

Hong Kong VISUAL ART CENTRE 19 Feb - 3 Mar 2002

# GENERATIVE ART



## Visionary Variations by CELESTINO SODDU



ORDO AB CHAO  
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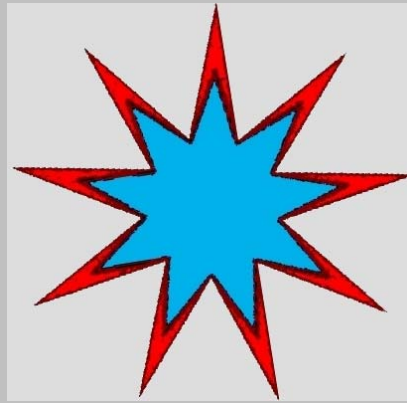
GenLab, Politecnico di Milano



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# **GENERATIVE ART**

## **Visionary Variations**

by

**CELESTINO SODDU**

**Visual Art Centre**  
Hong Kong Park, 7A Kennedy Road, Central, HK  
19 february 2002 - 3 March 2002, 10:00am - 9:00pm

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Director of Generative Design Lab at DiAP.

Chair of the annual international Conference of Generative Art.

Author of numerous books and articles in international magazines. In 2001 he presented his operational research on generative design in lectures in Hong Kong, Beijing, Shanghai, Los Angeles, San Francisco, Santa Fe, Virginia Tech. University, Chicago, New York, Boston, Kassel, Gmuend, Copenhagen, Rome, Ivrea and Milan.

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<http://www.generativeart.com/>

<http://www.generativedesign.com/>

<http://www.artegens.com/>

<http://www.celestinosoddu.com/>



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# GENERATIVE ART

## Visionary Variations

by  
Celestino Soddu

Generative art is the idea realized as genetic code of artificial objects.

The generative project is a concept-software that works producing three-dimensional unique and non-repeatable events as possible and manifold expressions of the generating idea identified by the designer as a subjective proposal of a possible world.

This Idea / human creative act renders explicit and realizes an unpredictable, amazing and endless expansion of human creativity. Computers are simply the tools for its storage in memory and execution.

This approach opens a new era in design and industrial production: the challenge of a new “naturalness” of the industrial object as a unique and unrepeatable event, mirror of the uniqueness and unrepeatability of man and nature. Once more man emulates nature, as in the act of making art.

Argenia is the term that I have coined for this genetic code of artificial ware that, like DNA in nature, identifies not only an object but a species of objects. Industrial design will no longer be the idea and realization of an object, but the idea of a species of objects and its industrial generation.



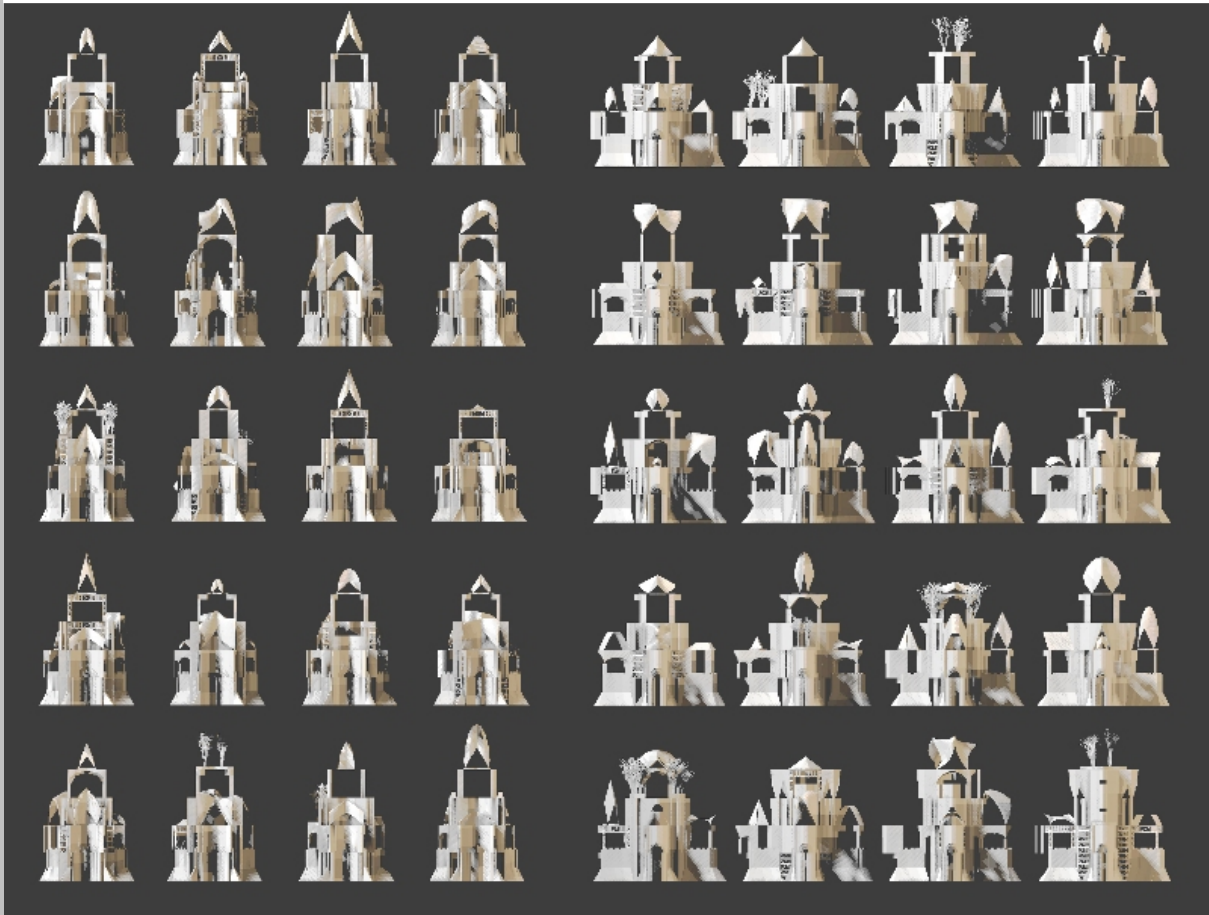
Hong Kong water front. Generated Skyscrapers

The three-dimensional models produced using Argenia soft, endless results of the idea, can be directly utilized by industrial manufacturing equipment like numerically controlled machines

and robots, which already represent the present technologies of industrial production. This “generative and automatic reprogramming device of robots” makes it possible to produce unique objects with the same equipment and with costs comparable to those of objects that are identical; like a printer that can produce pages that are all the same or all different, at precisely the same cost.

Designing this artificial genetic code was an enthusiastically creative operation. I have found myself returning to the Renaissance cultural approach, capable of combining science and art. I have created ideas formulating a code of the harmony that, as it is born of the history of man and his relationship with nature, identifies and represents my subjective vision of the

Two species of generated castles

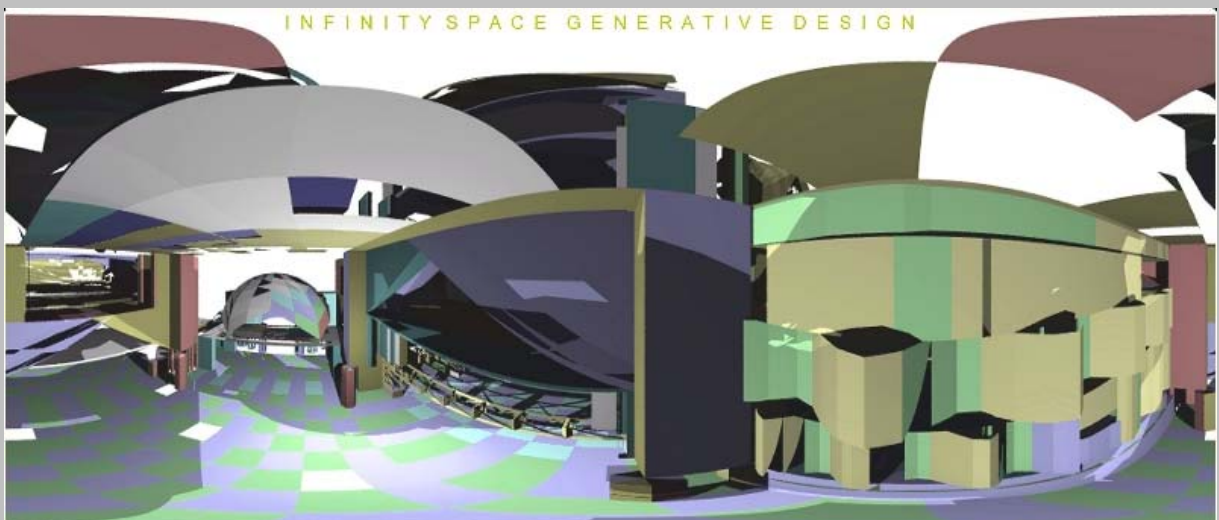


possible, my imprinting as a designer. The code of harmony, like all codes, contains some rules that trace certain forms of behavior. Therefore it is not a sequence, a database of events, of forms, but a definition of behavior patterns: the transformations from what exists to to the complexity of



contemporary objects in a state of becoming. The design act changes from forming to transforming, because each form is only one of possible parallel results of an idea.

I began this design challenge in 1987 and I have realized Generative Projects of architecture, cities, industrial design and visions of art. Today these Argenies have become extremely complex and directly operative as interfaces with productive systems. This has permitted, first of all, practical experimentation such as the realization of books that all have different covers, of unique and unrepeatable jewelry, and of different scenarios of spaces that are incessantly transformed. Other possibilities include computer-produced artworks that reproduce the unrepeatable uniqueness of an artistic event, or experimentation on generative industrial production of lamps, chairs, coffeepots.



360 degree interior representation of generated architecture

This approach suddenly opened the possibility to rediscover possible fields of human creativity that would be unthinkable without computer tools. If these tools, at the beginning of the computer era, seemed to extinguish the human creativity, today, by allowing us to creatively, directly operate on codes of harmony, they become tools that open new fields and enhance our understanding of creativity as an indissoluble synthesis between art and science.

After two hundred years of the old industrial era of necessarily cloned objects, the one-of-a-kind object becomes an essential

answer to the long-neglected human need to live a world in which each artificial object mirrors the uniqueness and unrepeatability of every person. In an epoch marked by repeated attempts at the cloning of natural beings, design returns in advanced technological fields such as non-linear dynamic systems to the notions of artificial life and artificial intelligence, the aesthetic and ethical pleasure of rediscovering the processes and characters of nature.



Sequence of generated jewels



## Hong Kong Visionary Variations



Generated skyscrapers in Hong Kong waterfront

## Hong Kong Visionary Variations



Generated architecture in Hong Kong. Day and night



## Hong Kong Visionary Variations



Hong Kong identity. Generated architecture near HSBC bank



Generated architecture in HK Central

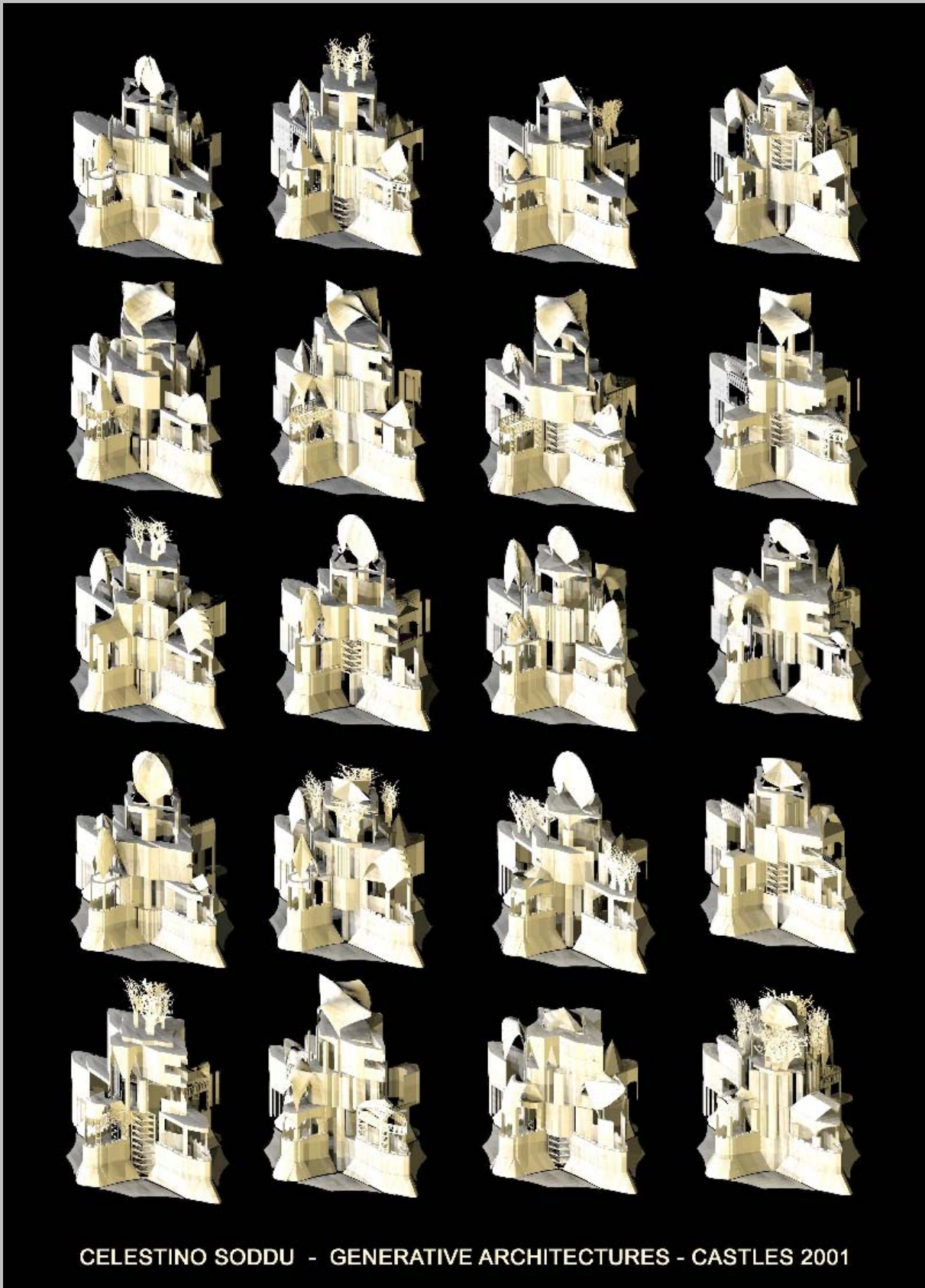
## Hong Kong Visionary Variations

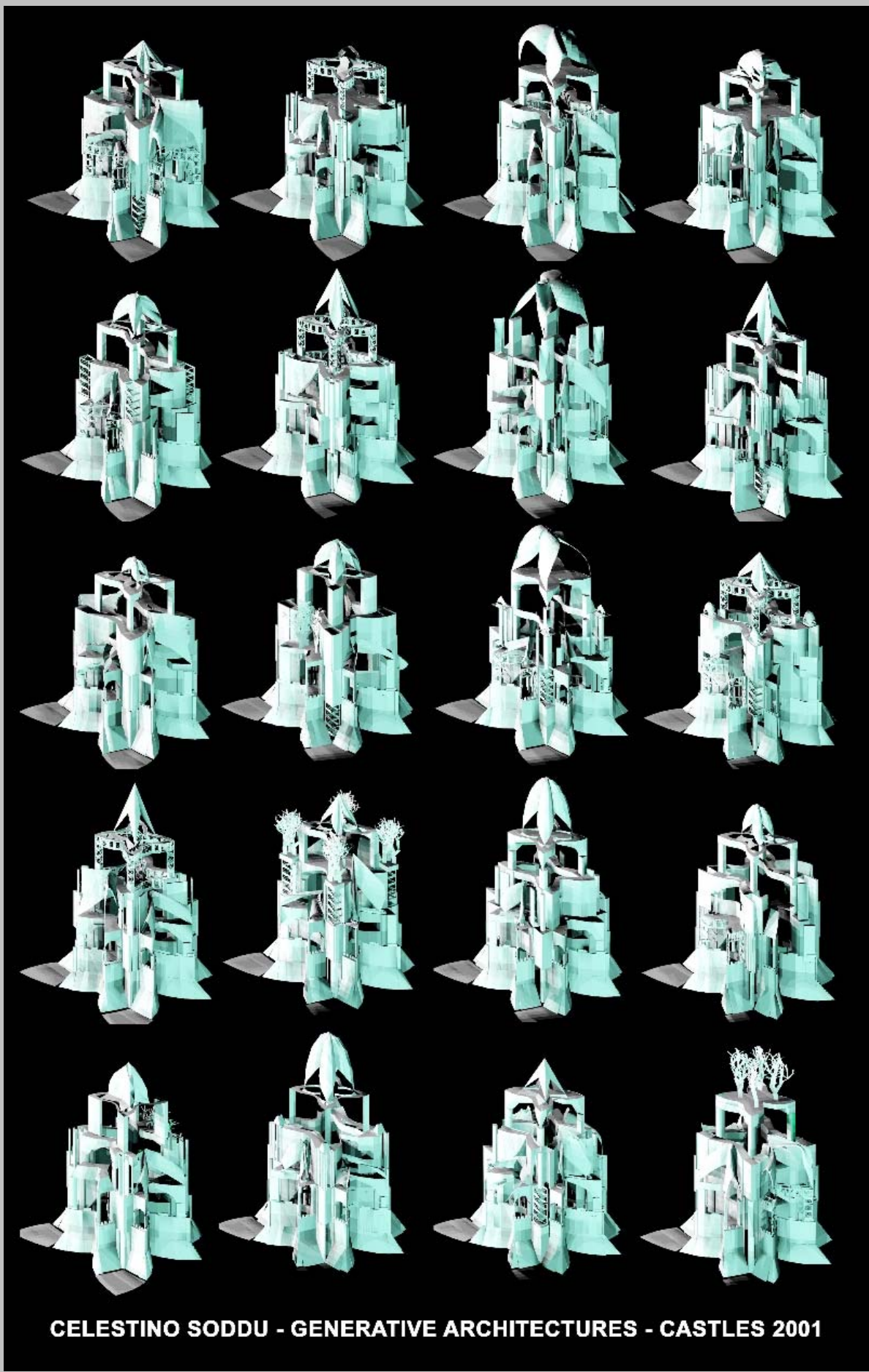


Generated Skyscraper in HK



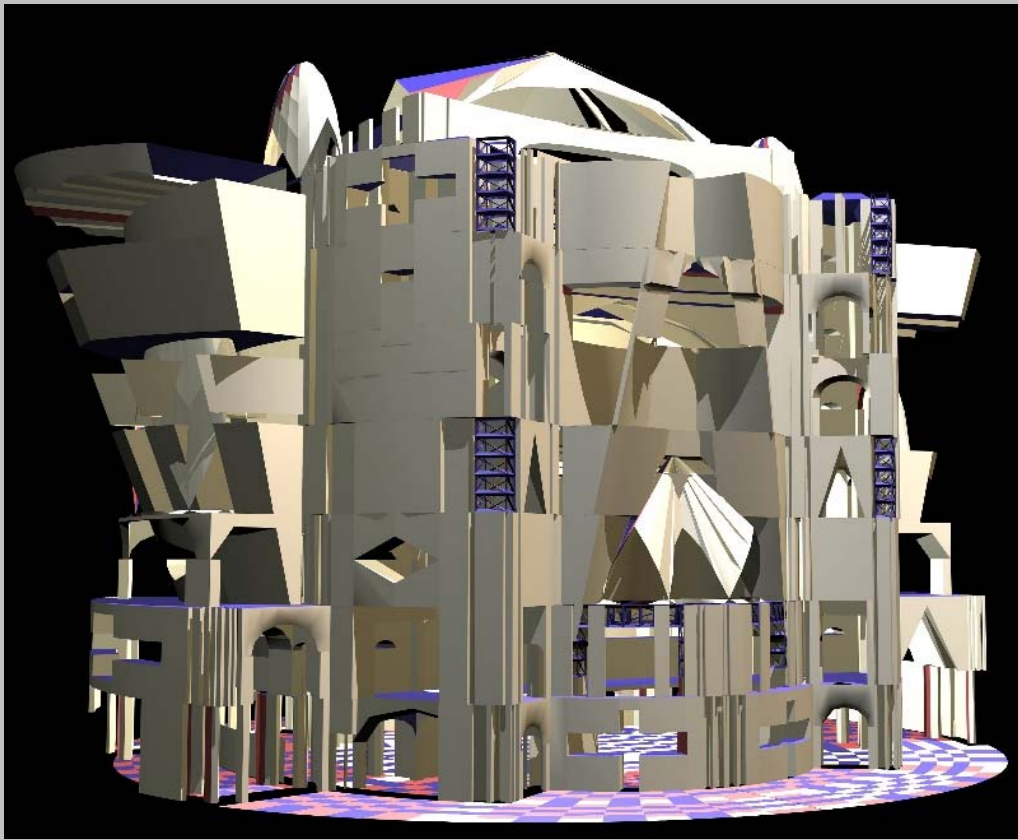
## Generative Visionary Architectures



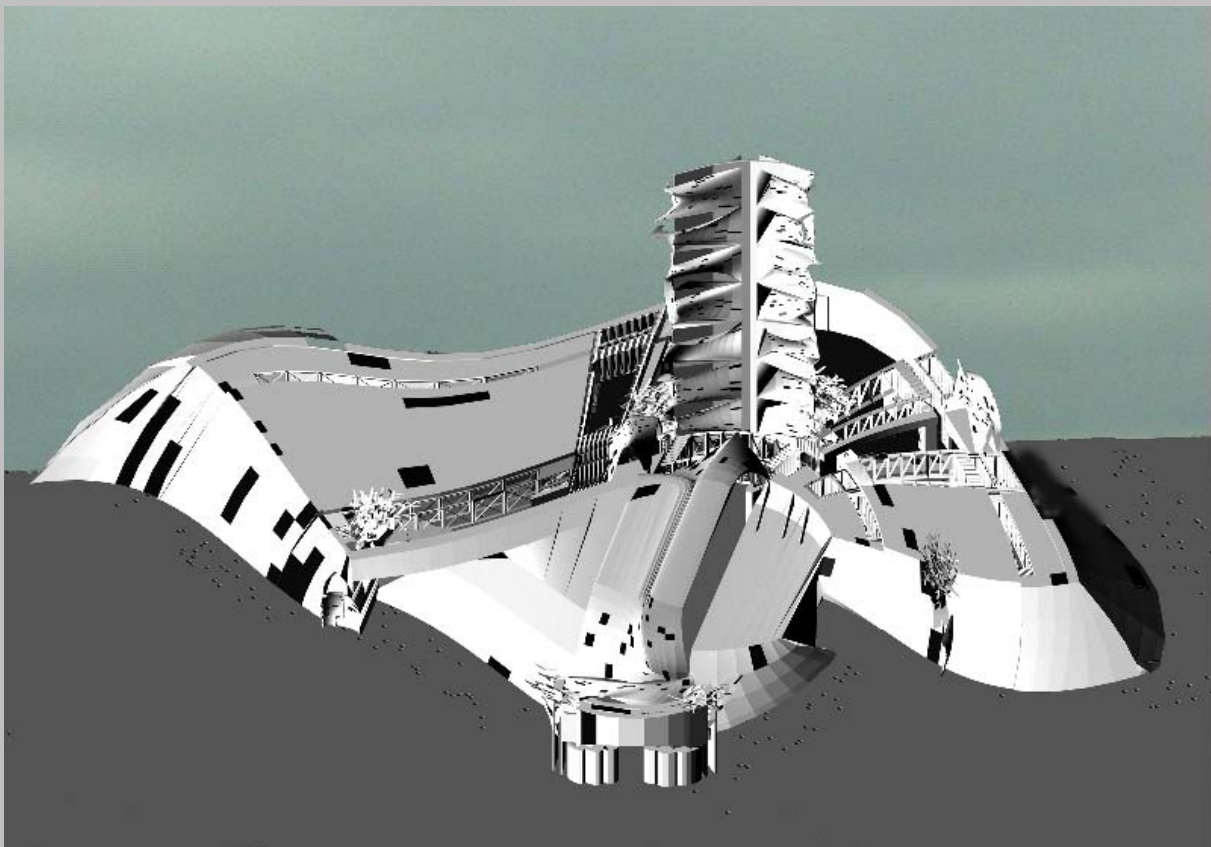


**CELESTINO SODDU - GENERATIVE ARCHITECTURES - CASTLES 2001**

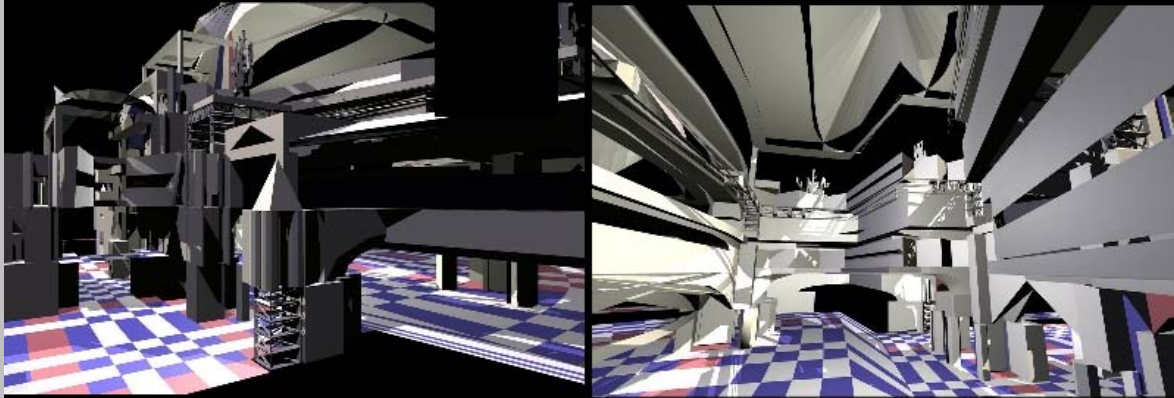
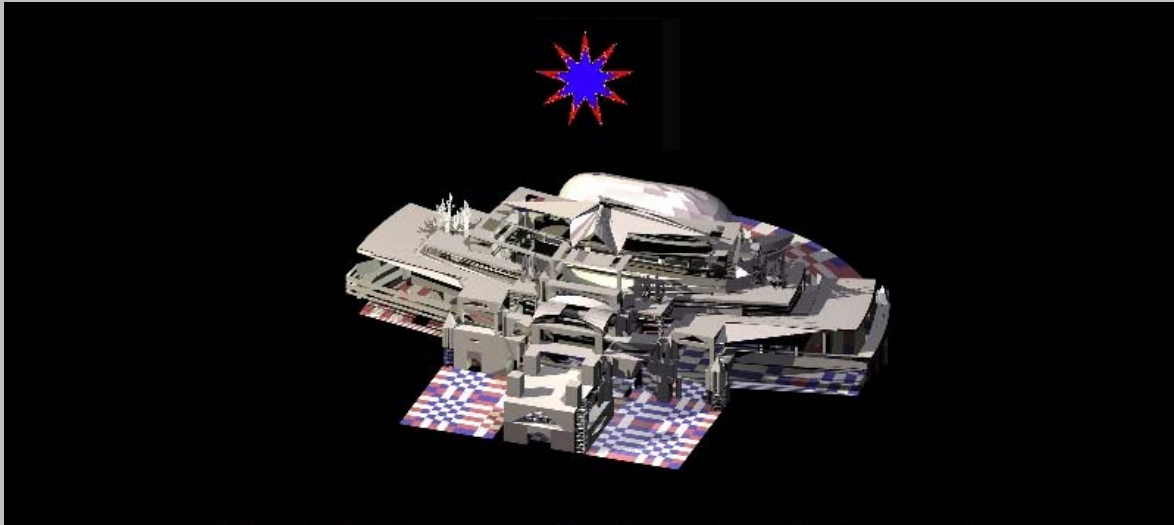




Freedom house, generated architecture, 2000



Generated Commercial Centre, Italy

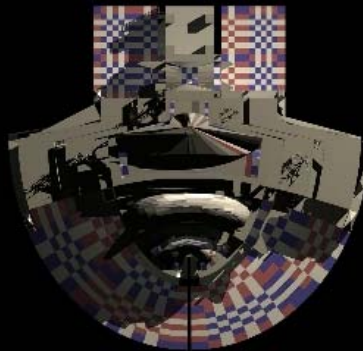


Argentina

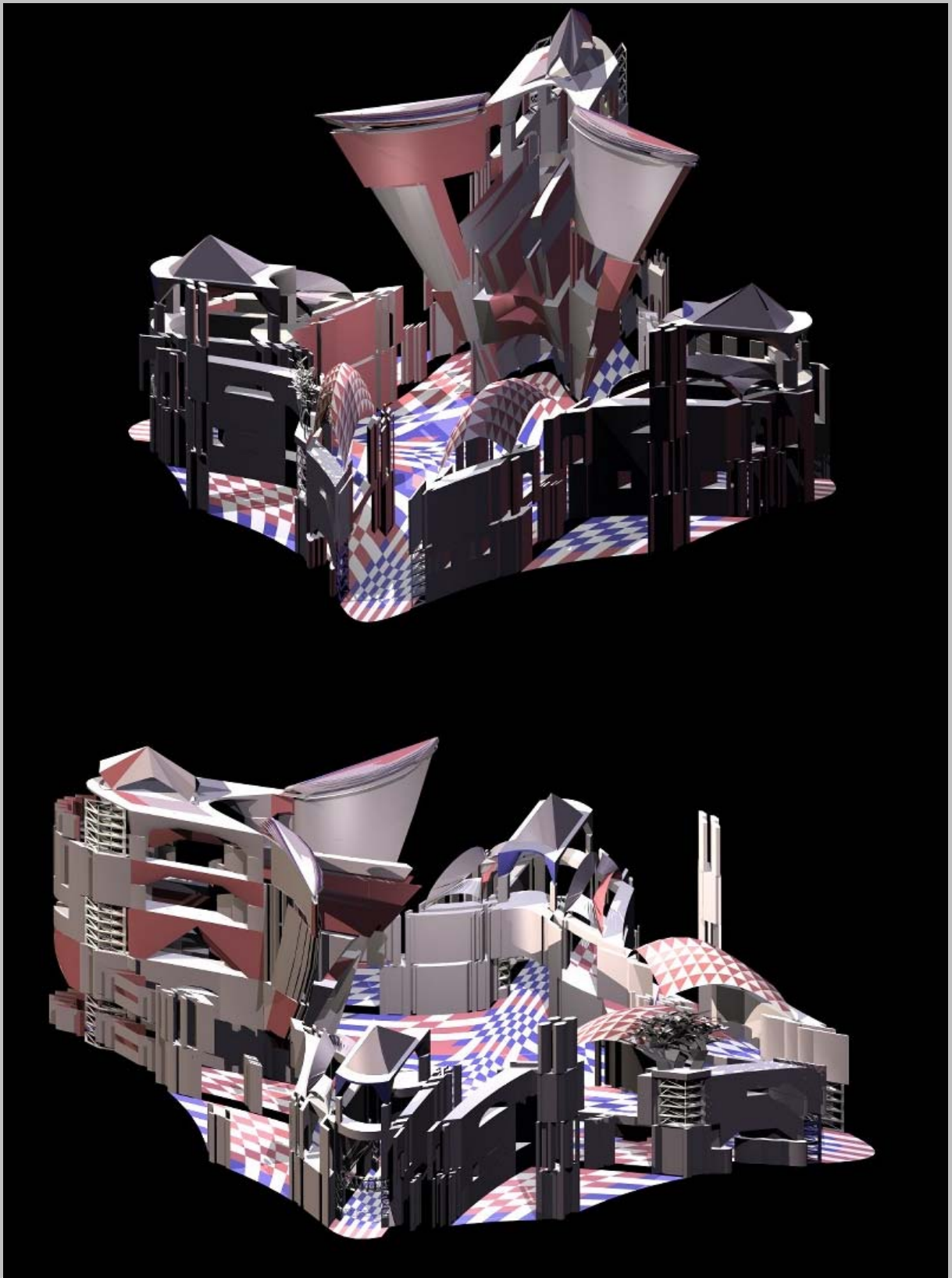
BLUES TERMINAL

GENERATIVE ARCHITECTURE BY CELESTINO SODDU

Milano 1999

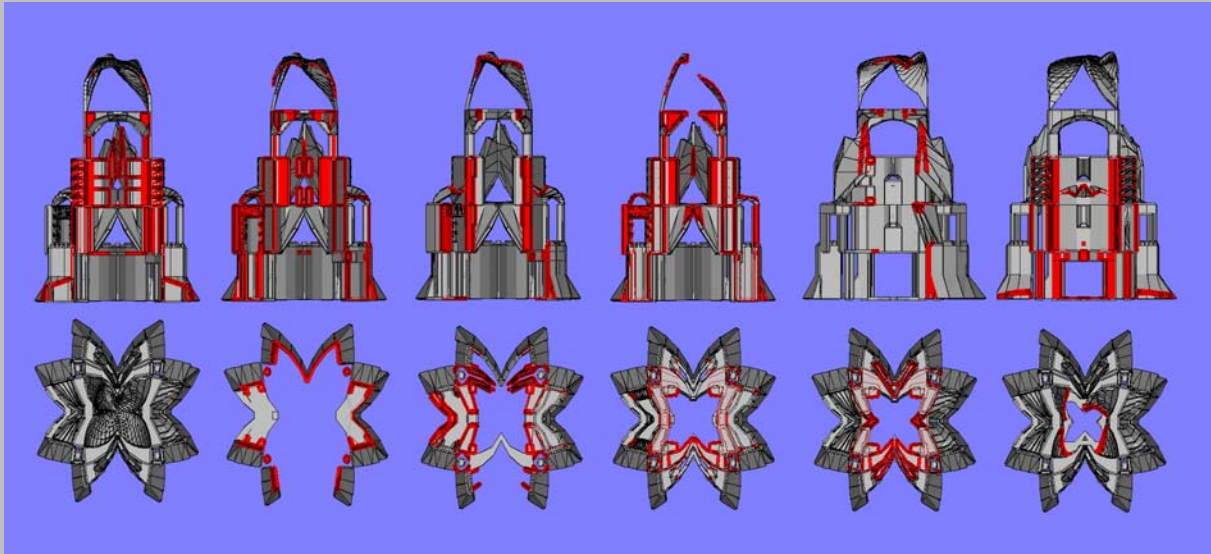


Bus terminal, generated architecture, 1999



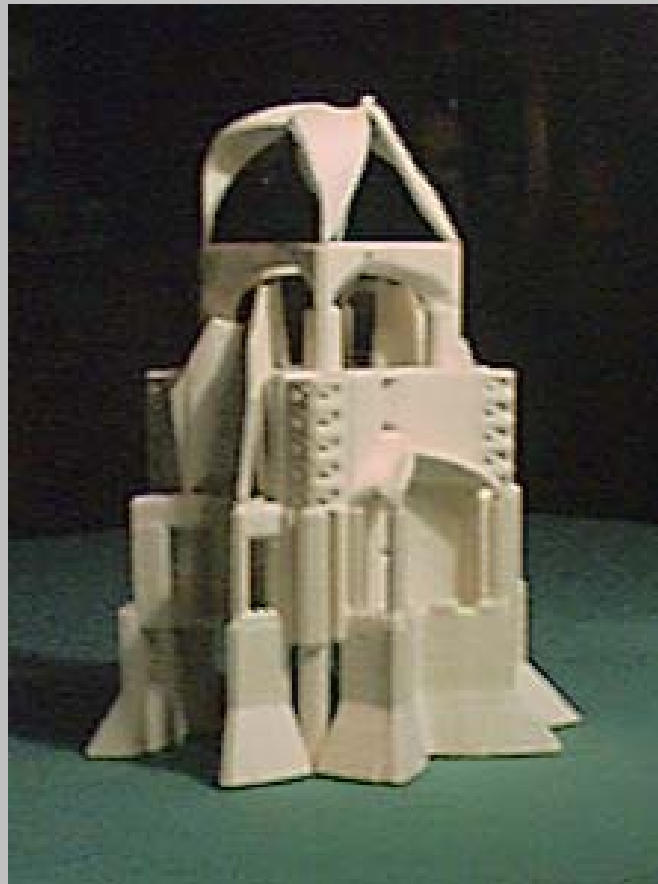
Museum "Caravanserraglio", generated project, 1999





Automatic generation of thickness.

The architecture model is realized with rapid prototyping machined





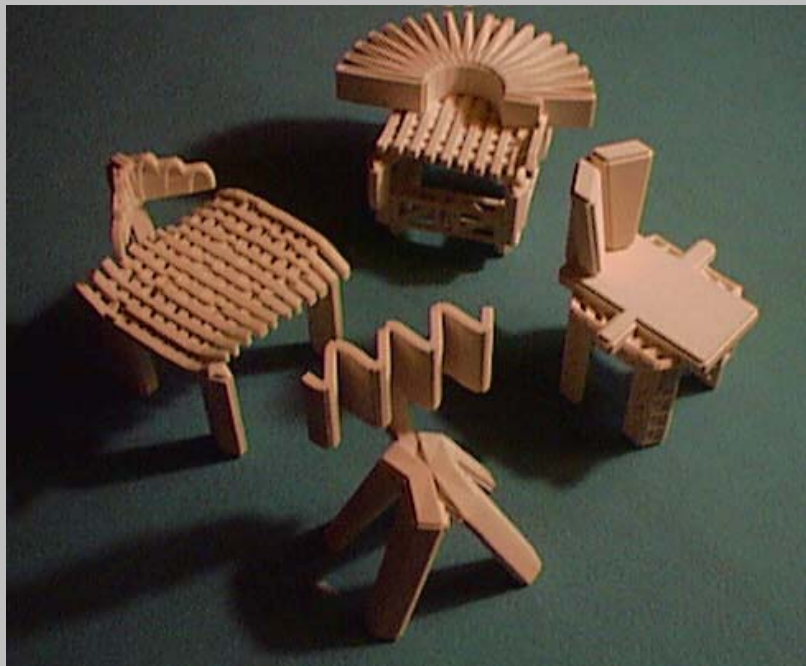


Hong Kong waterfront

## Argenia, Visionary Design Variations



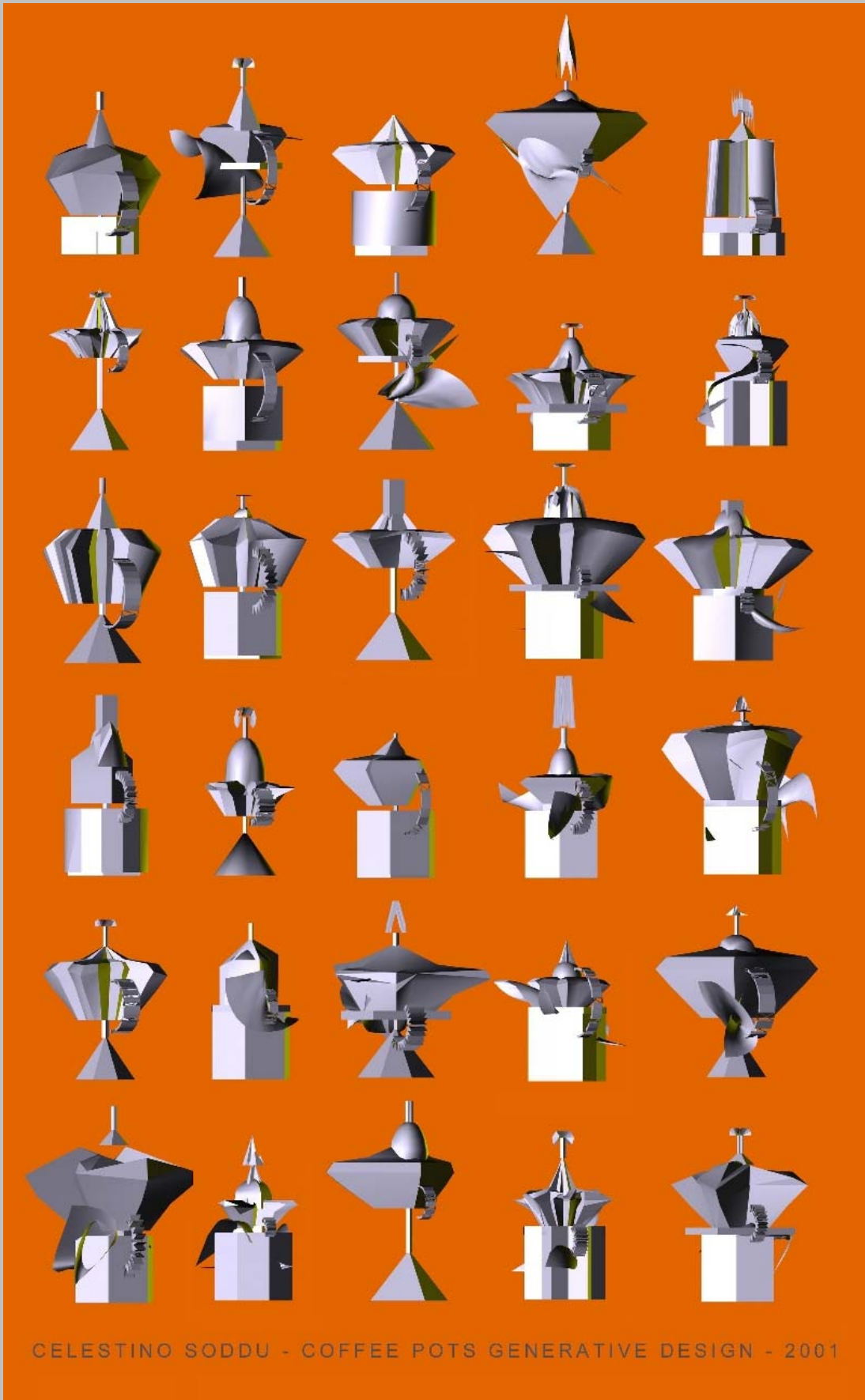
Chair Generative Design, the industrial object becomes unique and unrepeteable. With a direct realization with RP manufacturing machines.





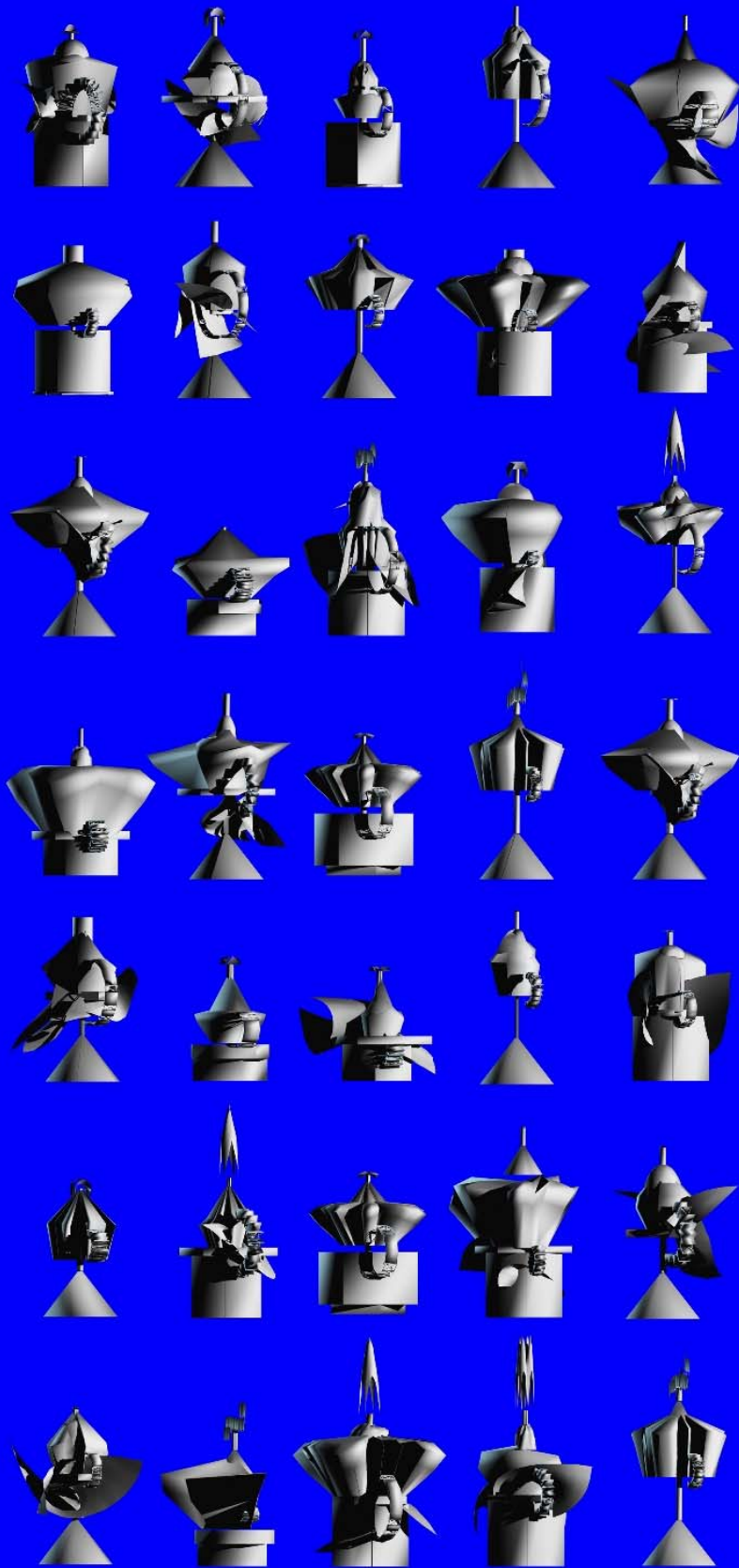


CELESTINO SODDU - GENERATIVE DESIGN OF CHAIRS

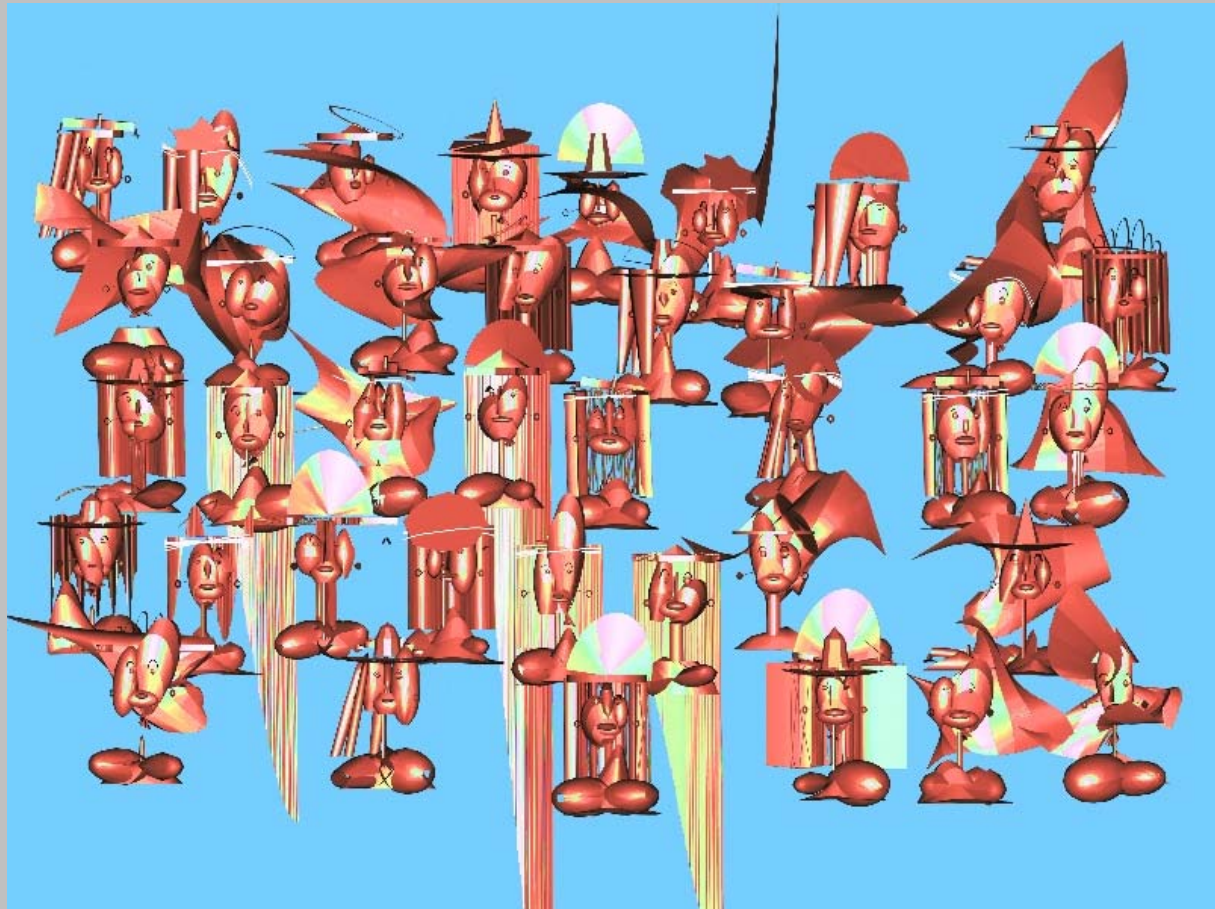


CELESTINO SODDU - COFFEE POTS GENERATIVE DESIGN - 2001





CELESTINO SODDU - COFFEE POTS GENERATIVE DESIGN



Generated Picasso's Woman 3D portraits



Physical realization of generated Woman Portraits with Rapid prototyping



