

Geddes, Zoos and the Valley Section

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The development of Edinburgh Zoological Garden was a pioneering example of the modern approach to animal display, placing animals in naturalistic settings that demanded innovative landscape design. The concept for Edinburgh Zoo, opened in 1913, was devised by Patrick Geddes and developed in collaboration with Frank C Mears and Geddes's daughter, Norah.

This paper draws on Welter's (2002) important study of Geddes's vision of the city and on Geddes biographies, as well as on original archive material, to explore aspects of Geddes's vision for landscape architecture in the early twentieth century. The paper discusses Geddes's contribution to contemporary design and planning theory through the concept of the valley section, which comes to an understanding of the global through the local and in turn inspires a vision of the universal.

Geddes was influenced by Hagenbeck's design for his zoo, near Hamburg, and by the New York Zoological Park, in developing displays for Edinburgh zoo that attempted to show animal behaviour as it would be in its natural habitat. The work of the German evolutionary biologist, Ernst Haeckel, further inspired Geddes to conceptualise the design as one where, just as ontogeny recapitulates phylogeny, so human civilisation might be recapitulated. He developed a three-dimensional expression of his hypothetical 'valley section' as a model for interaction between life and the environment. The zoo 'within' a city becomes a model for the ideal city, a city 'within' its region, reflecting the highest attainment of human development, yet still linked to the most primitive of origins.

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INTRODUCTION

THE WORK OF PATRICK GEDDES spanned many spheres and drew on his "polymathic wanderings" (Whyte, 2002) to map out a future for disciplines where science, aesthetics and morality would combine. One of his images or models was the 'valley section' and its corollary, the valley region, which were expressions of what a city in its region represented as well as an ideal of what it might be. What has only recently emerged, through a re-evaluation of Geddes's writings on cities (Welter, 2002) and original archival research, is how the development of the Zoological Gardens in Edinburgh, for which Geddes was planner, can be seen as a three-dimensional expression of the valley section, Geddes's contribution to a theory that links the global and the local.

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GEDDES AND THE VALLEY SECTION

Geddes first published his idea of the valley section in 1909 to illustrate his idea of the 'region-city' (Tyrwhitt, 1968). The region is expressed in the city and the city spreads influence of the highest level into the region. To put it another way, Geddes said that "it takes a whole region to make the city" (Leonard, 1994: 11). The valley

section illustrated the application of Geddes's trilogy of 'folk/work/place' to analysis of the region. Geddes saw this combination of organism, function and environment as a key to understanding human settlement and civilisation, a development of social evolution theories into a kind of social ecology (Small, 2004).

The valley section is a complex model, which combines physical conditions – geology and geomorphology and their biological associations – with so-called natural or basic occupations such as miner, hunter, shepherd or fisher, and with the human settlements that arise from them (Figure 1). Geddes illustrated the section using the locally available landscapes of Edinburgh and its hinterland. In the early images, the Pentland Hills are the mountains, the Lothian region provides the pastoral hills and agricultural plains, with their scattered settlements and villages, Edinburgh is the city and Leith the fishing village closest to the sea. This was not a simplistic illustration of environmental or social determinism, but an attempt to set the pattern of the contemporary city, its constructions and occupations, within the context of mankind's roots in the landscape.

GEDDES AND EDUCATION

Geddes believed that true education starts with the feelings and proceeds towards the intellect, not vice versa. His teaching philosophy emphasised the elemental emotion of wonder which, he believed, would elicit first admiration, and second curiosity. His motto – *vivendo discimus* (by living, we learn) – was put into practice in the education of his children, for whom a range of practical and sensory experience and an insistence on a generalist education took primacy.

Geddes worked as a designer as well as a botanist and self-made philosopher. As early as 1904, he was calling himself a landscape architect and it is not, therefore, surprising that he was invited to develop the ideas of the Zoological Society of Scotland when they decided to acquire a site and develop a zoo in Edinburgh. For Geddes, assisted by his daughter, Norah, and partner in practice (later, son-in-law) Frank C Mears, this was an opportunity to give physical form to many of his ideas, most notably a way of allowing people to engage with some of the principles behind the valley section through direct experience: the best form of education.

THE ORIGINS OF THE EDINBURGH ZOO

The Zoological Society of Scotland was first constituted in 1909, and by 1912 its members had proposed the creation of a Zoological Garden in Edinburgh. An appeal for funds to acquire the site of Corstorphine Hill House and to develop the zoo set out the aims and benefits of “the modern zoological garden” (The Zoological Society of Scotland, 1912). The three main purposes of the proposed zoo were to be inspiration, instruction and investigation. The modern zoo was to be one where animals can “live under conditions in which their natural habits, instincts, movements and routine of life can be studied by the naturalist and enjoyed by the lover of animals”, in contrast to the “old ideas” of a long series of cages “in which representatives of kindred species could mope opposite their labels” (Thompson, 1912: 300–301).

Professor Geddes was appointed in March 1913 as “an expert in landscape gardening, to report generally as to the best means of preserving and enhancing the great natural beauty of the [Corstorphine Hill] estate, and adapting it to the purposes of a zoological park” (Zoological Society of Scotland, 1914: 9). Together with architect Frank Mears, he visited a number of other zoos in continental Europe, especially Herr Hagenbeck’s naturalistic zoo at Stellingen, near Hamburg, which had been an inspiration for the Zoological Society from the outset of its Edinburgh plans.

Geddes’s ideas for a zoo had already been articulated in a proposal for one (never built) at Pittencrieff Park, Dunfermline, in 1904, where he described “the ideal zoo, in which not only should the animals be happily free or happily tame, but in which we ourselves should be again in nature, free in greenwood or forest belt or grassy glade, like Adam watching and naming the creatures” (Geddes, 1904: 81). He argued that a zoo should extend the experience of the botanist and the gardener to allow for a sympathetic contact with life, both natural and domesticated. This going back to nature, inspired by Haeckel’s biogenic law, he saw as re-creating the “elemental past” and “re-creation also of the essential phases of civilisation anew” (Geddes, 1904: 82). We find here resonance with Geddes’s concepts of the valley section and the linking of the zoo ‘within’ a city as a model for the ideal city, a city ‘within’ its region, reflecting the highest attainment of human development. Geddes understood the city as *the* constant expression of human life throughout history. He envisioned a morphology of city regions in which all cities are derivations from an *ur-city* – an abstract notion comparable to Platonic ideas and the Greek *polis* (Welter, 2002).

Such grand ideas lay behind the innovative as well as the apparently mundane in the zoo’s development. Thus, the primitive life of hunting or herding might be reflected in wood or pastoral landscape setting for animals, and the everyday farmyard might be evolved into “a recapitulation of the relation of man to his domesticated animals throughout the rise of civilisation . . . complementing this by arranging . . . its corresponding recapitulation in the individual experience of our children, not only by awakening their curiosity, even their admiration, of wild nature, but their sympathies, their love” (Geddes, 1904: 81).

DEVELOPMENT OF THE ZOO IN EDINBURGH

Hagenbeck’s Stellingen Zoo, developed around 1909, was an important precursor of the Edinburgh one: an ‘open zoo’ with use of ditches and moats rather than bars so that animals could be seen in apparently natural settings. Other inspirations included the New York Zoological Gardens in the Bronx. Whereas Hagenbeck and others had resorted to the creation of patently artificial ‘mountains’ and rock structures in order to create such settings in low-lying landscapes, Edinburgh’s Corstorphine Hill site offered the opportunity to take advantage of a steeply sloping site for natural and dramatic effect. The top of Corstorphine Hill offers striking views to Arthur’s Seat, Castle Rock and the centre of Edinburgh, as well as sweeping south across the Water of Leith valley to the wilder lands of the Pentland Hills opposite. The proposals for the Carnegie Aquarium at the bottom of the hill, in early plans for

the zoo, reinforce the notion that, within the boundaries of the zoo, Geddes was developing a valley section in microcosm, from mountain-top to sea.

Norah Geddes was responsible for the garden design for the new zoo in the early years and the Members' House retained elaborate plantings around it, based on the original garden of Corstorphine Hill House. Mears, who married Norah in 1915, was largely responsible for developing the upper part of the zoo, extended by a further 47 acres (19 ha) after 1928, although in accord with Geddes's original plans. The carnivores' dens, paddocks and "African plains" that were eventually established progressively up the hillside provided a fitting match for a landscape of 'primitive' origins, as conceived by Geddes for the top of his valley section.

Although a children's zoo and model farm were featured on some of the earliest plans (for example, in 1916 and 1921), the plan of 1925 no longer shows it, suggesting that this was not an early priority when it came to investment by the zoological society. It was probably a disappointment to Geddes that this was so long delayed. In his (undated) report on the development of Lucknow Zoological Garden in India, he proposes allowing boy scouts to build "a veritable anthropological museum of primitive dwellings": a series of shelters that would include huts, cabins, pile-dwellings, dugouts, and so forth, giving concrete expression to his idea of enjoyment leading to learning and of physical experience of the primitive being a key to understanding the evolution of human dwelling in the environment (Geddes, c 1920: 31-32).

THE GLOBAL, THE LOCAL AND THE UNIVERSAL

Zoos, by their very nature, are an attempt to provide a global or international view in a local setting, and while Geddes's work was nothing if not international, it was firmly grounded in the local and regional experience. The 'conservative surgery' that Geddes practised in his sensitive renovation work on the Old Town of Edinburgh, the city's historic core, was just one example of his idea to allow city and citizen to recollect (in the Platonic understanding of memory) and to recapitulate (in Haeckel's understanding of ontogeny) the history of a city.

Geddes's conservative surgery offered a way of renewing the urban environment that demanded an understanding of the *genius loci*, not simply conservation of historic forms but a recognition of the meanings and richness that must be improved whenever anything is removed or replaced; in short, putting 'heart' into the community. In designing a landscape such as a zoo, the larger lessons about city-region planning are revealed: siting, juxtaposition, conservation and conservative surgery in landscapes and urban environments can offer people an experience from which they may derive important understandings about history, biology, culture, and so forth, without it having to be explicit in a formally didactic way. The valley section is not a proposal, it is a model of what is and what might be, a way of thinking about who we are, the places we find ourselves in and how we have come to be here.

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