2041: A Communal Life

Nathaniel Thomas Danciger
OUTLIVING THE MACHINE
Thesis:

I posit that an architecture that encompasses a concern for the wellbeing of collaborative, egalitarian community, shared human and animal habitat, and affordable local building techniques is possible through the deployment of a live-work community designed according to these precepts and will offer a model for the development of former agricultural and suburban sites in a manner preferable to the current practices of the American suburb.
Forster’s text describes a world changed by the idea that instead of bringing people to goods and services through various mechanisms of transportation, such as the automobile, train, or plane, it is more efficient to bring goods and services to people. Critical study of and response to the possibilities and technological forces epitomized and analyzed through narrative in “The Machine Stops,” can provide a rare perspective on past, present, and future developments of a global society and the place of architecture within this system.
The global flight network color-coded by duration of travel reveals a world profoundly interconnected, as critiqued in “The Machine Stops.”

Though E.M. Forster harshly critiques this society and describes its collapse, there are many inescapable realities and inspiring opportunities implicit in the world he describes. The use of email, websites, online shopping and overnight delivery in contemporary society could contain the seeds of such a world. The energy distribution grid and transportation networks, which are integral to the planning of urban, suburban, and rural communities could experience a transition from transporting people to primarily transporting required energy and material.

The potential of the Internet to allow individuals to work from home, have goods and services delivered to them, and maintain ties with many people, is a contemporary reality. Therefore, the architecture of the home in the 21st century must promote shared communal space, the reintegration of production into the domestic sphere, and the interdependence of humanity and ecosystems, in order to demonstrate the importance of tangible community. Through asserting a commitment to tangible community, we may transcend the dysfunction and isolation discussed in Forster’s parable.

THE PRIMARY ARCHITECTURAL FLAWS

The principle architectural flaws of the society of “The Machine” are the isolation of the individual from a tangible physical community and the separation of interior from exterior space. These significant architectural deficits contribute to a society of psychological isolation, the alienation of consumers from the means and sources of production, and the separation of human beings from a biological ecosystem.

Contemporary conditions of interconnection, information technology, and instant global community may devalue physical connection and tangible community, as evidenced by the cubicle as a cultural artifact. This spatial system embodies isolation like the cells in “The Machine Stops.”
THE DEVELOPMENT OF A NEW COMMUNITY TYPE

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A
COMMUNAL LIVING
(as found in traditional city planning and Monasteries)

B
THE CONTINUITY OF INTERIOR AND EXTERIOR
(as found in modernist house in the garden projects, such as Schindler and Aalto's work)

= NEW COMMUNITY TYPE
(for rural sites)
The development of a new community type for a contemporary society ever more connected through virtual and intangible media, will combine the architectural creation of communal space with the interconnection of interior and exterior space, in order to promote social cooperation and provide inhabitants with a life within the environment.

Formally defined and programmatically flexible communal space, which has historically developed in the urban context, and spatially interdependent interior and exterior space, as articulated in the renaissance villa and the modern house in the garden, can be brought together to form a new community type for rural sites.

Clermont Monastery as the basis for a New Communal Type: The outlined areas are opened up

Conceptual Plan of a New Communal Type based upon Clermont Monastery:

The plan combines clearly defined communal space with the continuity of interior and exterior spaces.
A: COMMUNAL LIVING

The idea of the commons, the public square, the piazza, and the continuous figure of public space, has comprised a significant concern of architecture throughout history, particularly in dense urban contexts. The same societal needs and forces that necessitate public space in the city also apply in rural sites. As soon as a rural site becomes residential, the multifaceted nature of community should be acknowledged and given architectural support, through the delineation of communal space.

Forum at Pompeii. Plan.

City of Ur, Sumer. Plan.

Continuous Space

Figural Space

Forum is primary

Religious

Commercial

Large Residential

Isolated Spaces

Internal Compression.
Access routes and interior spaces

Threshold.
From the street to the first major interior
The public spaces of the ancient world and the Renaissance offer complex, highly sophisticated models of communal space, which, in their accommodation of civic gathering, public ritual, and programmatic specificity, achieve an elegant composition conducive to a prosperous communal life (Sitte 1945).

The Pompeiian forum, the Roman forum, the Acropolis of Athens, and the Plaza of Olympia achieve civic communal space for complex social needs (Sitte 1945).
Certosa del Galluzzo, a medieval Carthusian Monastery outside of Florence, Italy contains communal space for the monks in the form of a great cloister, a series of courts for visitors, a church, dining facilities, and many programs to sustain the permanent residents, who live a solitary life of prayer (Galluzzo).

The individual monks cells each consist of a house and garden, where the monk dwells in solitude, occupied with prayer, writing, and gardening. The boundary between interior and exterior is suggestively thin, allowing a close communion with the outdoors and the cultivated landscape, however the units are bounded by a fortified wall, afforded only a single direct view (Galluzzo).
A: COMMUNAL LIVING

Aerial view showing the main cloister, the aggregation of house units, the collection of shared religious and pragmatic functions, and the surrounding agricultural landscape. The plan shows the public and private courtyards, the continuous mass of houses and the individual unit within. A colonnade surrounds the cloister, providing a threshold and ambulatory space.
House and Garden are inextricably linked, geometrically reciprocal, mutually dependent, and completely practical entities to serve the needs of a solitary, mostly self sufficient existence.

Right, the house and garden are volumetrically entwined and divided minimally, displaying a defined connection between interior peace and life in the open air.

Upper left, the entrance to the garden is a narrow covered threshold.

Lower left, the interior accommodates necessary practical functions of eating and spiritual needs of reading and writing, while the space builds in intensity for a beautiful and precious single view.
A: COMMUNAL LIVING

Certain existing models, such as the monastery, offer interesting potential for a synthesis of communal space and interior-exterior continuity. The combination of communal space and interior-exterior continuity is evident in the cloister and the individual monk cell with its own garden, yet the expansion of interior space to the natural surroundings is bounded by the enveloping walls of the monastery compound.

The house and garden unit fits into a tight organization of residences, a central church, prior’s residence, dining, kitchens, stables, circular dovecote, main gate, and defensive towers, arranged to define a public entry plaza and more private cloister (Braunfels 1973).

The gate, entry plaza, prior’s courtyard, church, refectory, and cloister form a continuous sequence for the rare visitor.

The units, colonnade, cloister, church, and refectory form the monks’ domain.

Carthusian Monastery of Clermont France

Drawn by Viollet-le-Duc for 1858 Restoration
St. Gall Utopia

c. 816-836

Ostensibly designed by Haito (763-836), who was the Abbot of Reichenau

This unbuilt project was designed as an ideal form of the Benedictine Monestary. Fascinating in its complexity, this project seeks to include, regulate, and operate within a dense arrangement of programs. The plan with its implicit goal of control, order, and self-sufficiency has been realized to varying degrees by subsequent monastic and secular compounds, and is an early and distinctly efficient, mechanistic type of utopia. (Braunfels 1973).
The functional and aesthetic interdependence of the house and the garden has constituted rich material for architectural invention and the design of buildings integrally linked with the landscape. This profound integration has been particularly important in modern houses by Rudolph Schindler, Mies van der Rohe, and Alvar Aalto.
The King’s Road House is an exemplary work of interior-exterior spatial continuity, with its minimally defined volumes, movable partitions, and landscape that works in conjunction with the architecture. The monolithic tilted concrete slabs support a multilayered roof and work with landscape elements to create fluid volumes that pass through the house, designating open air within the building and room-like outdoor spaces.
How House
R.M. Schindler
Los Angeles
1925

Left, the dual materials ground the project in the hillside with poured, striated concrete, and project the interior spaces up and out with a light wood frame series of volumes.

Right, the central living space is articulated as a cubic volume rising above the datum of the house and opening the interior to diagonal views from the entrance to the terrace and the surrounding landscape.

Left the eroded corners and tectonic qualities of the space and wood framing reinforce the openness of the interior.
Mies van der Rohe's courtyard house projects reflect a rigorous development of spatial interpenetration, and the dissolution of traditional heavy systems of enclosure in favor of a delicate, elegant, and minimal definition of spaces that flow freely between interior and exterior (Johnson 1947).
B: CONTINUITY OF INTERIOR AND EXTERIOR

Villa Mairea
Alvar Aalto
Noormarkku, Finland
1939
The Villa Mairea fits remarkably well into its wooded site. The use of sculptural elements, strong datum lines, mimetic tree-like structure, and clearly defined outdoor space, allows the house to lock into the space of the forest clearing and give the outdoors a distinct domestic presence.

At the same time, the vegetation planted along the building softens these delineations and makes the building itself a part of the natural landscape (Aalto Museum 1994).

On the first floor, views are turned inward and interior spaces open onto the lawn, while on the second floor the orientation is more external and the block of the building’s main volumes is divided into chambers.

The L-shaped building is bisected by an entryway, trellis, and loggia element that, along with the low stone wall and building’s facades, define the space of the back yard clearing in the woods.
The project’s principle strengths lie in the opening up of social programs to the lawn, the dynamic relationship of curvilinear, sculptural forms and simple planar surfaces, and the extensive use of landscape and vegetation to modify architecture.

The project is light-filled, welcoming, well sited, climatologically responsive and in keeping with its natural surroundings.
C: CONTEMPORARY MODELS OF COMMUNAL LIVING

Kanada Children’s Training House
Shoei Yoh + Architects
Kanada-town, Fukuoka
1994

Training Center and Dormitory
C: CONTEMPORARY MODELS OF COMMUNAL LIVING
C: CONTEMPORARY MODELS OF COMMUNAL LIVING
Housing Co-operative Block
Antonio Besso-Marcheis
Torino, Italy

Ground floor plan

Longitudinal section
Itochu Kenzai Dormitory
Tadasu Ohe/Plantec Architects
Funabashi City, Chiba
1994

Corporate Dormitory for single employees
C: CONTEMPORARY MODELS OF COMMUNAL LIVING
Senior Citizens Home
Kada + Wittfeld
Thalgau, Austria
C: CONTEMPORARY MODELS OF COMMUNAL LIVING
The current need for a new communal type is demonstrated by the rising frequency of corporate residential communities and retirement communities. Beyond the familial home, the contemporary individual can live in communities in a progression of phases from the university campus community to the corporate community to the retirement community. The variety and popularity of communal housing indicates a strong emerging interest in maintaining some form of communal life in contemporary society.
C: CONTEMPORARY MODELS OF COMMUNAL LIVING

Facebook’s West Campus

(DesignBoom 2013)
C: CONTEMPORARY MODELS OF COMMUNAL LIVING

(Woollaston and Prigg 2013)

Apple’s Headquarters

(Woollaston and Prigg 2013)
C: CONTEMPORARY MODELS OF COMMUNAL LIVING

Amazon's Biosphere Office

(Woollaston and Prigg 2013)
The development of a new communal type for rural communities in an age of increasing connectivity and communication is here proposed through the synthesis of communal space and interior-exterior continuity. The individual will have access to the community and the environment as fundamental tangible support, available from the home, and not merely through the transportation and communication networks the twentieth century has produced. Forster’s rebel against The Machine, Kuno, declares that, “man is the measure,” a feeling expressed in many ways and at many times in architectural theory from the Vitruvian Man to the Modulor Man. The design of the residential community should not isolate the individual from needs and desires always through a technological interface, but rather, through the arrangement of space, allow the spheres of the individual, the community and the environment to overlap at the scale of the residence.
“The Machine Stops,” extrapolates a vision of the future in which the architectural mechanization of human society has reached full saturation; therefore, it is a fitting counterpoint to consider the origins of architecture, as considered in the theories and hypotheses that comprise the idea of the “primitive hut” in architecture. A central technique throughout architectural history has been to theorize and place architectural work in relation to “the primitive hut,” or the earliest origins of architecture, a legacy developed by Vitruvius, Laugier, Semper, Le Corbusier, and Wright. Drawing on the writings of contemporary architectural theorists, such as Sanford Kwinter and Joseph Rykwert, this project endeavors to continue and contribute to that tradition. Each theoretical position concerning the origins of architecture has accompanied a fresh perspective and formal manifestation of architecture, and is therefore of timeless interest.
“The Machine Stops” is a parable that sheds light on humanity’s desire that architecture and technology provide security, safety, and predictability, often without sufficient regard for the health of our planet. In the story, “the surface of the earth is only dust and mud, no life remains on it,” and the environment has become uninhabitable (Forster 3). In reality, however, advances in international environmental policy, energy efficiency, pollution control, habitat preservation, improved environmental education, and increased success of environmental movements have been considerable since the 1960’s. The sustainability movement in architecture has addressed many of these issues as well, but most architecture takes for granted the separation of humankind from other animals and plant life, a conception this project seeks to challenge and redefine.

The built environment can act as a human habitat that supports the organisms with which we may have a symbiotic relationship. Architecture, often conceived of as separating the human from the “other,” can, in fact, facilitate humanity’s integration with ecological systems, and symbiosis with other animals. Beneficial insectivorous organisms such as barn swallows, bats, and spiders regularly inhabit buildings, usually without human approval. However, animals and plants that are beneficial to human beings can be accommodated through the design of habitats within architectural construction, and landscape design. This strategy would prove especially beneficial to animals like bluebirds, bats, and frogs that are endangered by anthropogenic causes, such as habitat loss, invasive species, and pesticide use.

The environmental challenges presented by the American middle class lifestyle are considerable. This project’s scope will be the development of a live-work community on a specific site, which will serve as a model for similar projects elsewhere. The goals in terms of environmental harmony are to provide actual habitat support in close proximity to people, to preserve larger habitat continuity, to build using locally sourced materials, to employ passive heating and cooling strategies, and to foster a spirit of cooperation, rather than competition with the natural world.

As our population grows unabated and our environment faces many dangers, the need to provide a shared habitat for human beings and all other life becomes not merely a sentimental wish, but an imperative. This project is based upon a concern for the ability of architecture to embody societal values, the importance of the mental and physical health of the occupant, humanity’s survival in harmony with all life, the preservation of habitat for non-human life, the need for energy efficiency, the legitimacy of animal rights, and the need to sustain the Earth for future generations.
The rural, formerly agricultural, site has the potential to support greater biodiversity and a dense live-work community well integrated into the landscape and organized around communal space. The new type, offered in place of current rural development practices, will stem from a concern for the wellbeing of collaborative, egalitarian community, shared human and animal habitat, and affordable local building techniques.
Rural sites, often formerly agricultural, have been converted with utmost expediency and a minimum of care into vast grassy fields dotted with homogenous, cheaply constructed, and boxy houses that sit un-reactively upon the site and fail to create shared communal space or the integration of interior and exterior space. The potential of many rural sites as been squandered and inefficiently utilized, yet, as such rural development continues, a new type of residential community must replace these current practices.
“The Machine Stops,” raises profound questions about the role of technology in our lives and the fate of a society built upon technological systems and connected by instant global communication. In order to ameliorate the alienation of the individual from community, production, sustenance, and the environment, architecture can reintegrate these elements into a new type of live-work community for rural areas achieved through a synthesis of communal space and the interdependence of interior and exterior space. The residence will thereby become a point of convergence for the individual, the community, and the environment.
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