

# WINDOW BOX ZOO

A research essay submitted in fulfillment  
of the course requirements for  
ARCH384: Competitions Elective

Central Glass International Architectural Competition  
THEME: Environmental Zoo

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**Fig 1.** A window box near Dijon, France. This vernacular device allows inhabitants of enclosed, often claustrophobic spaces to gain exterior space, to embellish their external surroundings, and by doing so, express themselves to the public.



## PROJECT ABSTRACT

In the dense metropolis of London, the dearth of open space hinders pet-keeping. Just as traditional window box planters allow people to keep flowers and herbs for personal use, simultaneously beautifying their neighbours' views, the Window Box Zoo is a 600 mm deep compact pet housing unit which can be hung from the back window, or stacked on rear roof terraces. Looking out the window, flat dwellers enjoy their own, and others' pets, animating the common light well. Animal-friendly landscaping converts unused light wells into a common playground, which pets and owners can climb out onto. Those who keep a pet in their home will develop a personal relationship with the animal, while all residents can observe and learn about their neighbours' animals.

## DILEMMA: NATURE IN THE CITY

- i. Hans Christian Andersen, *The Snow Queen* (Red Fox Publishing, 1998), pp 3
- ii. "Statistics," City of London <<http://www.london.gov.uk>>.

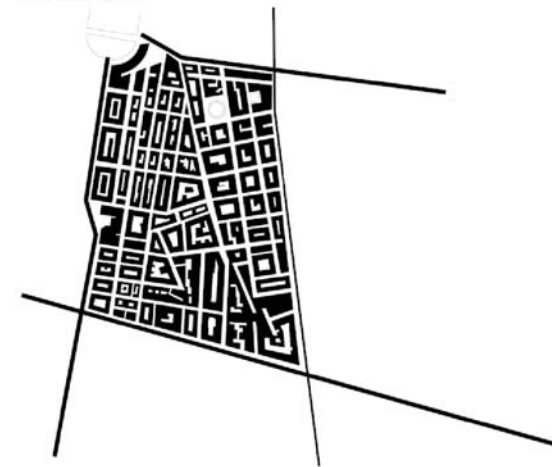
A traditional fairy tale from the 18th century begins:

*In a large town, where there were so many houses and inhabitants that there was not enough room for everybody to have a little garden of their own and many people had to be content with keeping a few plants in pots, there lived two poor children whose garden was somewhat larger than a flower pot. Their... parents lived in two attics which were exactly opposite each other. The roof of one house nearly joined the other, the gutter ran along between them, and there was a little window in each roof, so that you could stride across the gutter from one window to the other. The parents of each child had a large wooden box in which they grew herbs for the kitchen, and they put these boxes on the gutter, so that they almost touched each other. A beautiful little rose-tree grew in each box, scarlet runners entwined their long shoots over the windows, and formed a flower arch across the street. The children often used to sit on their little stools under the rose trees, and thus they passed many a happy hour.'*

The scene evokes the proximity which people live in, in a post-industrial revolution city. The children of the fairy tale negotiate the boundaries of their parents' property by transgressing freely on one another's roofs and windows. Likewise, their window box plants naturally grow with disregard for property boundaries. The garden is enlarged as the plants grow into each other, idyllically transforming the interstitial space into a place for communal use.

London currently comprises 2.6 km<sup>2</sup> in area<sup>1</sup> and hosts a burgeoning population of 8.5 million. Approximately 8,000 people reside in city blocks that remain from the town planning of the Georgian period

(post-great fire of 1666 to industrial revolution in 1780); a greater percentage work daily in these environs. The configuration of the 18th century city block structure is visible yet in Westminster, London (Figure 2): A city block averaging 300m<sup>2</sup> has a perimeter of approximately twenty to forty buildings, each measuring no more than 12m deep and being four to six storeys in height. With commercial space at ground level, and either residential or office upper floors, each building may accommodate up to 30 residential inhabitants, or perhaps 200 workers in an office setting. The buildings ring around a common lightwell. In popular, unregulated flat shares (such as those advertised on internet message boards, popular amongst students and young travellers), an individual may have a mere 3m<sup>2</sup> combined sleeping, eating and storage space. Building requirements across the thirty-two boroughs of London stipulate an average of 8m<sup>2</sup> as the minimum apartment size for a single resident.<sup>iv</sup> In such compact living conditions, there is limited ability to commune with nature, be it flora or fauna.



- iii. "Statistics," City of London <<http://www.london.gov.uk>>
- iv. "Draft - Supplementary Planning Guidance," City of Westminster <<http://www3.westminster.gov.uk/local/perv/downloads/2006january/23467s.pdf>>

**Fig 2.** Figure ground plan showing the city block configurations in Bloomsbury, London. Notice the variations in the shape of the central lightwell, caused by infill building throughout the centuries.

## CONCEPT: OVERLOOKING

- iv. L. M. Montgomery, *Emily Climbs* (McIntyre & Stewart, 1995), pp 120.
- v. *Ibid.*
- vi. Gaston Bachelard, *The Poetics of Space* (Beacon Press, 1994), pp 224..
- vii. John Keats, "Ode to a Nightingale." <www.bartleby.com/2/461>
- viii. Philip Pullman, *The Subtle Knife* (Scholastic, 2003), pp 33.
- ix. A. N. Wilson, *London, A Short History* (Weidenfeld & Nicholson, 2004), pp 54.

The competition brief for Central Glass's "Environmental Zoo" seeks novel concepts of the zoo which enhances the relationship between humans and animals. The notion of a "Window Box Zoo" draws on social and vernacular strategies to overcome one's inadequate access to nature in an urban condition.

The window is a city dweller's primary means escape from the claustrophobia of their living environment. Upon moving into the city, the fictional young girl Emily in *Emily Climbs* is cramped by her hideous room and exclaims: "There's nothing in this room I can ever love. Is there anything out of it?"<sup>iv</sup>. She opens the window and beholds an "enchanted moonlit landscape."<sup>v</sup> To Gaston Bachelard, the threshold of the window "confers freedom behind the world's back."<sup>vi</sup> When John Keat writes: "Magic casements opening on the foam / Of perilous seas; in faerylands forlorn"<sup>vii</sup>, his romantic poetry likens the act of opening a window to daydreaming, to cooape into another realm. In the children's fantasy novels *His Dark Materials*, a harangued protagonist suspends the suspense of real life by finding a "window" into an alternative universe.<sup>viii</sup> Windows physically and metaphorically provide access to an alternate space, a sanctuary.

The premise of being able to see into a realm beyond one's own is practically employed in the architecture of the London terrace. These late 18th century, upper middle-class developments are party wall houses situated on orthogonal plots, each containing its own back yard. As the identical strips of terraces line the streets of a residential area, their backyards abut one another, such that each resident has a clear view into the gardens of adjacent properties (Figure 3). A housing advertisement in 1802 sells the great advantage of "a large balcony overlooking the gardens of neighbouring dwellings." Historian A. N. Wilson describes "overlooking" as a distinctive



Fig 3. View from window of a terraced house (similar to those in the background on the right) near Hyde Park, London.



Fig 4. View out window into lightwell. Neighbouring windows are close by, making it easy to observe and interact with them.

- x. A. N. Wilson, *London, A Short History* (Weidenfeld & Nicholson, 2004), pp 54.
- xi. Simone Weil, *The Need for Roots* (Penguin, 1988), pp 100.

feature of London life: "Londoners have [always] been able to look out on their own back gardens and on the multifarious back gardens of others."<sup>x</sup>

This creates an interesting duality of private and public space. For while each family tends to their own garden, their efforts contribute to beautifying a common view. Though the territory is privately owned, in an ideal neighbourhood, this green space functions as a public amenity. Decentralized open-space maintenance has benefits over land designated and governed by state jurisdiction. The green space does not adhere to a prescribed plan, but is instead composed of the choices and individual expression of community members: owners landscape their gardens to accommodate their habits, their garden is thus a display of their lifestyle. Furthermore, the shaping of this green space is based on a participatory process. Social philosopher Simone Weil describes in *The Need for Roots* a gardener who, after tending a garden for a certain time, "feels that the garden belongs to him"<sup>xi</sup>; when citizens must work on and in their environments to feel a sense of proprietary pride.

A symbiotic relationship born of personal attendance is sought in the proposal for the Window Box Zoo. Residents keep an animal of their choice, which resides outside their window, allowing neighbours to glimpse into the lives of one another's pets. This idea of a "zoo" combines the display of a group's collection of animals, and close kinship with a specific animal. Users of the zoo observe not only the animals, but the interaction of owner and pet. Humans are forced to reevaluate their understanding of animals through their own relationships with them.

Individual stewardship of an animal helps ensure the continual presence of pets in the city. Each citizen acquires a stake interest in shaping a pet-friendly city. Collectively, people in the city create their own zoo. They are simultaneously visitors, staff, and owners of their community zoo.



**Fig 5.** The public square (top left and right) is a foreground to the front facades of the homes. Residents emerge from their homes throughout the day to enjoy the gated square. The lightwell (bottom left and right) is similarly enclosed by building, but hidden from the street, it is currently an unusable dump.

## SITE: THE ROOF TERRACE CONDITION

The typology of the Georgian city block is that of a perimeter of buildings encircling a central lightwell. The antithesis of the 18th century public square (Figure 5), an ornamental garden enclosed by regular blocks of houses on each side, the lightwell is a series of illicit roof terraces, haphazardly infilled by low level building extensions throughout the centuries. Accessed from the rear of the building, these roof terraces are popularly used as smoking patios, fire escapes, and garbage dumps. In this casual setting, neighbours interact freely if perchance meeting on the terraces, or catching a glimpse of one another through an open window.

Perhaps the most celebrated conversion of these unused lightwell hinterlands are the 1930s Kensington Roof Gardens (Figure 6). Nicknamed "the hanging gardens of London"<sup>xii</sup> with allusion to its Babylonian counterpart, the series of three formal gardens were installed by landscape architect Ralph Hancock above a department store. One hundred feet above the street thrive mature trees, fountains, 500 different species of flowers bred in the rooftop nursery on site, as well as exotic birds. The growth is enabled by the installation of an 18" deep layer of soil atop a brick and gravel drainage layer and a bituminous membrane barrier to the roof of the department store. The gardens, with their panoramic views over the low-lying cityscape of London, have been incorporated into Virgin nightclubs and restaurants, a venue frequently commissioned for corporate functions.

The Western Mail documents a rise in the popularity of the "glamourized airborne backyard"<sup>xiii</sup>: in 2004, 70% of new homes in central London include a roof terrace, compared with 15% in 1995.<sup>xiv</sup> Besides the euphoria of an elevated view, the perilous access (usually by climbing out a sash window, occasionally via a fire

xii. David Long, *Spectacular Vernacular* (Sutton Publishing, 2006), pp 76.  
 xiii. "The Rise of the Roof Terrace (The Western Mail, 14 September 2004), <<http://icwales.icnetwork.co.uk/homes/0100news>>  
 xiv. *Ibid.*

xv. *Radical Landscapes*  
(Thames & Hudson, 2004),  
pp 35.

escape door), and the exploration of labyrinthine, multi-level roofs heightens the sense of adventure. Given the unplanned arrangement of the lightwell due to piecemeal infill by each resident, there is architectural novelty and stimuli in the variety of building textures, the noisy hum of mechanical equipment, unguarded kitchen exhaust fumes, the unnerving close visual relationship of almost spying into a neighbour's personal space.

Among many contemporary examples of turning ignominious flat roofs into green courtyards is J + L Gibbons' landscape for the roof terraces of the Maverick Sedge headquarters in Canary Wharf (Figure 6). Covering the multi-level roofs with pre-grown mats of sedum and herbs, and alternately decks of red cedar planks, the landscape architects are interested in a hardy and low-maintenance solution. J + L Gibbons describe the results as a "textured tapestry"

**Fig 6.** Kensington  
Roof Gardens, Ralph  
Hancock

**Fig 7.** Maverick  
Sedge roofscape, J + L  
Gibbons



with "ongoing seasonal interest."<sup>xv</sup> These tapestries provide pleasing sights and smells, appealing to the users' biological senses.

Texture and sensory stimuli are significant in the Window Box Zoo's proposal to render the roof terrace environment animal-friendly. Rich in a melange of brick, zinc, aluminium, slate, tiles, or bituminous membrane, with roof profiles ranging from flat, hipped, or asymmetrically pitched, and level changes from the scale of a step to a full storey, the site is inherently diverse. The proposal for this clandestine microcosm organizes spaces into designated zones. Each roof or level is landscaped with low-lying plants desirable to a particular animal: catnip for cats, clover for dogs, grain and hay for small rodents. The roof terraces is transformed into a series of garden parterres. Each is fitted with appropriate supplementary furniture: benches, cedar climbing and scratching posts, planter boxes suitable for growing small amounts of edible plants such as leafy vegetables and herbs for rabbits, guinea pigs and dogs, and hedging to mask the scent and view of a dog or kitty litter pit. Large pets such as cats and dogs may explore at leisure in the pet-friendly roof gardens, with or without their owners. Smaller pets, vulnerable to predation, may be released from their cages on designated fenced terraces, at their owners' discretion.



Fig 8. Sections and plans for Competition Submission "Window Box Zoo." Roof terraces are distinguished by pet friendly ground covers.



- clover/ catnip terrace 
- hay fields 
- cedar deck 
- food/ herb plant boxes 
- feces pits concealed by shrubs 



## THE WINDOW BOX: ORGANIZING PET-KEEPING

xv. *Big Ideas Small Buildings: XS Green* (Thames & Hudson, 2007), pp 101.

The window box habitat, adaptable to house the needs of a range of domestic pets, derives partly from contemporary sculptor's Stefan Eberstadt's Rucksack House. Eberstadt dreams of not only gazing out his window, but of stepping into another space: his solution to crowded urban living is to hang a prefabricated box outside his apartment window. This 20m<sup>2</sup> living room, made of resin-coated plywood, is suspended by means of steel cables fastened into pre-drilled holes in the existing building's facade, which the designer claims can be assembled and dismantled quickly. The unit has a system of fold-out furniture, for flexible use of the interior space.

Fig 9. Rucksack House by Stephen Eberstadt.



The simple notion of a small prefabricated extension that any city dweller can place outside his or her window applies to the Window Box Zoo. A modular 600 mm x 800 mm x 1200 mm "window box" unit constructed of treated wood can adequately shelter small and large pets. These lightweight units can be hung outside the window by steel angles, or stacked as a drawer unit on the roof terrace. (Figure 10)

Popular storage systems for city living come in a range of sizes, flexible for organizing a range of household goods (Figure 11). Traditional wardrobes are likewise crafted with operable doors, drawers and other divisions within compartments. Bachelard probes the psychological delight of finding boxes within boxes: he finds the mystery of a wardrobe akin to items classified and guarded in the human mind.<sup>xv</sup> He quotes from a novel where the "moment of positive joy... [of] opening a box"<sup>xvi</sup> represents both the intimacy of the mind, and an unspoken understanding. While compartmentalization maximizes space, classification indicates a grasp of knowledge.

The Window Box Zoo is based on this tenet of logical spatial organization. Each window box can be customized for a specific animal by inserting a selection of components that cater to the living, eating and storage needs of specific animals. A system of hinged openings, as well as choice of glass or mesh walls, vary the permeability of the window boxes for different pets, their access and maintenance needs. Modules for three different categories of pets are proposed:

xv. Gaston Bachelard, *The Poetics of Space* (Beacon Press, 1994), pp 74-89.  
xvi. *Ibid.*

### 1. Birds/Rodents

Birds rely on well-ventilated spaces and have minimal mechanical requirements. Components for a bird unit centre around easily removable drawers for their feeding and cleaning. In addition to meshed walls, the bird unit features a base tray that can be removed for cleaning and a food trough that can be pulled out for refills. Altered to suit chickens or hamsters, the base drawer can be filled with a bed of dried hay or sawdust, which small pets love to root in. The food drawer is raised above the sawdust bed so that it remains clean. For baby birds and rodents sensitive to temperature changes, a thermometer and incandescent "warming lights" can be installed. Play equipment, such as a wooden dowel roost, or a hamster exercise wheel, can also be added. Variation in components make a generally designed box suitable for birds, fowls, hamsters, gerbils, and other small mammals.

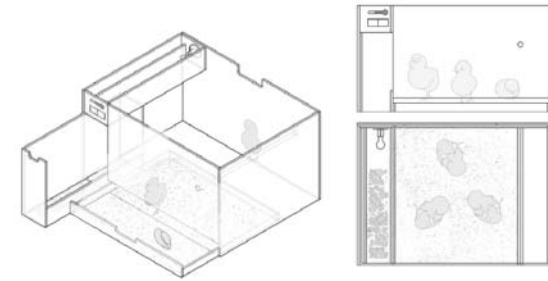
### 2. Aquatic Life

Marine life require an aquarium with mechanical maintenance. The window box is divided into clear glazed aquarium space and obscured mechanical space. Extendable hoses can be run into the mechanical compartment as piping for the water and air intake/extract. In the main aquarium space, lights and thermometers are positioned near the top for strategic lighting and ease of maintenance. Fish food or cleaning chemicals can be organized into a tray set, which rests above the water level of the aquarium. A lid with hinged openings facilitates feeding and or access. The hinged openings also encourage interaction: users of the zoo, including the owner and other neighbours, can examine the fish or amphibians first hand, while semicircular "handles" the size of a human finger keep the window box safe from predatory animals.

### 3. Typical Domestic Animals

The unit is merely temporary shelter for larger mammals like cats and dogs who can roam freely in the roof terraces. However, it acts as a hub for their daily activities: it is equipped with food trays inserted, a variety of open and enclosed spaces to hide in, and storage trays for their various toys, leashes, or grooming tools. Despite not physically housing the animal, the window box for a larger pet likewise organizes and displays its lifestyle. Hinged doors again allow easy access for the animal in and out of their feeding hub. For "medium sized domestic animals" like rabbits and guinea pigs, the general spatial dimensions are maintained, and are carefully partitioned into an open space with meshed walls for living, and an enclosed space for sleeping.

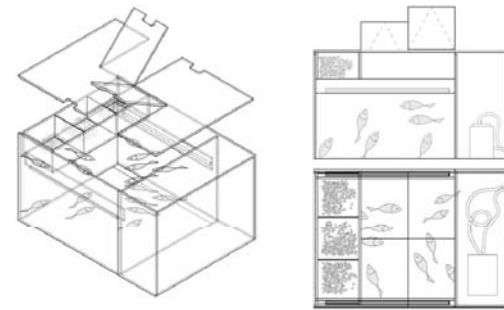
Fig 10. Competition Submission "Window Box Zoo": Plans, Elevations & Axonometric of each module



BIRD HABITAT BOX

birds, chickens, hamsters

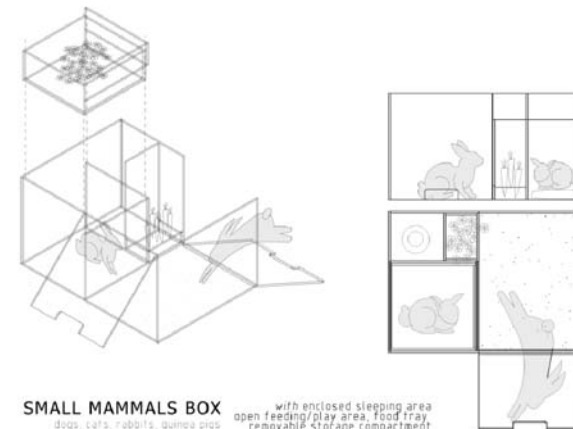
with grain & water trough, litter tray, perch, mesh/glass screen, optional incubation thermometer & light



MARINE LIFE BOX

fish, turtles, reptiles

with removable dried worm & flake trays, perch, filtration equipment compartment, fluorescent light

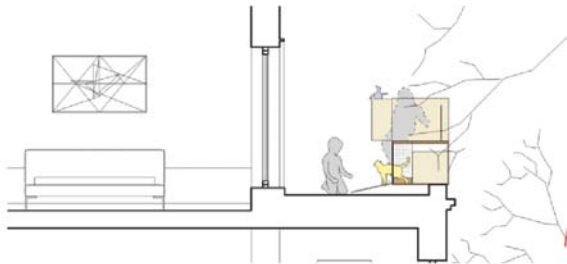


SMALL MAMMALS BOX

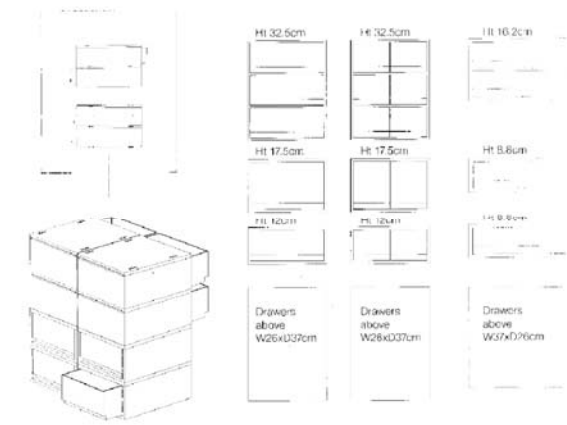
dogs, cats, rabbits, guinea pigs

with enclosed sleeping area, open feeding/play area, food tray, removable storage compartment

**Fig 10.** Competition Submission for "Window Box Zoo": Section at Roof Terrace



**Fig 11.** Storage systems by MUJI in varying sizes to suit a range of household needs, a popular household/lifestyle store.



**Fig 12.** A system of classification using drawers and cabinets.



Structuring most of a pet's needs within one contained unit not only makes pet keeping a space efficient exercise; a clearly organized unit clarifies and showcases the animal and its needs. The Window Box Zoo's primary aim is to facilitate a personal relationship between human and animal: a tidy unit aids owners in tending to their pets and developing familiarity with the physical needs of their pets, and the opportunity for customization builds on their understanding of the animals' behaviour and personality.

### CONCLUSION

A zoo is formed when a collection of many pets are kept in one place for the purpose of allowing humans to study their behaviour. Equipped with the experience of caring for an animal, residents in a city block learn about their neighbours' animals by comparing and contrasting against their own treatment. The Window Box Zoo focuses on this exhibition of process: the zoo is not an orchestrated environment simulating animal life in the wild, but a daily environment for the study of pets and the interdependent relationship of pet keeping.

## IMAGE CREDITS

- Fig 1 Window, Getty Creative. <<http://www.gettyimages.com>>
- Fig.2. Personal graphic, produced from data at: London: A Life in Maps. Exhibit at the British Library. Photographed January 2007.
- Fig. 3 Personal Photography. March 2007.  
Fig. 4 Competition Submission. July 2007.
- Fig. 5 Aerial Photos. Google Earth 2006.  
Illustration: John Summerson, Georgian London. Charles Cribner's Sons: 1946, pp. 49  
Photo: Personal Photography, March 2007.
- Fig. 6 Kensington Roof Gardens. <<http://www.ralphhancock.com/theroofgarden/satderry%26toms>>
- Fig.7 *Radical Landscapes* (Thames & Hudson, 2004), pp 35.
- Fig. 8 Competition Submission. July 2007.
- Fig. 9 Rucksack House. <[www.outofrange.net/category/housing/](http://www.outofrange.net/category/housing/)> 22 July 2006.
- Fig. 10 Competition Submission. July 2007.
- Fig. 11 MUJI Catalogue "MUJILIFE 2007 SPRING/SUMMER). pp.37
- Fig. 12 Cabinets, Getty Creative. <<http://www.gettyimages.com>>