

the why factory post-topia

Isabel Potworowski

This semester, The Why Factory held a workshop titled Post-Topia that, through analysis and application of historic utopias, set itself the task of answering the following question: How would Rotterdam look like if it was based on the principles of a specific utopia?

"Ideal cities, utopias or human paradises have been imagined in detail by philosophers, poets, architects, social reformers, religious devotees, and artists for more than two thousand years. The attempt to invent the perfect city, cradle of the ideal society, is an abiding and ever-evolving vision embracing a wide variety of fascinating and often controversial movements and figures, including Plato, Filarete, Leonardo da Vinci, Thomas More, Thomas Jefferson, Claude-Nicolas Ledoux, Charles Fourier, Etienne Cabet, Robert Owen, William Morris, Ebenezer Howard, Bruno Taut, Le Corbusier, Frank Lloyd Wright, the European Situationists, the Japanese Metabolists, Archigram, Superstudio, and many more. But what can we learn from these intelligent inventions? What is that image or concept of Paradise and Utopia about and how is it used and described in literature, architecture, urbanism, music, fine arts, and performing arts? When and why did these utopian theories appear? What city concepts and social structures do these utopias proclaim? The Postopia workshop has been set up as an explorative exercise to understand the core characteristics of the many past utopias and ideal city concepts. The basic approach was to collect historical examples and specific theoretical details of past utopias and concepts, categorize them, filter their main societal characteristics and formulate principles for spatial organization. This collection is a first attempt to start an archive that consists of an extensive thematic bibliography or classification including historical, discursive, practical and theoretical material contextualizing the Ideal City and Utopia across cultural, temporal and geographical boundaries. The Postopia workshop finally worked out nine different utopian models by taking Rotterdam as a test-case and make the different utopias comparable. How would Rotterdam look like if based on the principles of a specific utopia?"

Tihamér Salij

This article documents four of the nine utopian models and is structured in two parts:
1. A description of the utopias studied.
2. Their application to Rotterdam.

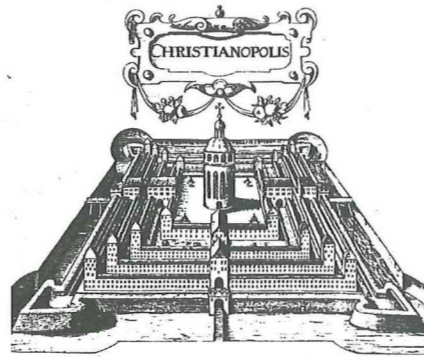


Utopia Thomas More, 1516

Thomas More's book Utopia is a narrative set in a fictional "island of Utopia" composed of 54 almost identical cities. The society's highest values are honesty and equality, achieved through mathematical precision and the abolishment of ownership and private property. The mathematical and geometric precision is expressed in the distribution of residences. Each of the 54 cities contains exactly 6000 households of 10 to 16 adults; they are regularly planned with wide, straight streets and divided into four quarters. Houses are never locked and are rotated between citizens every ten years. The island is a welfare state with free hospitals, equal access to goods, and communal dining halls where all are fed the same. Agriculture is the main form of labour, and every citizen, men and women alike, must spend two consecutive years farming. There are no lawyers because the law should be clear enough that confusion never arises. Utopia, in being governed by mathematics, is a pure manifestation of the understandable. Everything is objective and measurable because number guarantees equality.

Student: Alessandra Monarcha

>> population: 3.240.000 and 5.184.000
>> area covered: 236.322 km²
>> urban density: 22 people/km²
>> city structure: square-grid
>> proximity: 38km between every city
>> street width: 6.5m



Christianopolis Johannes Valentinus Andreae, 1619

Johannes Valentinus Andreae was a German prose writer, poet and Lutheran theologian whose passion for educational and social reform is expressed in his book, Christianopolis. In it, he describes a community of scholar-craftsmen with no social differences, living in equality and renouncing riches. The city's structure - a square of 700 feet, well-fortified by four towers and a wall, with a temple in the center - is geared towards the orderly production of food and goods, with special emphasis placed on the creation of an enlightened system of learning. Science and Christian ideals act as elements of social order, and numerous scientific laboratories are positioned next to the central temple.

Student: Ceciel van Rinsum, Christel Lechaux, Emmanuelle Eon, Tan Guang Ruy, Maria del Pilar Rodriguez Martin, Paulus Santos

>> population: 400
>> area covered: 0.054 km²
>> urban density: 7.380 people/km²
>> city structure: fortified square of 700 feet
>> building height: Temple 23m (three floors)
>> street width: 6.5m
>> transport space: 12m
>> human space: 6.5m



Tokyo Bay Masterplan Kenzo Tange, 1960

The Tokyo Bay Masterplan transforms Tokyo from a centralized city to a linear city in which communities would settle along a main civic axis. This infrastructural spine for linear expansion connects Tokyo with its suburb, Chiba, by spanning Tokyo Bay. It consists of an elevated transportation system - two parallel highways without intersections - only touching the ground where it integrates with Tokyo's major highways and railroads. The area between the two highways is occupied by public buildings; they are built on pilotis, allowing the ground plane to be used communally. Residential areas occupy enormous platforms on the water attached from the outside of the highways, their arrangement characterized by a perpendicular organic growth. City Lifestyle: Housing units protect people from exterior elements and make an interface between it and ultra-connected society.

Students: Bénédicte Arnoux, Laura Cardin, Enes Ismailati, Guillaume Guerrier

>> population: 5.000.000
>> area covered: 1.050.000 km²
>> urban density: 4.800 people/km²
>> city structure: Megastructure
>> proximity: Tokyo-Chiba
>> building height: 6m; 12m; 20m
>> transport space: 3%
>> human space: 45%



Avatar James Cameron, 2010

James Cameron's 2010 film Avatar takes place in the not-so-distant future - the 22nd century - on a distant planet called Pandora, where a group of greedy businessmen supported by the U.S. military attempts a mission from Earth to expel the local inhabitants in order to mine a precious ore. In the conflicts that ensue, the native Na'vi culture is depicted as the polar opposite to our own. Our culture is globalized, technologically driven and - as portrayed by the aggressive U.S. military - even dystopian: Earth has depleted its resources and has become a utopia destroyed. The Na'vi culture, in contrast, is utopian; the eco-pantheistic tribes live in harmony with nature, recalling Edenic paradises in which abundant nature provides for all needs - there is even no need for agriculture. They live in trees with central voids formed by pillar-roots, and use running and flying animals for transportation. For them, "all energy is borrowed," suggesting that an enlightened harmony with nature will result in abundance without toil.

Students: Mark de Klijn, Paul-Alexandre Lemaire, Lisa Heidenblut, Marc Boinet, Jules Collard

>> population: 500
>> area covered: 1 km²
>> urban density: 500 people/km²
>> city structure: vertical, tree roots
>> building height: 900m tree

Rotterdam as More's Utopia

Rotterdam's existing density and program is re-arranged into clusters of independent cities with a geometric and mathematical rigour analogous to More's Utopia:

Total population of 50,000 divided into 300 communities. Each community has 166 citizens divided into 30 families: 14 small families, 9 medium families, 7 large families, where:
S: 4,166 families of 4 members (42 m² house) = 174,972 m²; M: 2,777 families of 6 members (92 m² house) = 255,484 m²; L: 2,083 families of 8 members (160 m² house) = 333,280 m². Total of 9,026 families requires 764,192 m² for housing. Add 30 m² of garden for each household

Each community contains one common building (dining hall, meeting spaces, hotel, lecture spaces) of 938 m². The city is divided in four parts in the centre of which there's a 3,000 m² market. The area around the city clusters is populated by farms, each 910 m² with 84 workers.

Knowlopolis

In keeping with the emphasis of Christianopolis on education, the proposal for Rotterdam is the city as "network of knowledge" a.k.a. knowlopolis. The program contained in the assigned area of Rotterdam is redistributed into clusters, each of which is a modified version of Andreae's Christianopolis with educational facilities in the centre and housing around the periphery. Two types of clusters are developed, one centered on elementary and high school education, the other on the university campus. Agriculture and nature occupy the spaces in between the clusters. The composition of each cluster, then, from centre to periphery, is: faculty, lecture rooms/library, shops, leisure, housing, agriculture.

Rotterdam as Tokyo Bay

"Expressways are like rivers. These rivers frame the area to be served. Rivers have harbours.

Harbours are the municipal parking towers; from the harbours branch a system of canals that serve the interior, the canals are the go streets."

K.Tang

Using this expressway-river analogy, Rotterdam is transformed into an ultra-connected city according to three main principles expressed in the Tokyo Bay Masterplan:

Growth. The shift from centralized or radial growth to linear growth reflects the open organization and spontaneous mobility of contemporary society.

Mobility. Comparison of Tokyo's and Rotterdam's "main flux" or "high speed way": Tokyo Bay's raised highways become Rotterdam's Nieuwe Maas. River becomes expressway. Arranged around this main flux are secondary cycling and pedestrian transport systems.

Main axis. As in the Tokyo Bay model, public and business buildings occupy the area of the "main flux" river, while housing, industry and agriculture grow perpendicular to it.

Pandoram

The application of the utopian concepts developed in Avatar to the built environment of Rotterdam uses a fictional narrative, not unlike the film itself. The narrative describes a future Rotterdam in four stages.

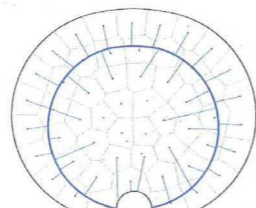
Separation. "Pandoram" (Rotterdam + Pandora) is inhabited by an advanced and egalitarian civilization who, although living in complete harmony with nature, are aware that the rest of Rotterdam is still plagued by social inequalities and prejudices, made worse by industrialization and financial crises.

Boycott. Centuries ago, in a strong and widespread reaction to the ills of industrialization, anyone fabricating products harmful to either humans or nature was found guilty of "genocide and crimes against the planet": the food and chemical industry, weapons, tobacco, alcohol, computer manufacturers, pharmaceuticals, automobile industry, architects, etc. It meant the end of consumer society.

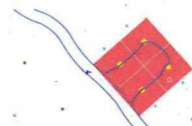
Architected trees. Crop development has become urban development, and the architecting of trees combines the techniques of Bonsai art, Versailles propagation from cutting, and Dutch water control for irrigation. Props and temporary formwork are used to guide the growth of young trees, developing their branches into forming paths, atria, and terraces.

Cycle. Pruning, trimming, propagation by cutting, hybridization are part of a weekly process - a cycle of development of a continuous shared space - around which a sense of community for the future generations is built.

Rotterdam as Utopia



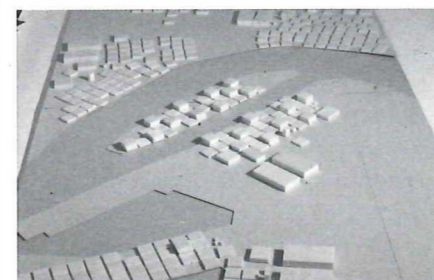
Thomas More's Utopia: 54 cities linked by canals, all 38 km apart.



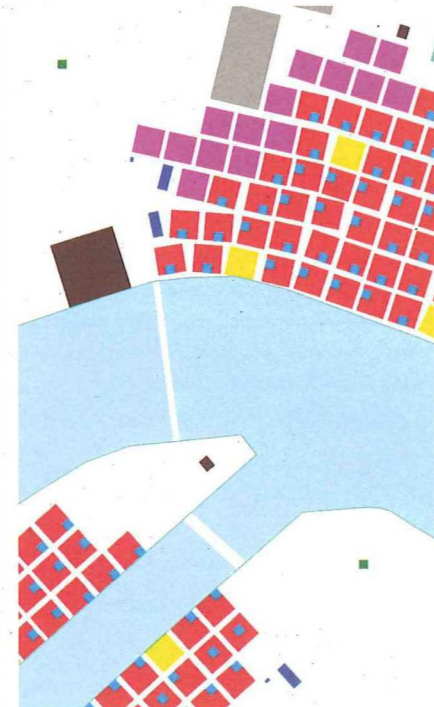
Cities are divided into four equal quarters with a market at the centre



City plan showing housing (red), common space (blue) and the central market (yellow)

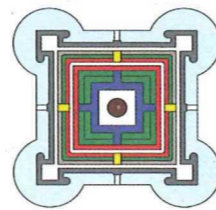


City Model: Adapting Thomas More's Utopia to Rotterdam density

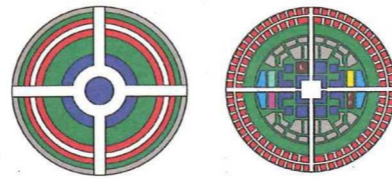


City Plan: Utopia/Rotterdam

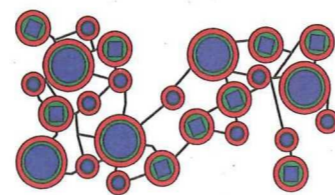
Knowlopolis



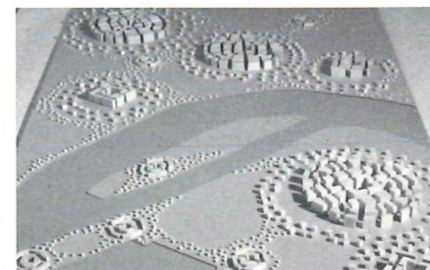
Programmatic organization of Christianopolis



Evolution of Christianopolis into a campus community



"Knowlopolis" (knowledge city) is a network of campus communities

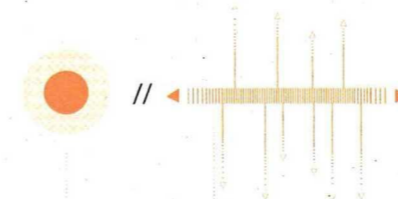


City Model: Knowlopolis

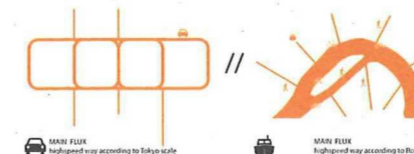


City Plan: Christianopolis/Rotterdam

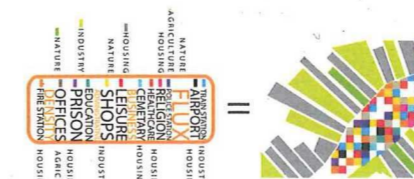
Rotterdam as Tokyo Bay



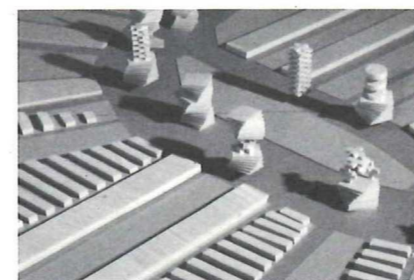
Growth



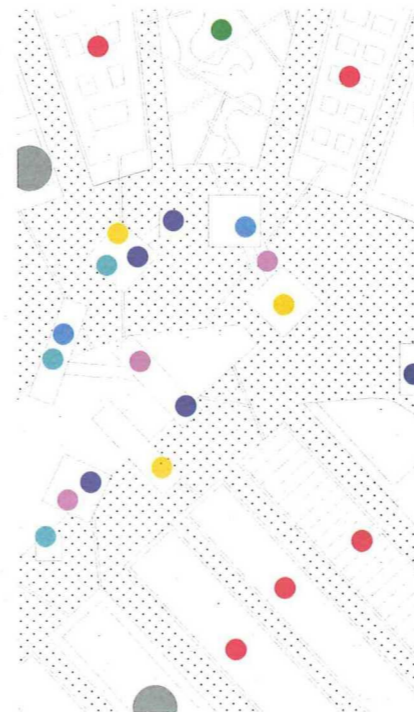
Mobility



Main axis

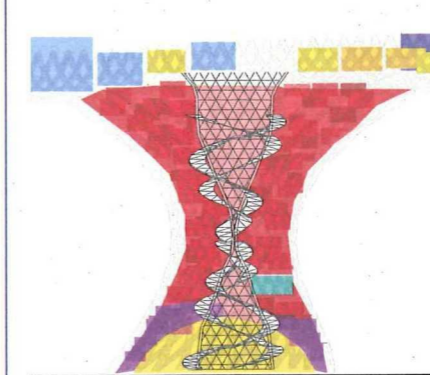


City Model: Rotterdam's waterway as Tokyo Bay's expressway



City Plan: Tokyo Bay/Rotterdam

Pandoram



Programmatic section of a Pandoram architected tree



City Model for Pandoram: Rotterdam is populated by "architected trees"



City Plan: Pandoram

Conclusion

How would Rotterdam look like if it was based on the principles of a specific utopia? The analysis of these utopias revealed that the imagined "ideal societies" were solutions to problems perceived in a particular cultural context:

1516. Thomas More's Utopia is an egalitarian society achieved through mathematical precision (equality guaranteed by the objectively measurable). Context: social inequality.

1619. Andreae's Christianopolis achieves the same ends through principles of Christianity, science and education. Context: inequality, need for social and educational reform.

1960. Kenzo Tange's Tokyo Bay masterplan is an infrastructure for the linear expansion of an ultra-connected city. Context: lack of infrastructure impedes city connectivity and growth.

2010. James Cameron's Avatar predicts that the current technological society will (d)evolve into an Edenic paradise in which nature provides for all of society's needs. Context: industrialization leading to greed and resource depletion.

Rotterdam as Utopia, as Knowlopolis, as a modified Tokyo Bay masterplan, and as Pandoram are the proposed solutions to the same issues identified in the context of the contemporary city. The application of different utopias and their implied problematizations to Rotterdam, then, reveals the city's latent struggles and inconsistencies by suggesting their resolution.//

References
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>> <http://exploringutopia.weebly.com/utopian-representations.html>
>> <http://suite101.com/article/utopia-through-the-lens-of-the-movie-avatar-a193733>

Workshop:
>> Post-topia, Why Factory
Tutors:
>> Tihamer Salij (The Why Factory, TUDelft)
>> Stavros Gargaretas (The Why Factory, TUDelft)
>> Susanne Stacher (ENSA Versailles, Paris)
>> Ido avissar (ENSA Versailles, Paris)

Housing	Industry	Others
Shops	Agriculture	Fire Station
Leisure		Library
Education		Police
Offices		Train Station
Health		Airport
		Cemetery
		Religious
		Prison

Program legend