whose role in the dynamics of the Urban Revolution was of lesser significance than the five traits outlined above.

Item 4 describes monumental public buildings. Nearly all ancient complex societies built some form of monumental architecture, but so did much earlier societies, such as the Neolithic groups that built Stonehenge and other megalithic monuments. Nevertheless, Childe was correct to point out that monumental buildings served as deliberate symbols of the power and wealth of early rulers (Trigger, 1990); the ziggurat of Ur (Figure 2) and the large pyramids of Teotihuacan (Figure 3) are prime examples of this phenomenon (Van De Mieroop, 1999; Cowgill, 2008). Joyce Marcus (2003) points out, however, that the relationship between monument size and power is not a simple one.

Item 6, writing, is often dismissed as a universal criterion of complex societies based on the absence of writing in the Inka and earlier Andean states. If we broaden Childe's concept to formal record-keeping, however, then this was an important and universal characteristic of early states.

Item 7, the development of practical sciences, is a trait not limited to states; calendars and mathematics originated long before the early states (Aveni, 2006). Nevertheless, major advances in the sciences and mathematics occurred with early states.

Item 9, regular foreign trade, parallels item 7 in significance. Trade began with the

earliest Paleolithic human societies, but with the first states trade expanded tremendously. Rulers and elites obtained large numbers of foreign goods, many of which accompanied them in their tombs. Professional merchants and other advances in the institutions of trade also brought increased goods to commoners. The organisation of trade systems in ancient states continues to be a major topic of research among archaeologists (Smith, 2004).

A more questionable trait

Trait 8, 'conceptualised and sophisticated [art] styles', is the least useful and relevant trait for understanding the early states. While all of the early states had distinctive regional art styles, these were not necessarily any more sophisticated than the art of Neolithic groups. The social significance of visual art, however, underwent a major transformation in states, with most ancient rulers adopting an ideological (propagandistic) programme of visual representation that promoted their interests (DeMarrais et al., 1996).

Developments since 1950

The intellectual lineage of the Urban Revolution

Robert McC. Adams, Pedro Armillas and William T. Sanders were the scholars most directly responsible for incorporating Childe's model of the Urban Revolution into mainstream anthropological archaeology and the literature on cultural evolution, and each contributed to the ongoing development and extension of the model. Adams is one of the most productive and prominent archaeologists of the late twentieth/early twenty-first centuries; in addition to his fieldwork in Mesopotamia, he received many scientific honours and served as Provost of the University of Chicago and Secretary of the Smithsonian Institution. In an influential early paper, Adams noted: 'The approach taken here has much in common with that of V. Gordon Childe, and certainly leans heavily on the rich store of archaeological insight he has made available for the Old World' (Adams, 1956, 227). Adams spent a day with Childe in London in 1956 (Yoffee, 1997, 401). In his widely cited book, *The Evolution of Urban Society*, Adams (1966, 9) began his conceptual discussion with Childe's model, and then proceeded to modify and extend it through greater emphasis on social practices and institutions. In the early 1960s, Childe was considered essential reading among Adams's students at the University of Chicago (George Cowgill, personal communication). In virtually all of his publications on early states and cities, Adams cites, discusses and engages with Childe's model (e.g., Adams, 1966; 1968). Even half a century after the publication of 'The Urban Revolution', in a paper promoting the archaeological use of contem-

porary models of complexity associated with the Santa Fe Institute, Adams (2001) continues to pay homage to Childe.

The pivotal figure in the spread of Childe's ideas in the Americas was Pedro Armillas. He later described his first reading of Childe in the late 1940s as a revelation (Armillas, 1987). A proponent of archaeological survey like Adams, Armillas was influential in promoting Childe's ideas in the early 1950s among an important cohort of students in Mexico City. The most significant of these were Ángel Palerm, one of Mexico's leading scholars of Precolumbian cultures (Palerm, 1952; Wittfogel, 1990), and William T. Sanders.

Under the influence of Carleton Coon at Harvard, William Sanders wrote a senior honours thesis entitled *The Urban Revolution in Central Mexico* (Sanders, 1949). Coon knew Childe and corresponded with him (Peace, 1988, 418). In his thesis, Sanders used Childe's model of the Urban Revolution to organise documentary data on the Aztec capital Tenochtitlan (AD 1300–1520). He mentions *What Happened in History* in the text (Childe, 1942), but does not include the book in his bibliography. Sanders spent three years studying and working with Armillas in Mexico, and then went on to a long career at Pennsylvania State University. Sanders wrote often on Mesoamerican urbanism (e.g. Sanders and Webster, 1988). Although he cited Childe's work less consistently than does Adams, the influence of Childe's model on Sanders's thought is evident. His debt to Childe is most explicit in his book *Mesoamerica: The Evolution of a Civilization* (Sanders and Price, 1968), a landmark synthesis of Mesoamerican prehistory. The cultural evolutionary model in this book derived from Childe, and Pedro Armillas wrote the Foreword. US archaeologists active in the 1950s and 1960s who were outside the Marxist orbit of Armillas and Palerm rarely cited Childe, however, and one wonders if this reluctance might derive from the general avoidance of explicit references to Marxist thinkers during the Cold War (Peace, 1988; 1995).

By the 1980s, Childe was cited less often by archaeologists working on early states and cities (e.g. Blanton et al., 1981; Feinman and Manzanilla, 2000). By then his ideas had become thoroughly incorporated into contemporary models. Today archaeologists tend to cite Childe primarily when talking about the historical development of the field (Trigger, 1980; Patterson and Orser, 2004; Marcus and Sabloff, 2008), but not when discussing cultural evolution more generally (e.g. Marcus, 2008).

The Urban Revolution today

Today, the social transformations associated with the Urban Revolution remain major topics in fieldwork and publication by archaeologists. The labels are different today; instead of talking about the Urban Revolution, archaeologists talk about the 'origin of states' (Stanish, 2001) or 'primary state formation' (Spencer, 2007) or 'archaic states' (Feinman and Marcus, 1998; Yoffee, 2005). Although methods and concepts have

advanced considerably, Childe's basic model can be discerned within most contemporary accounts of the evolution of the earliest states and cities.

The major methodological innovation in studies of early states and cities since Childe's time has been the advent and expansion of archaeological survey methods. In the 1960s archaeologists moved out of the largest sites and started investigating whole landscapes. By covering the ground in a systematic fashion, they reconstructed settlement patterns, agricultural practices and their changes through time. This was (and remains) necessary to investigate the production of agricultural surpluses as well as patterns of economies and political dynamics on a regional scale. It is no accident that the early leaders in archaeological survey methods – Adams, Armillas, and Sanders – were the same scholars who used and promoted Childe's ideas. In recent decades, survey methods have been refined further through the use of satellite imagery, new methods in geomorphology, and the advanced spatial analyses permitted by GIS methods (Wilkinson, 2003; Kowalewski, 2008). Other kinds of archaeological methods – from excavation sampling to botanical identification to isotope dating – have also advanced tremendously in the past few decades, leading to improved understanding of early states and cities (Renfrew and Bahn, 2008).

The conceptual approaches used by archaeologists to explain the Urban Revolution have also evolved greatly since Childe's day, but many of his traits and his general materialist perspective retain importance in contemporary models and theories. From the late 1950s through the 1960s, the major topic of debate was the role of irrigation in the formation of early states (Steward, 1955; Wittfogel, 1957; Sanders and Price, 1968). This line of research expanded to embrace other types of intensive agriculture (such as terracing) and a more sophisticated understanding of how agricultural practices relate to demography and other social dynamics (Polgar, 1975; Netting, 1993), a line of research that continues today (Kirch, 2006; Thurston and Fisher, 2007).

In the 1960s, functionalist explanations of early states were popular. These models posited that larger and more complex societies required organisation and coordination, so leaders altruistically stepped forward to take on these tasks for the benefit of everyone; these early managers were posited as the ones who formed the first governments and the first elite social classes (e.g. Sanders and Price, 1968). This simplistic approach was replaced in the 1980s by 'political' models that placed more emphasis on the self-serving nature of elite activities: elites were portrayed as looking after their own interests first, leading to exploitation and inequality (e.g. Brumfiel and Earle, 1987b) rather than the consensual social integration of earlier models. This trend of theorising has continued to evolve through an emphasis on different types of power (Earle, 1997) and studies of how ancient rulers and governments used space (Smith, 2003), cities (Yoffee, 2005; Smith, 2008) and other resources to create, expand and legitimise their power.

A major avenue of current theorising on early states emphasises their complexity

and variation. One version of this approach looks at human–environmental interaction as a complex systemic process through time (Bintliff, 2005; Kirch, 2007), and another version employs simulation models from work in the 'science of complexity' as pursued at the Santa Fe Institute (Kohler and van der Leeuw, 2007; Wilkinson et al., 2007). A third variant of this approach emphasises the scale and complexity of economic activity in the earliest states and cities (Smith, 2004; Algaze, 2008). One conclusion from this work is that the earliest states and cities were not stable, long-lasting institutions. Instead, 'early state societies must have been for the most part risky, transitory constructs' (Adams, 2001, 354).

A final development of note is the great expansion in archaeological studies of people and their daily activities and social conditions. Many archaeologists excavating in ancient cities have turned from the temples, palaces and tombs of the elite to the houses and workshops of commoners. By studying households and neighbourhoods, archaeologists can now reconstruct many aspects of daily life, social identity and the roles of commoners in society (Allison, 1999; Robin, 2001). New comparative political models, employing collective action theory, explore the variation in ancient governments, which ranged from autocratic and despotic regimes to more democratic forms in which commoners had a greater say in governance (Blanton and Fargher, 2008).

Childe and ancient urban planning

Childe's concept of the Urban Revolution was about the transition to complex, state-level societies, and not primarily about urbanism or cities per se. As noted by Adam T. Smith, 'Despite its titular prominence, Childe's Urban Revolution was not really about cities. True, cities emerge from Childe's theory as artefacts of class domination and loci of production and exchange within a commodity economy. But there is nothing about the form or aesthetics of the City, or any particular city' (Smith, 2003, 187). Childe had little to say explicitly on urban form or planning. Yet his basic model of the Urban Revolution contains an implicit approach to early city planning, and although rudimentary, it is remarkably in tune with current understandings of planning in ancient cities. The key point is his observation that the Urban Revolution marked 'the establishment of totalitarian regimes under which a surplus was systematically extracted from the peasant masses and gathered into central royal or temple granaries' (Childe, 1957, 6). These totalitarian regimes were the agents of planning in the early cities, and Childe's writings do contain scattered references to aspects of the political context of planning.

In 'The Urban Revolution' Childe noted that whereas the processes represented by his ten traits were more or less universal in the early states, the specific principles of urban form and planning were unique to each case: 'No specific elements of town planning for example can be proved characteristic of all such cities' (Childe, 1950, 16).

Like many observers before and after, Gordon Childe was impressed with the civic infrastructure of Harappa and Mohenjo-daro, the major cities of the Indus Valley civilisation:

> Many well-planned streets and a magnificent system of drains, regularly cleared out, reflects the vigilance of some regular municipal government. Its authority was strong enough to secure the observance of town-planning by-laws and the maintenance of approved lines for streets and lanes over several reconstructions rendered necessary by floods. (Childe, 1942, 135)

Elsewhere, he emphasised that these cities exhibited planning principles very different from those of Mesopotamia and Egypt, where monumental temples and tombs dominated the urban layout (Childe, 1934, 207). In these latter cultures, the monumental public buildings served as both explicit symbols of the wealth and power that came from control of agricultural surplus, and as anchors for city form (Childe, 1934, 287). In his 1950 article, Childe generalised this argument to other ancient states (Childe, 1950, 12).

Until quite recently, simplistic perceptions of ancient city form and planning dominated scholarship. Childe took a more sophisticated view, but perhaps because he did not emphasise planning his approach was not influential. Many writers proposed dichotomies to explain variation in city form; Lewis Mumford (1961, 89), for example, divided ancient cities into enclosed and open forms, and Edward Soja (2000, 54) used the dichotomy of dense versus dispersed. The most widespread such dichotomy, however, was between planned and unplanned cities (e.g. Carter, 1983, 10; Morris, 1994, 8–10), with the latter often called 'organic' in form (Kostof, 1991, 95–157).

Adam T. Smith has suggested that 'the "organic" designation of irregular cities often mistakes cultural variation in aesthetics for decentralisation of urban planning' (Smith, 2003, 225–6). He proposes that 'the opposition is thus not between the planned and the organic but between various competing plans and their vision of the proper role of political authorities in landscape production' (p. 226). Ray Laurence (1994) and Keith Lilley (2002) also criticise the planned/organic distinction for pre-modern cities.

Current approaches to urban planning in ancient cities embrace the concept of variation in form, both within cultural traditions (e.g. not all Roman cities are planned in the same way) and between traditions (Moore, 1996; Lilley, 2002; Laurence, 2007; Smith, 2008). For example, two ancient Egyptian housing complexes – Kahun and Deir el-Medina – show different degrees and kinds of planning (Figure 4), although both were designed and built by agents of the state (Kemp, 2005). I developed a model for investigating different types of planning principles (including, but not limited to, orthogonal layouts) and varying degrees of planning, based on archaeological plans of ancient cities (Smith, 2007). Our current view of ancient planning promotes a

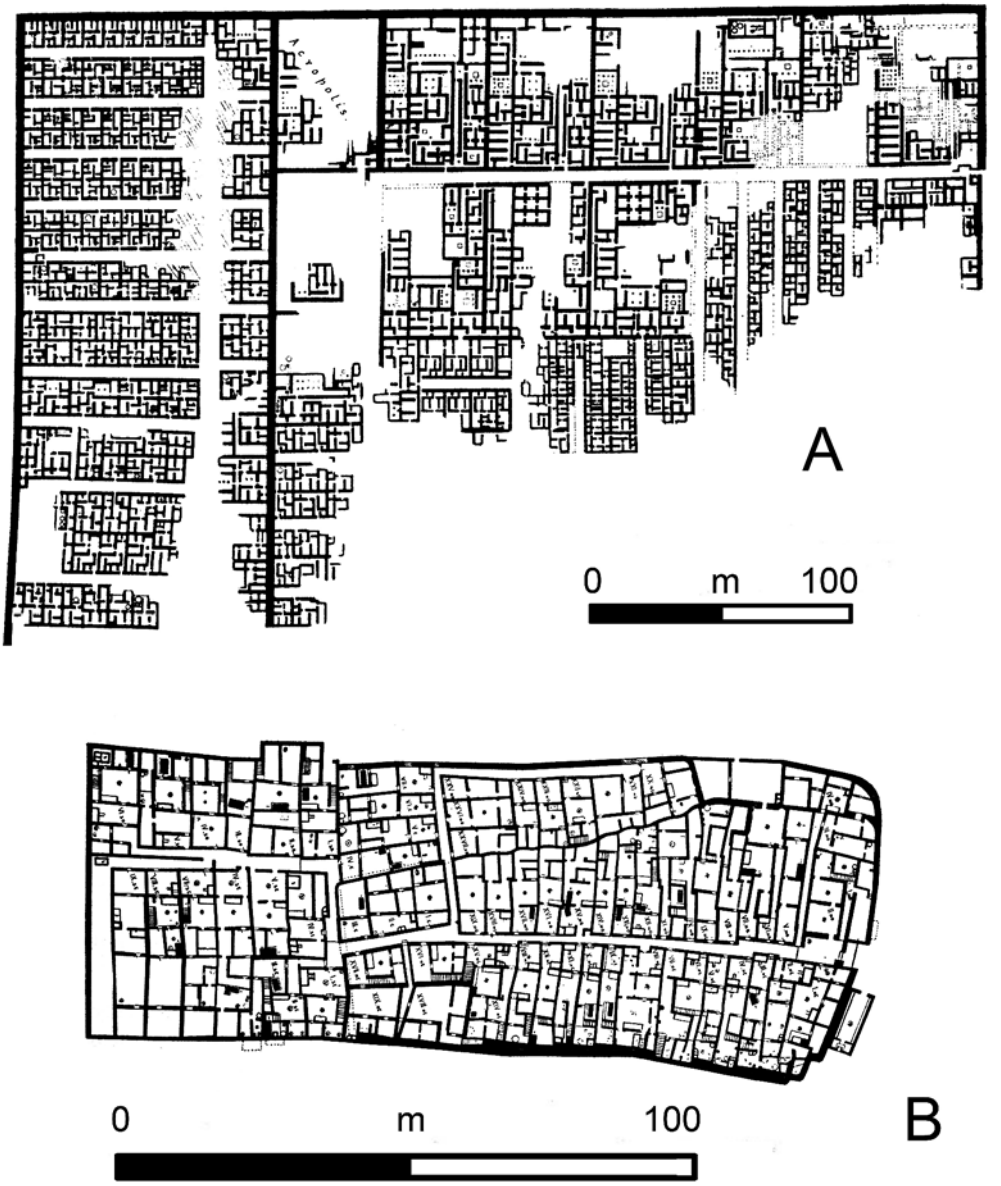

Figure 4 Variation in Egyptian housing complexes. A: Kahun (after Fairman, 1949, 44). B: Deir el Medina (after Fairman, 1949, 47). Note that these are portrayed at different scales

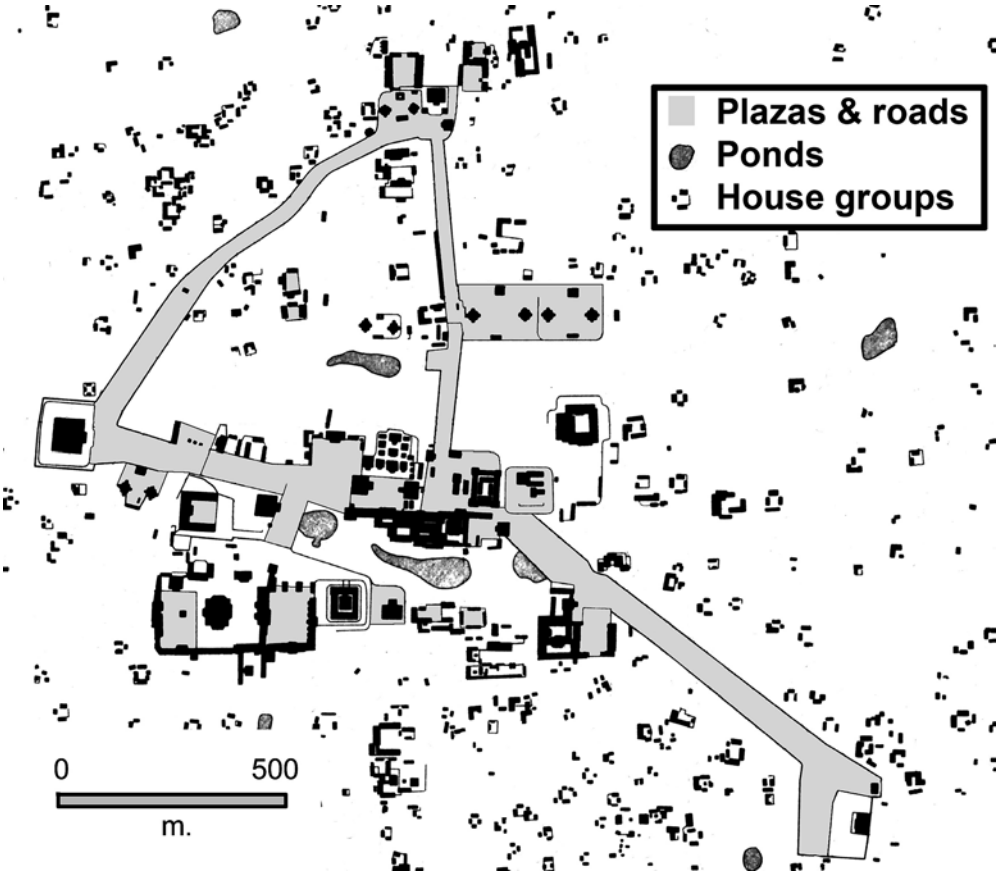

Figure 5 Plan of the central area of the classic-period Maya city of Tikal, showing public architecture with a planned layout and surrounding residential zones without central planning (after Coe, 1967, 20)

search for the principles that guided the designers and builders of all ancient cities, not just those with orthogonal layouts (e.g. Roman military camps, Greek cities or Teotihuacan; see Figure 3). Most ancient cities exhibit planning, but followed different principles than Egyptian or Greek cities. Some of the principles that guided Mayan planning, for example, can be seen in a map of the central portion of Tikal (Figure 5): most temples were arranged around plazas; public buildings tend to occur in formal groups; and ceremonial sectors were linked by raised causeways or roads (Andrews, 1975).

The design and layout of early urban centres were largely in the hands of the ruler or some other political agent(s) (Barnow, 2001; Smith, 2007). A commonplace notion is

that regular, highly planned layouts in early cities point to the strong hand of centralised political authority (Scott, 1998; Smith, 2003; Smith, 2007). Childe emphasised monumental state architecture as a symbol of political power and might. Current thought acknowledges this symbolism, but adds another dimension to the relationship between power and large buildings. In contrast to the still-popular *National Geographic* view that ancient temples were built by huge gangs of slave labourers, it now appears that much of the labour was provided by free commoners as part of their tax requirements. In some cases, the act of construction may have served to bind commoners emotionally to their city and their ruler. If so, then the construction of large monuments was part of the process by which royal power or chiefly loyalty was constituted (Smith, 2003; Smith, 2008). Theoretical work by Amos Rapoport (1990), Adam T. Smith (2003) and others advances our understanding of planning and construction in early cities.

Although most ancient cities exhibit central planning in their central areas of public architecture, very few show the hand of large-scale planning in their residential zones. This combination of planned central zones and unplanned residential neighbourhoods is probably the most widespread principle of spatial organisation in the ancient world (Figures 2 and 5); the regularly laid out residences of Teotihuacan (Figure 3) and Kahun (Figure 4a) are thus exceptions to the norm. The similarity of many ancient residential neighbourhoods to modern squatter's settlements has been noted by several authors (e.g. Pugh, 2000; Ward, 2002, 8–13). Peter Kellett and Mark Napier, for example, note that 'The phenomenon of informal urban housing is not new. Throughout history, the poor have constructed their dwellings around the urban centres of the rich and powerful' (Kellett and Napier, 1995, 8). The implications of this comparison – for understanding ancient or modern housing dynamics – have yet to be explored, however.

I do not think it is excessive to suggest that Childe's few published statements on ancient urban planning are substantially in tune with current understandings of the phenomenon. First, he pointed out that cities of different cultural traditions had different principles of architecture and planning. In his writings he focused overwhelmingly on Mesopotamia, Egypt and the Indus Valley, but his observations are easily extended to other areas, from China and Africa to the New World. Second, Childe put political power at the centre of both his general model for the Urban Revolution and his more specific discussions of monumental architecture and city layout. Scholars working today on ancient planning do not seem to draw directly from Childe's (rather meagre) ideas on the topic, but he can be seen as a precursor to current research through his emphases on variability and the political nature of ancient planning.

Conclusion

I have tried to show the importance of V. Gordon Childe's ten-point model of the Urban Revolution in two realms:

1) as the first substantial social synthesis of archaeological data on the earliest states and cities, this model marked a major advance in scholarship in the mid-twentieth century; and
2) Childe's model forms the basis for almost all subsequent theorising on the development and operation of the earliest states and cities.

Often, this debt is acknowledged (see discussion above), but just as often scholars today go about their business without citing Childe. Nevertheless, the archaeological study of ancient complex societies is still dominated by the themes of urbanism, agricultural intensification and surplus, craft specialisation, social inequality, and the nature of power and the state, each of which was first applied to archaeological data in a systematic fashion by V. Gordon Childe and synthesised in his seminal paper in *Town Planning Review*.

The 1960s were an extraordinarily fertile time in the study of urbanism. Many of the classics in urban history and comparative urbanism date to this period, and more often than not these works discussed both ancient and modern cities (e.g. Lynch, 1960; Sjoberg, 1960; Mumford, 1961; Steward, 1961; Hauser and Schnore, 1965; Jacobs, 1969). Gordon Stephenson's short-lived project, around 1950, of soliciting contributions to *TPR* by leading archaeologists and urban historians (Fairman, 1949; Childe, 1950; Frankfort, 1950) was a precursor of this burst of activity. After 1970, however, research on ancient and modern cities diverged, with far less interaction among scholars and increasingly fewer cross-citations of different scholarly literatures.

The time is ripe for a rapprochement between diverse traditions of research on urbanism. Many new data have accumulated in all fields. In archaeology, the results of a half century of archaeological excavation at urban centres have transformed our understanding of ancient urbanisation (Trigger, 2003; Marcus and Sabloff, 2008). There is a growing recognition of the value of transdisciplinary research for addressing complex social phenomena (Polimeni, 2006; Steckel, 2007; Adams, 2008). Scholars of modern cities may find useful information in the archaeological record of ancient urbanism, just as archaeologists will benefit from increased attention to the work of modern planners and urbanists.

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References

ADAMS, R. MCC. (1956), 'Some hypotheses on the development of early civilizations', *American Antiquity*, **21**, 227–32.

ADAMS, R. MCC. (1966), *The Evolution of Urban Society: Early Mesopotamia and Prehispanic Mexico*, Chicago, IL, Aldine.

ADAMS, R. MCC. (1968), 'Urban Revolution: Introduction', in D. L. Sills (ed.), *International Encyclopedia of the Social Sciences*, New York, NY, Macmillan, 201–7.

ADAMS, R. MCC. (2001), 'Complexity in archaic states', *Journal of Anthropological Archaeology*, **20**, 345–60.

ADAMS, R. MCC. (2008), 'An interdisciplinary overview of a Mesopotamian city and its hinterlands', *Cuneiform Digital Library Journal*, http://cdli.ucla.edu/pubs/cdlj/2008/cdlj2008_001.html (accessed 10 January 2008).

ALCOCK, S. E., D'ALTROY, T. N., MORRISON, K. D. and SINOPOLI, C. M. (eds) (2001), *Empires: Perspectives from Archaeology and History*, New York, NY, Cambridge University Press.

ALGAZE, G. (2008), *Ancient Mesopotamia at the Dawn of Civilization: The Evolution of an Urban Landscape*, Chicago, IL, University of Chicago Press.

ALLEN, R. (1997), 'Agriculture and the origins of the state in Ancient Egypt', *Explorations in Economic History*, **34**, 134–54.

ALLISON, P. M. (ed.) (1999), *The Archaeology of Household Activities*, New York, NY, Routledge.

ANDREWS, G. F. (1975), *Maya Cities: Placemaking and Urbanization*, Norman, OK, University of Oklahoma Press.

ARMILLAS, P. (1987), 'Por una antropología pedestre: Entrevista a Pedro Armillas, Zamora, Michoacán, diciembre, 1983' (interview by Jorge Durand), in J. L. d. Rojas (ed.), *La aventura intelectual de Pedro Armillas: Visión antropológica de la historia de América*, Zamora, El Colegio de Michoacán, 109–52.

AVENI, A. F. (2006), *Uncommon Sense: Understanding Nature's Truths Across Time and Culture*, Boulder, CO, University Press of Colorado.

BARNOW, F. (2001), *The City of the Divine King: Urban Systems and Urban Architecture in Egypt, Mesopotamia, Indus, India, Nepal and China*, Copenhagen, Denmark, Royal Danish Academy of Fine Arts, School of Architecture.

BELLWOOD, P. (2005), *First Farmers: The Origins of Agricultural Societies*, Oxford, Blackwell.

BINTLIFF, J. (2005), 'Human impact, land-use history, and the surface archaeological record: a case study from Greece', *Geoarchaeology*, **20**, 135–47.

BLANTON, R. E. (1982), 'Urban beginnings: a view from anthropological archaeology', *Journal of Urban History*, **8**, 427–46.

BLANTON, R. E. and FARGHER, L. F. (2008), *Collective Action in the Formation of Pre-Modern States*, New York, NY, Springer.

BLANTON, R. E., KOWALEWSKI, S. A., FEINMAN, G. M. and APPEL, J. (1981), *Ancient Mesoamerica: A Comparison of Change in Three Regions*, New York, NY, Cambridge University Press.

BRUMFIEL, E. M. and EARLE, T. K. (eds) (1987a), *Specialization, Exchange, and Complex Societies*, New York, NY, Cambridge University Press.

BRUMFIEL, E. M. and EARLE, T. K. (1987b), 'Specialization, exchange, and complex societies: an introduction', in Brumfiel and Earle (eds.), 1–9.

CARNEIRO, R. L. (2003), *Evolutionism in Cultural Anthropology: A Critical History*, Boulder, CO, Westview.

CARTER, H. (1983), *An Introduction to Urban Historical Geography*, Baltimore, MD, Edward Arnold.

CHILDE, V. G. (1934), *New Light on the Most Ancient East: The Oriental Prelude to European Prehistory*, London, Kegan Paul/Trench/Trubner.

CHILDE, V. G. (1935), 'Changing methods and aims in prehistory: presidential address for 1935', *Proceedings of the Prehistoric Society*, **1**, 1–15.

CHILDE, V. G. (1936), *Man Makes Himself*, London, Watts and Co.

CHILDE, V. G. . (1942), *What Happened in History*, Harmondsworth, Penguin Books.

CHILDE, V. G. (1950), 'The Urban Revolution', *Town Planning Review*, **21**, 3–17.

CHILDE, V. G. (1957), 'The Bronze Age', *Past and Present*, **12**, 2–15.

CLARK, J. E. and PARRY, W. J. (1990), 'Craft specialization and cultural complexity', in B. L. Isaac (ed.), *Research in Economic Anthropology*, vol. 12, Greenwich, CT, JAI Press, 289–346.

COE, W. R. (1967), *Tikal: A Handbook of the Ancient Maya Ruins*, Philadelphia, PA, University Museum, University of Pennsylvania.

COSTIN, C. L. (2004), 'Craft economies of ancient Andean states', in G. M. Feinman and L. M. Nicholas (eds), *Archaeological Perspectives on Political Economies*, Salt Lake City, UT, University of Utah Press, 189–222.

COWGILL, G. L. (2008), 'An update on Teotihuacan', *Antiquity*, **82**, 962–75.

DELLEURE, J. (2003), 'The evolution of urban hydrology: past, present, and future', *Journal of Hydrological Engineering*, **129**, 563–73.

DEMARRAIS, E., CASTILLO, L. J. and EARLE, T. (1996), 'Ideology, materialization, and power strategies', *Current Anthropology*, **37**, 15–31.

EARLE, T. (ed.) (1991), *Chiefdoms: Power, Economy, and Ideology*, New York, NY, Cambridge University Press.

EARLE, T. (1997), *How Chiefs Come to Power: The Political Economy in Prehistory*, Stanford, CA, Stanford University Press.

FAIRMAN, H. W. (1949), 'Town planning in Pharaonic Egypt', *Town Planning Review*, **20**, 33–52.

FEINMAN, G. M. and L. MANZANILLA (eds) (2000), *Cultural Evolution: Contemporary Viewpoints*, New York, NY, Kluwer.

FEINMAN, G. M. and MARCUS, J. (eds) (1998), *Archaic States*, Santa Fe, NM, School of American Research Press.

FLANNERY, K. V. (1994), 'Childe the evolutionist: a perspective from nuclear America', in D. R.

Harris (ed.), *The Archaeology of V. Gordon Childe*, London, University College Press, 101–19.
FRANKFORT, H. (1950), 'Town planning in ancient Mesopotamia', *Town Planning Review*, **21**, 99–115.
GATHERCOLE, P. (1994), 'Childe in History', *Bulletin of the Institute of Archaeology*, **31**, 25–52.
GREEN, S. (1981), *Prehistorian: A Biography of V. Gordon Childe*, Bradford-on-Avon, Moonraker Press.
GREENE, K. (1999), 'V. Gordon Childe and the vocabulary of revolutionary change', *Antiquity*, **73**, 97–109.
HANSEN, M. H. (ed.) (2000), *A Comparative Study of Thirty City-State Cultures*, Copenhagen, Denmark, Royal Danish Academy of Sciences and Letters.
HAUSER, P. M. and SCHNORE, L. F. (eds) (1965), *The Study of Urbanization*, New York, NY, John Wiley and Sons.
HILL, D. R. (1993), 'A case for teleological urban form history and ideas: Lewis Mumford, F. L. Wright, Jane Jacobs and Victor Gruen', *Planning Perspectives*, **8**, 53–71.
HODDER, I. (2006), *The Leopard's Tale: Revealing the Mysteries of Çatalhöyük*, New York, NY, Thames and Hudson.
HUTCHINSON, R. W. (1950), 'Prehistoric town planning in Crete', *Town Planning Review*, **21**, 199–220.
HUTCHINSON, R. W. (1953a), 'Prehistoric town planning in and around the Aegean: part 1', *Town Planning Review*, **23**, 261–79.
HUTCHINSON, R. W. (1953b), 'Prehistoric town planning in and around the Aegean: part 2', *Town Planning Review*, **24**, 5–21.
JACOBS, J. (1969), *The Economy of Cities*, New York, NY, Vintage Books.
JAMISON, C. S., WALLACE, M. and JAMISON, P. L. (2003), 'Contemporary work characteristics, stress, and ill health', *American Journal of Human Biology*, **16**, 43–56.
KELLETT, P. and NAPIER, M. (1995), 'Squatter architecture? A critical examination of vernacular theory and spontaneous settlement with reference to South America and South Africa', *Traditional Dwellings and Settlements Review*, **6**, 7–24.
KEMP, B. J. (2005), *Ancient Egypt: Anatomy of a Civilization* (second edition), New York, NY, Routledge.
KIRCH, P. V. (2006), 'Agricultural intensification: a Polynesian perspective', in J. Marcus and C. Stanish (eds), *Agricultural Strategies*, Los Angeles, CA, Cotsen Institute of Archaeology, UCLA, 191–217.
KIRCH, P. V. (2007), 'Hawaii as a model system for human ecodynamics', *American Anthropologist*, **109**, 8–26.
KOHLER, T. A. and S. E. VAN DER LEEUW (eds) (2007), *Model-Based Archaeology of Socionatural Systems*, Santa Fe, NM, SAR Press.
KOSTOF, S. (1991), *The City Shaped: Urban Patterns and Meanings Through History*, Boston, MA, Bullfinch.
KOWALEWSKI, S. A. (2008), 'Regional settlement pattern studies', *Journal of Archaeological Research*, **16**, 225–85.
LAURENCE, R. (1994), 'Modern ideology and the creation of ancient town planning', *European Review of History*, **1**, 9–18.

LAURENCE, R. (2007), *Roman Pompeii: Space and Society* (second edition) London, Routledge.
LEFEBVRE, H. (1970), *La Révolution Urbaine*, Paris, Gallimard.
LILLEY, K. D. (2002), *Urban Life in the Middle Ages, 1000–1450*, New York, NY, Palgrave.
LYNCH, K. (1960), *The Image of the City*, Cambridge, MA, MIT Press.
MCNAIRN, B. (1980), *The Method and Theory of V. Gordon Childe: Economic, Social, and Cultural Interpretations of Prehistory*, Edinburgh, Edinburgh University Press.
MAISELS, C. K. (1999), *Early Civilizations of the Old World: The Formative Histories of Egypt, the Levant, Mesopotamia, India, and China*, New York, NY, Routledge.
MANZANILLA, L. (1987), 'The beginnings of urban society and the formation of the state: temple and palace as basic indicators', in L. Manzanilla (ed.), *Studies in the Neolithic and Urban Revolutions: Proceedings of the V. Gordon Childe Symposium, Mexico City, July 1986*, Oxford, Archaeopress, 271–86.
MARCUS, J. (2003), 'Monumentality in archaic states: lessons learned from large-scale excavations of the past', in J. K. Papadopoulos and R. M. Leventhal (eds), *Theory and Practice in Mediterranean Archaeology: Old World and New World Perspectives*, Los Angeles, CA, Cotsen Institute of Archaeology, UCLA, 115–34.
MARCUS, J. (2008), 'The archaeological evidence for social evolution', *Annual Review of Anthropology*, **37**, 251–66.
MARCUS, J. and SABLOFF, J. (eds) (2008), *The Ancient City: New Perspectives on Urbanism in the Old and New World*, Santa Fe, NM, SAR Press.
MOORE, J. D. (1996), *Architecture and Power in the Ancient Andes: The Archaeology of Public Buildings*, New York, NY, Cambridge University Press.
MORGAN, C. and COULTON, J. J. (1997), 'The polis as a physical entity', in M. H. Hansen (ed.), *The Polis as an Urban Centre and as a Political Community*, Copenhagen, Denmark, Royal Danish Academy of Sciences and Letters, 87–144.
MORGAN, L. H. (1878), *Ancient Society*, New York, NY, H. Holt.
MORRIS, A. E. J. (1994), *History of Urban Form: Before the Industrial Revolution* (third edition), New York, NY, Longman.
MORRISON, K. D. (1994), 'The intensification of production: archaeological approaches', *Journal of Archaeological Method and Theory*, **1**, 111–59.
MUMFORD, L. (1961), *The City in History: Its Origins, Its Transformations, and Its Prospects*, New York, NY, Harcourt Brace Jovanovich.
NETTING, R. M. (1993), *Smallholders, Householders: Farm Families and the Ecology of Intensive, Sustainable Agriculture*, Stanford, CA, Stanford University Press.
OSBORNE, R. (2005), 'Urban sprawl: what is urbanization and why does it matter?', in R. Osborne and B. Cunliffe (eds), *Mediterranean Urbanization 800–699 BC*, Oxford, Oxford University Press, 1–16.
PALERM, Á. (1952), 'La civilización urbana', *Historia Mexicana*, **2**, 184–209.
PATTERSON, T. C. (2003), *Marx's Ghost: Conversations with Archaeologists*, Oxford, Berg.
PATTERSON, T. C. and ORSER, C. E. (2004), 'Introduction: V. Gordon Childe and the foundations of social archaeology', in T. C. Patterson and C. E. Orser, Jr (eds), *Foundations of Social Archaeology: Selected Writings of V. Gordon Childe*, Walnut Creek, CA, AltaMira, 1–23.
PEACE, W. J. (1988), 'Vere Gordon Childe and American anthropology', *Journal of Anthropo-*

logical Research, **44**, 417–33.

PEACE, W. J. (1995), 'Vere Gordon Childe and the Cold War', in P. Gathercole, T. Irving and G. Mallevish (eds), *Childe and Australia: Archaeology, Politics and Ideas*, Brisbane, Australia, University of Queensland Press, 128–43.

PEREGRINE, P. N., EMBER, C. R. and EMBER, M. (2007), 'Modeling state origins using cross-cultural data', *Cross-Cultural Research*, **41**, 75–86.

POLGAR, S. (1975), 'Population, evolution, and theoretical paradigms', in S. Polgar (ed.), *Population, Ecology, and Social Evolution*, The Hague, The Netherlands, Mouton, 1–26.

POLIMENI, J. M. (2006), 'Transdisciplinary research: moving forward', *International Journal of Transdisciplinary Research*, **1**, 1–3.

PRICE, T. D. and FEINMAN, G. M. (eds) (1995), *Foundations of Prehistoric Social Inequality*, New York, NY, Plenum.

PUGH, C. (2000), 'Squatter settlements: their sustainability, architectural contributions, and socio-economic roles', *Cities*, **17**, 325–37.

RAPOPORT, A. (1990), *The Meaning of the Built Environment: A Nonverbal Communication Approach* (revised edition), Tucson, AZ, University of Arizona Press.

RENFREW, C. (1994), 'Concluding remarks: Childe and the study of culture process', in D. R. Harris (ed.), *The Archaeology of V. Gordon Childe: Contemporary Perspectives*, London, University College of London Press, 121–33.

RENFREW, C. and BAHN, P. (2008), *Archaeology: Theories, Methods and Practice* (fifth edition), New York, NY, Thames and Hudson.

ROBIN, C. (2001), 'Peopling the past: new perspectives on the ancient Maya', *Proceedings of the National Academy of Sciences*, **98**, 18–21.

SANDERS, W. T. (1949), 'The "Urban Revolution" in Central Mexico' (unpublished Senior Honors thesis), Cambridge, MA, Department of Anthropology, Harvard University.

SANDERS, W. T. and PRICE, B. J. (1968), *Mesoamerica: The Evolution of a Civilization*, New York, NY, Random House.

SANDERS, W. T. and WEBSTER, D. (1988), 'The Mesoamerican Urban Tradition', *American Anthropologist*, **90**, 521–46.

SCOTT, J. C. (1998), *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, New Haven, CT, Yale University Press.

SHANE, O. C., III and KÜÇÜK, M. (1998), 'The world's first city', *Archaeology*, **51**, 43–7.

SHERRATT, A. (1989), 'V. Gordon Childe: archaeology and intellectual history', *Past and Present*, **124**, 151–85.

SHERRATT, A. (1997), *Economy and Society in Prehistoric Europe*, Princeton, NJ, Princeton University Press.

SJOBERG, G. (1960), *The Preindustrial City: Past and Present*, New York, NY, The Free Press.

SMITH, A. T. (2003), *The Political Landscape: Constellations of Authority in Early Complex Polities*, Berkeley, CA, University of California Press.

SMITH, M. E. (2004), 'The archaeology of ancient state economies', *Annual Review of Anthropology*, **33**, 73–102.

SMITH, M. E. (2007), 'Form and meaning in the earliest cities: a new approach to ancient urban planning', *Journal of Planning History*, **6**, 3–47.

SMITH, M. E. (2008), *Aztec City-State Capitals*, Gainesville, FL, University Press of Florida.

SOJA, E. W. (2000), *Postmetropolis: Critical Studies of Cities and Regions*, Oxford, Blackwell.

SPENCER, C. S. (2007), 'Territorial expansion and primary state formation in Oaxaca, Mexico', in R. J. Chacon and R. G. Mendoza (eds), *Latin American Indigenous Warfare and Ritual Violence*, Tucson, AZ, University of Arizona Press, 55–72.

SPENCER, C. S. and REDMOND, E. M. (2004), 'Primary state formation in Mesoamerica', *Annual Review of Anthropology*, **33**, 173–99.

STANISH, C. (2001), 'The origin of state societies in South America', *Annual Review of Anthropology*, **30**, 41–64.

STECKEL, R. H. (2007), 'Big social science history', *Social Science History*, **31**, 1–34.

STEPHENSON, G. (1950), 'Editorial notes', *Town Planning Review*, **21**, 1–2.

STEPHENSON, G. (1992), *On a Human Scale: A Life in City Design*, South Fremantle, Australia, Fremantle Arts Centre Press.

STEWARD, J. H. (ed.) (1955), *Irrigation Civilizations: A Symposium*, Washington, DC, Pan American Union.

STEWARD, J. H. (1961), 'The urban focus: is there a common problem and method in studies of city development – a science of "urbanology"?', *Science*, **134**, 1354–6.

TAKÁCS-SÁNTA, A. (2004), 'The major transitions in the history of human transformation of the biosphere', *Human Ecology Review*, **11**, 51–66.

TAYLOR, P. J. (2007), 'Cities in transitions and transformations: exploring a Jacobsean approach to macro-social change', *GAWC Research Bulletin*, 37, Globalization and World Cities Research Network, http://www.lboro.ac.uk/gawc/rb/rb237.html (accessed 10 October 2008).

THURSTON, T. L. and FISHER, C. T. (eds) (2007) *Seeking a Richer Harvest: The Archaeology of Subsistence Intensification, Innovation, and Change*, New York, NY, Springer.

TRIGGER, B. G. (1980), *Gordon Childe: Revolutions in Archaeology*, New York, NY, Columbia University Press.

TRIGGER, B. G. (1990), 'Monumental architecture: a thermodynamic explanation of behavior', *World Archaeology*, **22**, 119–32.

TRIGGER, B. G. (2003), *Understanding Early Civilizations: A Comparative Study*, New York, NY, Cambridge University Press.

TRIGGER, B. G. (2006), *A History of Archaeological Thought* (second edition), New York, NY, Cambridge University Press.

VAN DE MIEROOP, M. (1999), *The Ancient Mesopotamian City*, Oxford, Oxford University Press.

WAILES, B. (ed.) (1996), *Craft Specialization and Social Evolution: In Memory of V. Gordon Childe*, Philadelphia, PA, University Museum.

WARD, C. (2002), *Cotters and Squatters: The Hidden History of Housing*, Nottingham, Five Leaves Press.

WHEATLEY, P. (1972), 'The concept of urbanism', in P. J. Ucko, R. Tringham and G. W. Dimbleby (eds), *Man, Settlement, and Urbanism*, Cambridge, Schenkman, 601–37.

WILKINSON, T. J. (2003), *Archaeological Landscapes of the Near East*, Tucson, AZ, University of Arizona Press.

WILKINSON, T. J., CHRISTIANSEN, J. H., UR, J., WIDELL, M. and ALTAWEEL, M. (2007), 'Urbanization within a dynamic environment: modeling Bronze Age communities in Upper Mesopotamia', *American Anthropologist*, **109**, 52–69.

WITTFOGEL, K. A. (1957), *Oriental Despotism: A Comparative Study of Total Power*, New Haven, CT, Yale University Press.

WITTFOGEL, K. A. (1990), 'Ángel Palerm y la difusión del evolucionismo en Mesoamérica y el mundo', in M. Suárez (ed.), *Historia, antropología y política: homenaje a Ángel Palerm*, Mexico City, Mexico, Alianza Editorial Mexicana, 113–61.

WOLF, E. R. (1994), 'Explaining Mesoamerica', *Social Anthropology*, **2**, 1–17.

WOOLLEY, L. (1954), *Excavations at Ur: A Record of Twelve Years' Work*, New York, NY, Barnes and Noble.

WRIGHT, H. T. (1986), 'The evolution of civilizations', in D. J. Meltzer, D. D. Fowler and J. A. Sabloff (eds), *American Archaeology, Past and Future*, Washington, DC, Smithsonian Institution Press, 323–65.

WYCHERLEY, R. E. (1951a), 'Hellenic cities', *Town Planning Review*, **22**, 102–21.

WYCHERLEY, R. E. (1951b), 'Hellenistic cities', *Town Planning Review*, **22**, 177–205.

YOFFEE, N. (1997), 'Robert McCormick Adams: an archaeological biography', *American Antiquity*, **62**, 399–413.

YOFFEE, N. (2005), *Myths of the Archaic State: The Evolution of the Earliest Cities, States, and Civilizations*, New York, NY, Cambridge University Press.

Centenary Papers: an introductory note

In 1908 the industrialist and founder of the model settlement of Port Sunlight, William Hesketh Lever, made an important benefaction to the University of Liverpool which has had a remarkable impact. Lever's gift enabled three things to happen: the founding of the Department of Civic Design, the world's first university planning school; the establishment of the Lever Chair, the first university professorship in the subject of town planning; and the creation of the *Town Planning Review*, the first international journal in the subject.

One hundred years on, Lever's pioneering venture can be seen to have been an outstanding success. The Department, the chair and the journal have all flourished and together they have played a very significant role in the creation of planning as an academic discipline and as a field of professional practice. This influence has been felt not only in Britain but throughout the world.

It is therefore fitting that the University, and the planning community more generally, should choose to celebrate the centenary. Starting in the summer of 2008 a programme of special events has been organised, including the hosting of two international congresses in Liverpool, an exhibition about the history of the Department, a series of Centenary Lectures and a Centenary Dinner. The Royal Town Planning Institute will hold its General Assembly at the University in July 2009.

The *Town Planning Review* began publication in 1910, a year after the Department was founded. Patrick Abercrombie, its first editor, played an important part in establishing the journal in its early years. Commenting in 1992, Gordon Stephenson wrote:

> From the beginning [Abercrombie] set standards in content and format which made it unique. The *TPR* was a splendid venture and it came to be known in all parts of the world. Modern town planning was only in its infancy and the journal quickly earned an important place in the history of town planning. (Stephenson, 1992, 129)

Stephenson himself edited the journal for five years starting in 1948, successfully re-launching it after a difficult period before, and during, the Second World War. His approach was to invite authors of the highest calibre to write for the *Review*. International contributors such as Lewis Mumford, Lloyd Rodwin, Gordon Childe and Clarence Stein did much to enhance the journal's reputation. The circulation by now extended to more than sixty countries.

The *Review* has always served as a medium for debate on planning matters and through articles, editorial notes and viewpoints it has been highly influential in shaping opinion in professional practice and in research. The fact that the journal is deliberately pitched at the mainstream of planning has added to its authority and influence among the profession at large.

The editors have decided to mark the centenary by publishing a series of papers

that record and reflect on the state of the art in a number of different aspects of town and regional planning, in much the same way as Stephenson did in the early 1950s. A Call for Papers was issued in 2008 and this produced an extremely good response. Some fifty abstracts were submitted; from these fifteen or so papers were chosen and these will appear as Centenary Papers in issues of the *Review* throughout 2009 and 2010. The coverage of these papers is deliberately broad and extends from papers dealing with the historical antecedents of planning through to papers dealing with contemporary issues and emerging areas of research and practice.

The first of these papers, on 'Planning in the Ancient World' by Michael Smith from Arizona State University, appears in this issue of the *Review*. Further Centenary Papers will appear in issues of the *Review* throughout 2009 and 2010.

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Reference

STEPHENSON, G. (1992), *On a Human Scale: A Life in City Design*, Fremantle Arts Centre, Fremantle, Australia.