

Dear Reader,

Welcome to your Conditional Design Workbook.

This book is the result of what began in 2008 with impromptu meetings on Tuesday nights between us, Luna Maurer, Edo Paulus, Jonathan Puckey and Roel Wouters, around Luna's kitchen table. As designers and artists we were looking for ways to avoid being defined by the media we worked with. Instead, we were searching for new words and definitions to describe our way of working. We formulated a Manifesto, the Conditional Design Manifesto, in which we stated our shared views on design and art. We actually 'practiced what we preached' during weekly mini workshops that lasted between 1 and 3 hours. We would set to work with just a sheet of paper, a couple of pens and a few simple rules one of us had determined beforehand to guide us. We recorded these workshops, shared them online, and to our great pleasure we learned that they were picked up quickly by others who organized their own workshops all over the world.

So, what should you be doing with this book? We don't want to show off how great our drawings are, although we were often pleasantly surprised with the outcome. We feel that Conditional Design's focus on the process is not just relevant to artists or designers, but can be useful for anyone looking for a new and invigorating way of exploring the creative process, or any process for that matter. Instead of inviting you to like or dislike a drawing as a finished product, we hope to turn your attention to the process and the dynamics that allowed the drawings to take shape. We hope this book inspires you to make your own drawings or even create your own workshops. We believe the best way to appreciate thinking in processes—which is what Conditional Design and this book are all about—is by actually doing it yourself. Whether you're a design student hungry for new ideas, a manager reflecting on the dynamics of the team you work with or a group of friends looking for something fun to do on a rainy day, grab this book, a piece of paper and some pens and get started.

We wish you lots of happy drawing!

LM

EP

JP

RW

Conditional Design Manifesto

A manifesto for artists and designers

Through the influence of the media and technology on our world, our lives are increasingly characterized by speed and constant change. We live in a dynamic, data-driven society that is continually sparking new forms of human interaction and social contexts. Instead of romanticizing the past, we want to adapt our way of working to coincide with these developments, and we want our work to reflect the here and now. We want to embrace the complexity of this landscape, deliver insight into it and show both its beauty and its shortcomings.

Our work focuses on processes rather than products: things that adapt to their environment, emphasize change and show difference.

Instead of operating under the terms of Graphic Design, Interaction Design, Media Art or Sound Design, we want to introduce Conditional Design as a term that refers to our approach rather than our chosen media. We conduct our activities using the methods of philosophers, engineers, inventors and mystics.

Process

The process is the product.

The most important aspects of a process are time, relationship and change.

The process produces formations rather than forms.

We search for unexpected but correlative, emergent patterns.

Even though a process has the appearance of objectivity, we realize the fact that it stems from subjective intentions.

Logic

Logic is our tool.

Logic is our method for accentuating the ungraspable.

A clear and logical setting emphasizes that which does not seem to fit within it.

We use logic to design the conditions through which the process can take place.

Design conditions using intelligible rules.

Avoid arbitrary randomness.

Difference should have a reason.

Use rules as constraints.

Constraints sharpen the perspective on the process and stimulate play within the limitations.

Input

The input is our material.

Input engages logic and activates and influences the process.

Input should come from our external and complex environment: nature, society and its human interactions.

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Luna Maurer, Edo Paulus, Jonathan Puckey, Roel Wouters
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Ghost in the Machine: Distributing Subjectivity

Andrew Blauvelt

'Instead of operating under the terms of Graphic Design, Interaction Design, Media Art or Sound Design, we want to introduce Conditional Design as a term that refers to our approach rather than our chosen media. We conduct our activities using the methods of philosophers, engineers, inventors and mystics.'

— **Conditional Design Manifesto¹**

'Conceptual artists are mystics rather than rationalists. They leap to conclusions that logic cannot reach.'

— **Sol LeWitt²**

In their manifesto on conditional design, Luna Maurer, Edo Paulus, Jonathan Puckey, and Roel Wouters articulate several important defining principles of their work: that process trumps product, that logic is their guiding method, and that they embrace external influences, which they call 'input.' At first glance the manifesto recalls the system theories of the 1950s and 1960s, conceptual and process art of the 1960s and 1970s, or perhaps even the more scientifically tinged language of graphic design of the same period. Certainly there are affinities that connect the two, bridging a time span of nearly fifty years. The desire to form a common practice rather than a shared medium reflects the blurred nature of today's design practices and at the same time recalls the intermedia experiments, interdisciplinary design studios, and post-studio artistic practices of a previous era. Another common thread connects these historically distinct practices, as evident in the epigraphs above, namely the need to guard against the specter of a totalizing, closed, and rationalized system. When the signers of the Conditional Design Manifesto say: 'We conduct our activities using the methods of philosophers, engineers, inventors and mystics,' it cannot help but bring to mind another manifesto, by artist Sol LeWitt, who proclaimed: 'Conceptual

artists are mystics rather than rationalists.' LeWitt recuperates the idea of artists having special insights that operate beyond logic, and, as is the case with mystics, these ideas might be eminently pragmatic but might seem esoteric and eccentric to others. For conditional design, the mystic is one more choice in the methodological mix, not a conflation of the designer as mystic. Nonetheless, this recourse to mysticism is an interesting rhetorical choice, one that simultaneously contrasts and distances both conceptual art and conditional design from the arid objectivity of a machine-like rationality. Writing just two years earlier, LeWitt had spelled out the methodological terms for producing a process-oriented art:

'To work with a plan that is preset is one way of avoiding subjectivity. It also obviates the necessity for designing each work in turn. The plan would design the work. Some plans would require millions of variations, and some a limited number, but both are finite. Other plans imply infinity. In each case, however, the artist would select the basic form and rules that would govern the solution of the problem. After that the fewer decisions made in the course of completing the work, the better. This eliminates the arbitrary, the capricious, and the subjective as much as possible. That is the reason for using this method.'³

Seeking to produce an art of seriality, which would allow for permutation and variability within a given rule set, LeWitt would famously remark: 'The idea is the machine that makes the art.'⁴ But this seemingly mechanistic, prescriptive view always had a more subjective, human dimension since it assigned to the artist a new priority for the conception and articulation of an idea to make art instead of understanding art as simply a by-product of a series of variable techniques, codified styles, and specific media to be chosen by the artist. The idea for LeWitt was inherently generative in nature, capable of producing more than a singular work.

In the world of design, a similar discourse was taking place. Writing four years before LeWitt, in his book *Designing Programmes*, designer Karl Gerstner proclaimed:

'Instead of solutions for problems, programmes for solutions—the subtitle can also be understood in these terms: for no problem (so to speak) is there an absolute solution. Reason: the possibilities cannot be delimited absolutely. There is always a group of solutions, one of which is the best under certain conditions.'

To describe the problem is part of the solution. This implies: not to make creative decisions as prompted by feeling but by intellectual criteria. The more exact and complete these criteria are, the more creative the work becomes. The creative process is to be reduced to an act of selection.⁵

Gerstner was redefining the truism of the graphic designer as a problem solver by adopting a broader, more holistic conception of design that could be informed by more scientific choices and systematic approaches. In this way design shifts from being a different series of styles and techniques more or less appropriate to a particular problem to a process and method for solving not singular but recurrent problems. One might say that graphic design moves from product to process, or from object to tool—an instrument for making many things.

If the idea is the machine that makes the art, then we might rightly ask: who makes the idea? In conceptual art the subjective dimension, of course, enters from where it is initiated, its point of origin is in the artist. In conditional design the authors make a similar claim: 'Even though a process has the appearance of objectivity, we realize the fact that it stems from subjective intentions.'⁶ For LeWitt, once initiated, '[t]he process is mechanical and should not be tampered with. It should run its course.'⁷ This lack of interference by the artist in the outcome could be seen from one perspective as an embrace of a machine-age modernism whose faith in the exactitude of the input can thus reliably predict the output, and from an opposing perspective as a purposeful desire to introduce uncontrollable and unpredictable elements that can alter the course of events. The latter sees the process as an opportunity to test and possibly even undermine certain assumptions, while the former views the process as a closed and predictable system for the faithful replication of intentions. LeWitt's proclamation that 'conceptual art is good only when the idea is good,'⁸ certainly parallels the adage of contemporary programming, 'garbage in, garbage out.'

Gerstner's use of the word 'programmes' immediately recalls its contemporary usage in digital terms, although decades before the advent of the personal computer in design. Its original context would have been situated at the transition from the mechanical to the electronic age, in a period dominated by systems theory and where permutations and iterations could be exhausted by moving methodically through a matrix of options

or criteria. In its electronic guise, the word program entails a series of instructions for machines to execute particular commands.

Modern design born in the age of mechanical reproduction—whether graphic, product, or architectural in nature—has been nothing if not an exercise in communicating intentions (plans or designs) to others who must realize the final product, whether a poster, a chair, or a building. In order to secure the most faithful enactment of these intentions, design has produced numerous systems and devices to facilitate it: drawings, blueprints, PDFs, coordinated color references and systems, standardized material sizes, common programming languages, shared technical standards, and vehicles to simulate the final result whether prototypes, models, or proofs, to name but a few. The point of all of these things is to ensure greater accuracy in the implementation of a design idea.

As early as 1922, László Moholy-Nagy is said to have produced a series of paintings through a set of instructions given to a sign painter over the telephone using a common color chart and line coordinates through graph paper. Writing in *Der Sturm* about these works, he states:

'The period of industrial production and technical accuracy has made us realize that works of art, too, can be carried out with perfect precision. My recent production, shown in *Der Sturm* Gallery, includes a number of enamel pictures executed by industrial methods. These methods, I should add, are only applicable if the artist believes in achieving the desired results by means of precise and impersonal methods. Work of this kind can be carried out with the help of Ostwald's color chart and exact instructions transmitted to a factory by means of graph paper. This might even be done over the telephone.'⁹

The radical nature of this act to produce a work of art should not be underestimated. It is however less surprising when viewed in the context of producing a design, which has rarely been misunderstood for the reality it seeks to produce: a blueprint is not a house, a prototype is not a product, a paste-up is not a poster. Both LeWitt and Gerstner see process as a kind of program, a way of generating more possibilities, a method more systematic in scope and thus more likely to avoid the randomness of approach that seemed both limitless and chaotic without it. What is radical to ask is: Where in the process does the subjective lie?

Traditionally, the subjective has been located with the artist and designer. What is different about process-oriented approaches

today and in the case of conditional design in particular is that the subjective has been distributed throughout the process. Its instructions can only guide and offer constraints, it is not a puzzle whose successful completion was telegraphed in advance by the designer. It is in this way an open system. An open system collects its input from the world in which it is situated and returns its results back to that world. It responds to feedback and adapts in order to sustain itself. Conditional design supports this notion insofar as it recognizes that its input: 'should come from our external and complex environment: nature, society and its human interactions.'¹⁰

LeWitt's own work moved from serial objects whose permutations were the result of a generative process, toward more open-ended methods of realization by others of his famous wall drawings that re-inscribed the subjective in a more radical way. As John S. Weber explains:

'The wall drawings' very nature is collaborative and participatory. They are called to life only in order to be seen, and only when someone beyond the artist expresses a desire to see them. They are conceived to accommodate their forms to different architectural situations and sites. When necessary, they can inhabit both public and private spaces at the same time, can be both sold and given away, and can be drawn by LeWitt's team of experienced professionals, other skilled artists, or dedicated amateurs following his instructions. In essence, they are more 'digital' than 'analog,' in that they are based on an art equivalent of code strings that allow them to be reproduced authentically again and again—thereby playing sweet havoc with inherited notions of authenticity.'¹¹

Here the introduction of 'other skilled artists,' or even 'dedicated amateurs,' to realize the work is to let go of absolute control over the final product. It is more variable than digital replication, wherein the copy is another original. It foregrounds the subjective acts of translation, adaptation, and interpretation on the part of this team of producers. In the end, LeWitt's wall drawings are in effect authorized reproductions that are still governed by the notion of faithful reproduction of someone else's idea.

Today's world of open source computing, social networking, crowdsourcing, user-generated content, app store platforms, and other manifestations of the participatory culture of Web 2.0, suggest systems that are more radically open in nature, soliciting input from and

empowering creation by many users. Although the rhetoric of decentralized authority pervades these endeavors, the question of control as an expression of authority (and design's role in it) lingers. It is not simply a question of no control or no design, but rather a question of where control and design happen in an open system. Luna Maurer states: 'I choose to give control away. That is a deliberate act. In the act of giving up control, there is a certain connotation of losing it. In my design I give the control away. But to who, or what?' She adds: 'Before I give control away, I must develop a system that will take over the decisions of design. I make decisions on which factors will influence the design, but also what kind of rules and properties this system will follow. In my creative process I'd like to think in terms of organisms.'¹²

Although design has always been open to the fallibility of others in terms of its realization, it has largely been a closed system or aspired to be so. So much effort has been directed to close the gap between idea and object that the opposite course of action seems implausible. However, in recent years design has become a much more open system. First of all, the tools of creation have been made more widely available, the mechanisms for distribution are more pervasive, the distinction between professional and amateur has become blurred, the feedback loop has shortened, and the notion of systems has grown more nuanced and complex, whether referring to a technological or ecological system. It is in this historical context that the ideas and actions of conditional design resonate and prosper. If the old operative metaphor for systematic thinking and production was the machine, then the new one is biological, as Maurer suggests, a living organism.

Contemporary designers make tools that enable others to use design, they create systems to engage the intrinsic complexity of technology and life, and they create platforms that harness the creativity of many people's ideas. If Gerstner's directive in the 1960s was for designers to create programs that could help solve problems in systematic ways, today's analogous imperative is to design designing: to open the closed system of design, which is no longer just about the controlled production of discrete objects but involves itself in larger questions such as who designs, what kinds of tools will be available to create with, and what kinds of systems will be available to share and distribute this production. All of this potential requires a radical rethinking of the designer as only a manipulator of tools. The computer as a meta-tool promised this long ago. As Jonathan Puckey proclaims, 'We must learn to create tools ourselves. After all, the

computer is exactly that: a tool for creating tools.¹³

I have written elsewhere¹⁴ about the larger historical shifts in modern design as it has moved from its roots in the aesthetic logic of formalism in the first half of the twentieth century with its basis in the object to the symbolic logic of a designed object's meaning in society and culture at large in the second half. From this research I believe that today's design explores the programmatic logic of constraints—technological, economic, ecological, and so on—that are embraced as affordances rather than obstacles to the creation of new work. This is the relational and conditional culture of contemporary design that seeks its progress not in the name of form or content, but in the myriad contexts that it both creates and to which it responds. In this environment, the if/then logic of the program replaces the binary nature of either/or dualisms. Belief becomes conditional and appropriateness is situational. In this realm, the subjective and objective are dialogical qualities rather than mutually exclusive concepts, populating a spectrum of positions in the process of designing. The subjective is no longer the exclusive domain of artistic and design intentions but can be found distributed throughout an open system. In this sense the concept of a distributed subjectivity recalls the notion of distributed computing whereby autonomous but connected computers collectively solve problems. Further complicating the equation, is the fact that the subjective is no longer limited to the domain of human capriciousness as algorithmic randomness attests. Whether LeWitt's ideas, Gerstner's programs, or conditional design's inputs, the initiation of designing can happen from a single individual, a community action, or a collaborative undertaking. It might be enacted or processed by human thought and action or literally by machines. It might be realized or produced by designers, non-designers, or machines. The end result can be circulated in the world, and its reception and reaction provides the feedback that, in turn, influences the agents that first initiated the process. And so the cycle begins again.

- 1 Luna Maurer, Edo Paulus, Jonathan Puckey, and Roel Wouters, *Conditional Design Manifesto*, <http://www.conditionaldesign.org/manifesto/>, 2008.
- 2 Sol LeWitt, 'Sentences on Conceptual Art,' *Art-Language*, May 1969, X.
- 3 Sol LeWitt, 'Paragraphs on Conceptual Art', *Artforum*, June 1967, 80.
- 4 Ibid.
- 5 Karl Gerstner, *Designing Programmes* (Baden, Switzerland: Lars Müller Publishers, 2007), 12.
- 6 Luna Maurer, Edo Paulus, Jonathan Puckey, and Roel Wouters, *Conditional Design Manifesto*.

- 7 Sol LeWitt, 'Sentences on Conceptual Art,' first published in *Art-Language*, May 1969, and reprinted in Alicia Legg, *Sol LeWitt* (New York: Museum of Modern Art, 1978), 168.
- 8 Sol LeWitt, 'Paragraphs on Conceptual Art', *Artforum*, June 1967, 80.
- 9 László Moholy-Nagy, 'Emaille im Februar,' *Der Sturm*, 15 (February 1924), 1, quoted in Joseph Harris Caton, *The Utopian Vision of Moholy-Nagy* (Ann Arbor, MI: The University of Michigan Press, 1984, 30).
- 10 Luna Maurer, Edo Paulus, Jonathan Puckey, and Roel Wouters, *Conditional Design Manifesto*.
- 11 John S. Weber, 'Sol LeWitt: The Idea, the Wall Drawing, and Public Space,' *Sol LeWitt: A Retrospective* (New Haven, CT: Yale University Press, 2000), 98.
- 12 Luna Maurer, 'Algorithms as airbrush,' published on Poly-luna.com, 2007, <http://www.poly-luna.com/3/algorithms-as-airbrush>.
- 13 Jonathan Puckey, 'On Tools,' unpublished manuscript from the author, January 9, 2011.
- 14 Andrew Blauvelt, 'Towards Relational Design,' essay published on DesignObserver.com, November 3, 2008, <http://observatory.designobserver.com/feature/towards-relational-design/7557/>.
See also: Andrew Blauvelt, 'Relational Design,' in *Graphic Design: Now in Production* (Minneapolis, MN: Walker Art Center), 2011.

How Conditional Design Changed the World

Koert van Mensvoort

Just imagine: It is 12 January 2061, and a remarkable exhibit opens in the museum of contemporary art in Zhiango, China. It is a retrospective of the Conditional Design movement. The turnout is staggering. Everyone in the city wants to see the exhibit. That is no coincidence, for the work of the conditional designers is closely connected with the history of the city. For the first time people can visit a show—so runs the announcement—that offers a blueprint of the city which has become world-famous because it doesn't have a blueprint.

Zhiango was originally 100% planned. The metropolis as a centrally run mega-project was a brainchild of the Chinese government. To encourage people to move from the countryside to the city, Beijing had come up with the idea at the start of the 21st century of building an extra city next to the existing metropolises that were bursting at the seams.

State engineers were instructed to make building drawings, existing villages and landscapes had to make way for the new, the first pile was driven in 2016, the city was complete two years later, and another six years on the project was recognized as a total failure.

The reason given for the failure of the fully planned metropolis was the complete mismatch between plan and reality. It was carefully calculated that eight million people would go to live in Zhiango, mainly from the wealthier Chinese middle class, who were tired of the cramped quality of life in Hong Kong and Shanghai and wanted larger apartments with sun and a view. However, apart from the fact that China has never been strong in having a middle class, it turned out that the people for whom the apartments in Zhiango were intended had become so rich by now that they went looking for alternative places to live, such as in the villa districts on the outskirts of the existing cities or in one of the Chinese residential colonies in Africa. As a consequence,

Zhiango was completely filled with a homogeneous group of poor Chinese farmers from the countryside. By about 2026 there were 22 million people in the city, most of them fully occupied with gold farming (playing video-games to collect virtual money for wealthier players). Cases were known of apartment complexes in which 8,000 people worked as gold farmers on a full-time 24-hour shift. And because the influx from the countryside was much larger than the crammed apartments could sustain, enormous slum neighborhoods arose around the city, which exceeded the appalling living conditions of African slums and South American favelas. With its shortage of space, inadequate food and energy supply, poor hygiene, chaos and violence, everyone could see that as a totally planned project Zhiango was a disaster. If you had the chance, you didn't go there, let alone live there.

So much for the difficult early years of Zhiango. Now comes the story of how conditional design saved the city. The U-turn started with a young and visionary mayor, Chin Ong, who had been sent from Beijing to sort the city out. Actually, he was sent there as a punishment because, although he was regarded as a great administrative talent and a potential prominent party leader in the future, a number of his administrative decisions in Beijing were considered too easy-going and frivolous. What was needed in Zhiango was a hard line, and Ong was sent there to show that he could do just that.

As soon as Ong arrived in Zhiango it was patently obvious that the situation had become impossible. The city needed rules. But while the average administrator had cleaned up the slums and replaced them with a rigid centrally directed structure, Ong came up with a creative solution. A few years earlier he had taken part in a conditional design workshop during an international cultural exchange. During that session, led by the artist-designers Luna Maurer and Edo Paulus, the participants had made—or rather, generated—drawings on big A0 sheets. The most fantastic patterns were generated on the basis of simple rules such as ‘choose the longest side of an existing triangle and add a triangle to it’. Ong had been very inspired at the sight of how a few simple rules could lead to unpredictable, layered, complex structures. All the participants had been given a book at the end of the workshop, and he still leafed through it now and then. He came across the book again during the move from Beijing to Zhiango. He remembered the wonderful, complex bubble structure that he and his fellow participants had generated during the workshop. Ong wondered whether what they had done on a sheet of paper could

be transferred to his new city. And he got down to work.

His initial conditions, unlike those of the workshop, were very pragmatic and aimed at basic urban planning facilities. There were rules such as 'every street should have piped water', 'a building may not be more than one floor higher than the building next to it', and 'twenty solar panels must be placed around every internet connection'. The conditions were deliberately aimed at bringing about a balanced urban structure without the need to plan it completely beforehand. The rules that were drawn up were strictly observed under the motto No Rules, No Fun. Existing structures were demolished or transformed to comply with the conditions imposed. The new approach was not an immediate success everywhere. Ong had told his staff to experiment with different rules in the various neighborhoods and zones of the city. Whereas some rules were felt to be stifling and bureaucratic, others proved to lead to a flourishing, dynamic situation. It soon became clear that the conditions laid down must not only be comprehensible, clear and feasible, but should preferably also leave a maximum of space for individual interpretation. Meaningless arbitrariness was out: the conditions had to be intelligible and to be the result of a clear vision and source of authority.

One of the first success stories was the slum neighborhood Banguit, which had been practically written off. Instead of simply razing it to the ground, Ong had brought in a number of trucks with specially designed building components that were easy to combine. The color codes indicated how they could be fitted together in different ways like the pieces of a jigsaw puzzle. No other explanation was needed. Within a few weeks the residents of Banguit had turned their neighborhood into a colorful ensemble of existing and improved infrastructure. The success of this semi-autonomous process in Banguit was trumpeted all over the world. Apparently Ong had found a method to administer the complexity of the megacity of Zhiango without the need or the desire to control it completely. As similar urban planning problems could be encountered in various other places in the world—Lagos, Caracas, the slums of Europe, and so on—the Chinese success story hit the international headlines.

The process was taken a stage further in the new districts of Zhiango that were to be built. Only conditions were laid down instead of the usual ground plans and building plans. Architects and urban planners were either

sacked or turned into conditional designers faced with the challenging assignment of implementing an aesthetically tasteful and smoothly functioning neighborhood by means of a minimal number of cleverly chosen rules. All kinds of experiments were made. In the Quinoa district, the permitted form of the continuously changing apartments was determined by the shadow that the sun cast at noon. In Nitsang a 100% sustainable and self-sufficient district was created based on a number of simple criteria regarding rooftop vegetable gardens on office blocks. In the Tsintao suburb an ambitious young conditional designer had devised an ingenious 3D building printer. The 8 x 6 meter printer was supplied with milled scrap material from existing structures, mixed with a tough glue-like mortar. If you wanted to modify your home, you had the printer brought in for an extreme makeover—all within the conditions laid down, of course.

One of the main advantages of the urban development based on conditional design was that it could be kept in continuous movement. The city should be seen not as a design but as a process in which time, mutual relations and change were the primary factors. If you wanted to change your home, there was no need to submit a formal request for a permit. All you had to do was to consult the conditions that applied to your neighborhood. This resulted in an extremely dynamic and vital urban landscape. If a couple had a baby, they could simply decide to add an extra room to their home. Because the conditions were very cleverly formulated to promote social cohesion, people helped one another to build their homes, whether they shared the same common interest or not. 'If my neighbor wants an extra floor in his home, then I can add one too, so I'll lend him a helping hand.' An extreme case of this was the Jinzohu district, where a resident who had unexpectedly become immensely wealthy had all the homes around him extended in order to be able to implement his own dream home. The result was a group of homes with an attractive angular architecture that stood out above the rest of the district. The mayor Ong saw it and, behold, it was very good—even though, or perhaps precisely because he would never have been able to think of it himself.

Zhiango had a lot to thank the conditional design method for. By around 2050 the city of 84 million residents had grown to become the largest urban conglomeration in the world. Like a living urban coral, it spanned an area of 38,000 square kilometers in the middle of China. The scale was not a problem because most of the districts were self-sufficient.

The city could keep on growing without any limit, the quality of life was good.

The Conditional Design Academy was set up on the initiative of the mayor in 2038 to maximize and underline the success of the conditional design method in Zhiango. Under the inspiring guidance of Roel Wouters and Jonathan Puckey—both conditional designers from the very beginning—the academy grew in less than a decade to become an influential institute that was often compared with the 20th-century Bauhaus, which had been an important outpost of Modernism in its day. Like the Bauhaus, teaching in the academy was based on a vision and method rather than on medium-specific courses. Its graduates included graphic designers, game designers, musicians, tissue engineers, film directors and urban planners. Conditional design was the new Modernism. Zhiango was the first real 21st-century city.

It's strange, in fact, that there has never been a major retrospective on the foundations of the conditional design movement before. Now there is one. Better last than never. The people from the city thronged enthusiastically around the hundreds of drawings, scale models, projections and soundscapes in the museum of contemporary art. It was their first opportunity to see the blueprints of their blueprint-less city. The former mayor Chin Ong, by now president of the Chinese council, performed the opening ceremony. He talked about gardening and embracing complexity. He referred to the workshop that he had attended years before and that had been such a decisive influence. He praised the minds behind the conditional design movement for their special vision and contribution to the city. All of them—Luna Maurer, Edo Paulus, Roel Wouters and Jonathan Puckey—were there to receive the applause. They realized that they had changed the world.

Rules

Workshop I PERFECT CIRCLE

× Play with four players. × Each player has a colored pen: red, green, blue, or black. × The players take clockwise turns lasting 30 seconds. × Use a stopwatch.

- 1, ● First turn:
Draw a filled-in circle in the center of the paper.
- 2, ● Following turns:
Improve the circle's round shape by enlarging its borders.
- 3, ● Stop when the circle is perfect.

Workshop II HATCHING

× Play with four players. × Each player has a colored pen: red, green, blue, or black. × The players take clockwise turns.

- 1, ● First round, each player:
Arbitrarily place a dot on the paper.
 - 1.1, The dots may not be placed further than 10cm apart.
- 2, ● Next turns:
Draw a line and place a dot.
 - 2.1, The line must connect two dots.
 - 2.2, The line's angle must obey the following range for each color: 0 to 45° for black, 45° to 90° for blue, 90° to 135° for red, 135° to 180° for green.
 - 2.3, If possible, connect the line to an existing one.
 - 2.4, The line must always be as short as possible.
 - 2.5, When you enclose an area (creating a surface surrounded by lines), hatch it parallel to the last drawn line.
 - 2.5.1, The enclosed area may not contain unconnected dots or open-ended lines.
 - 2.6, The dot may not be placed further than 10cm away from other dots.
 - 2.7, The dot may not be inside the convex hull of all dots.
- 3, ● Stop drawing when you have reached the edges of the paper.

Workshop III CUSTOM RULES

× Play with four players. × Each player has a colored pen: red, green, blue, or black. × The players take clockwise turns.

- 1, ● First round, each player:
Draw one straight line with a maximum length of 10cm near the center of the paper.

- 2, ● Following round, each player:
Choose one sentence from both cards by underlining one of the options in brackets [see cards in section III, Custom Rules, 2.1]
- 3, ● Next turns:
Draw a straight line following the two rules you have chosen.
 - 3.1, Only draw a line when it does not conflict with the two rules you have chosen.
 - 3.2, Do not cross other lines unless explicitly stated otherwise.
- 4, ● Stop drawing when you have reached the edges of the paper.

Workshop IV THE BEACH

× Play with four players. × Each player has a colored pen: red, green, blue, or black. × The players take clockwise turns.

- 1, ● First turn:
Place a dot.
- 2, ● Following turns:
Place a dot in the center of the largest empty space on the paper.
- 3, ● Stop drawing when you think the beach is crowded.

Workshop V FOUR LONG LINES

× Play with four players. × Each player has a colored pen: red, green, blue, or black. × The players draw simultaneously.

- 1, ● Draw one long line during 1.5 hours.
 - 1.1, The pen may not leave the paper during the entire time.
 - 1.2, You may stop for a maximum of 5 seconds without lifting the pen.
 - 1.3, Do not cross any other lines.

Workshop VI FLUXFOLD

× Play with four players. × Each player has a colored pen: red, green, blue, or black. × The players take clockwise turns. × Each player is assigned one corner of the paper.

- 1, ● First round, all players:
Fold your corner of the paper over its entire short or entire long side.
 - 1.1, After unfolding it, place a dot on the inside fold.
- 2, ● Following turns:
Make a fold and draw a straight line.
 - 2.1, The fold is made by bringing the corner of the paper to the end of the line drawn by the player on the right.
 - 2.1.1, As an exception, on the second round, the fold is made by bringing the corner of the paper onto the dot of the player to the right.
 - 2.2, If the fold is almost parallel to the edge of the paper, find a way to mark it and do not mix it up with your neighbor's fold.
 - 2.3, The line must start at the end of your last drawn line.
 - 2.3.1, As an exception, on the second round, start your line at your initial dot.

- 2.4, The line must end where one of your folds crosses somebody else's fold.
 - 2.5, The line must be drawn on a fold.
 - 2.6, You may cross other lines but not follow a fold on which there already is a line.
 - 2.7, If you cannot draw a line, place a new dot somewhere on one of your folds.
- 3, ● Stop drawing when the paper is full of folds.

Workshop VII KNOTS

✗ Play with four players. ✗ Each player has a colored pen: red, green, blue, or black. ✗ The players take clockwise turns.

- 1, ● First round, first player:
Draw a line (of between 5–10 cm) anywhere on the paper.
- 2, ● First round, remaining 3 players:
Draw a line by looping it over and under the line of another color.
- 3, ● Following turns:
Elongate your line on both ends by looping it over and under a line of another color.
 - 3.1, You may not loop your own line.
 - 3.2, You may not loop a line from a previous turn.
 - 3.3, When no options are left on one of the ends, that end is dead.
 - 3.4, When both ends are dead, you may start with a new line.
- 4, ● Stop drawing when you are fully entangled.

Workshop VIII NETWORKS

✗ Play with four players. ✗ Each player has a colored pen: red, green, blue, or black. ✗ The sheet is invisibly divided into a grid of four equal columns, and four rows. ✗ Each round starts at a new row. ✗ The players draw simultaneously, each in a different column at the same row. ✗ Per round, each player is assigned one of the following elements: circles, lines, arrows, titles.

- 1, ● Make a drawing in the upper part of your column using your given element.
 - 1.1, Try to create something that has a specific meaning, knowing that others will complete the drawing.
- 2, ● After each turn, move one column to the right and repeat the previous step.
- 3, ● After four turns each player is assigned a new element and starts drawing in a fresh row.
- 4, ● Repeat until the paper is full.

Workshop IX FLATLAND FAMILY TREE

✗ Play with four players, with at least one female or one male player. ✗ Each player has a colored pen: red, green, blue, or black. ✗ The players take clockwise turns.

In Flatland Family Tree a two-dimensional world is created where inhabitants are shaped as equilateral polygons. Females are lines and males are polygons varying from 3 to 8 sides: the isosceles triangle (the male serf); the equilateral triangle; the square; regular pentagon, hexagon, heptagon and octagon. The number of sides of each inhabitant-polygon is determined by its genealogical family.

A family consists of a mother (a line) and a father (a polygon). Together they produce male children (polygons). A child is a polygon with one more side than its father, with one exception: an equilateral triangle is the child of an isosceles triangle.

- 1, ● Each turn:

- Draw an element of your own gender.
- 1.1, A female (a line) can be drawn anywhere, without any documented origin. She does not have any parents.
 - 1.2, A male serf (an isosceles triangle) can be drawn anywhere, without any documented origin. He does not have any parents.
 - 1.3, All other males (polygons) must be connected by one of their corners to a corner of their father and by one of their other corners to one end of the mother's line.
 - 1.4, The sides of each polygon must be approximately 3–4 cm long.
 - 1.5, Polygons may not overlap or intersect.
 - 1.6, Any polygon corner may connect to only one other polygon corner.
 - 1.7, Draw a child if possible, not a serf.
- 2, ● Stop drawing when you have reached the edges of the paper.

Workshop X BLIND BLACK

✗ Play with four players. ✗ Each player has a colored pen: red, green, blue, or orange. ✗ The players draw simultaneously.

- 1, ● Blindfold yourself.
- 2, ● Cover the entire surface of the paper with your own color.
- 3, ● Stop when you think the paper is black.

Conditional Design Glossary

Arbitrary,
A behavior freed from necessity, reason, or principle. When a player is asked during a drawing session to place a dot arbitrarily on the paper, the action is only determined by his or her spontaneous personal choice.

Association,
A mental connection or relation between thoughts, feelings and ideas triggered from the act of drawing, the representation of the drawing itself or from chatting during a session.

Behavior,
A performative action in which the personal character of the player can be expressed. Most behavior that occurs during a session can be viewed as emergent, because it receives its own unpredicted character.

Beholder,
An observer who witnesses the process and comprehends its residue (i.e.: the poster).

By-product,
A secondary result or a side effect produced by the process. I.e.: The posters are the by-products.

Challenge,
A mental or physical test of one's abilities imposed by a set of restricting rules in a demanding but stimulating undertaking. The level of challenge in the execution directly influences how satisfying a process is.

Change,
A situation that is always different and never fixed. A fundamental aspect of a process.

Chat,
Informal conversations that occur spontaneously during each session, usually in the form of associative connections triggered by the act of drawing or by the representation of the drawing itself. No matter how unrelated to the conditions, the chat always influences the process.

Collaboration,
The joint intellectual effort between participants to execute a set of restricting rules. The level of collaboration directly influences how satisfying a process is.

Complexity,
The level of difficulty, unpredictability, and richness in variety. The complexity of conditions, dynamics and residue stand in relationship to each other. Some processes have very simple rules, others have rather complex rules. The dynamics and the residue also vary in complexity. All combinations of complexity between rules, dynamics and residue are possible.

Conditional Design,
A methodology that determines a set of restricting rules for the process, as opposed to a plan that determines the final result of something. The term was coined by Luna Maurer, Edo Paulus, Jonathan Puckey and Roel Wouters in their manifesto.

Conditions,
A set of restricting rules or parameters that define an environment.

Choice,
A personal and subjective decision during a workshop. A design choice can occur on three levels: in the setup, in the restricting rules and during the execution of the rules.

Control,
The authoritative influence over the process. In a conditional design the control is always limited and is closely connected to the limitations and freedom of the player.

Designer,
The person who defines the conditions.

Documentation,
The capturing of the process in order to share it and talk about it with others. The residue is part of the documentation.

Dynamics,
All interactions between participants and conditions during the process. The dynamics are the core of each workshop session.

Emergence,
Tendencies and patterns that become visible in the process without being anticipated. Tendencies and patterns can become visible in the residue, in the dynamics and in the phantasies and associations of the players.

Environment,
A limited space defined by **conditions** in which a process can take place.

Experience,
The feelings and dynamics during a process as witnessed by the participants.

Feedback,
The output of one action becomes the **input** of the next. If you continue each turn or round where you have left off, this creates a **feedback**. It is easier to see a development in the **residue** if there was a **feedback**.

Feeling,
Instinctive behavior or intuition that is acted upon and influences the decisions. It is an important part of the experience.

Framework,
A complete set of **conditions**.

Freedom,
The individual capacity to exercise **choice** within a restrictive set of **rules**. Participants always have some degree of **freedom**, differing per session from very few to very many **choices**.

Human Computation,
A situation in which people execute a tight set of **rules** similar to computers executing code. In such a situation the **human characteristics** get emphasized and the black box of the computer is unveiled.

Human Imperfection,
A characteristic that can be **challenged** when designing the **conditions**.

Idiosyncrasy,
A structural or **behavioral** characteristic peculiar to a **participant** that tones his or her execution of a set of restrictive **rules** (i.e.: a participant's way of holding the pen).

Input,
That what comes from outside and influencing the process, such as: nature, society or human interaction. In the drawing session the **input** are the **participants** with their individual **behavior** and the material that needs to be processed.

Intelligibility,
When the **process** or the **conditions** can be comprehended in what you see, i.e. in the **residue**. Ideally the history and traces of a processes are made visible.

Limitations,
Restrictions imposed by the set of **rules** and reducing the number of **choices**. The **limitations** of the human body are a particular characteristic that form a base for the drawing experience.

Logic,
The tool to act with precision and reason when designing **conditions**.

Mistake,
An error or fault that occurs while executing a set of restrictive **rules**. **Mistakes** may become an important force field during a session and are appreciated.

Participant,
Person who is taking part in the execution of the process. All examples contained in this **Workbook** were executed by Luna Maurer, Edo Paulus, Jonathan Puckey and Roel Wouters.

Posters,
The residue of each session of the workshops in this **Workbook**.

Process,
That what emerges when **input** engages and tussles with the **logical framework**, when **participants** execute a set of restricting **rules**. The process is the fundamental substance of **conditional design**.

Random,
Of or relating to a type of circumstance or event that is described by a probability distribution. **Random** does not necessarily mean arbitrary. **Conditional design** refers to **random** as a computational **randomness** and prefers to avoid it.

Realism,
As opposed to abstraction, elements that stem from literal, representational, or narrative sources. Realistic elements may be present in the title of a workshop, serve as inspiration to the **conditions**, are present in the **dynamics**, or visible in the **residue**.

Residue,
The physical remains from the process (i.e.: the poster). By just experiencing the **residue**, the drawing should be intelligible and one should be able to get an idea of the process.

Round,
A sequence of turns consisting of one turn by each **participant**, clockwise or counter-clockwise.

Rule,

A single instruction that determines an action (i.e.: draw a line, place a dot) and how to perform this action. *Rules* may be more or less specific and restrictive, however there is always some degree of *freedom*. *Conditional design rules* should be simple; the complexity should lie in the *dynamics* or in the *residue*.

Satisfaction,

A process is known to be more satisfying when it contains one (or more) of the following aspects: 1. play with *human imperfection* and *physical challenge*; 2. *strategy and collaboration*; and 3. *storytelling*, within the drawing or triggered by the drawing.

Science,

Although *conditional design* employs scientific methodologies such as *logic*, it does not aim at proving or disproving something. Its interest lies in developing a process from a *gut feeling* that can generate surprising outcomes and new insights.

Session,

A limited amount of time in which a process can take place. One *workshop* may contain several sessions.

Setup,

The *conditions* under which the process is taking place (i.e.: a table, a sheet of paper, four pens, et cetera).

Storytelling,

Narratives that emerge during the execution of a drawing. The stronger the focus on the *storytelling*, the more one empathizes with a drawing. The abstraction of a drawing yields for the memory of the story.

Strategy,

A plan, method, or series of maneuvers for obtaining a specific goal or result. *Strategy* is one of the three main *satisfactory principles* upon which *conditions* can be built.

Subjective,

Personal preferences, driven by *idiosyncrasy* or *taste*, that color the *choices* in a *workshop*. Because it deploys *logic*, *conditional design* may at first glance seem objective, but in fact the process stems from *subjective decisions*.

Taste,

Personal aesthetic repertoire that influences a participant's choice of action (i.e.: 'it looked better this way').

Tool,

An instrument or device used to perform or facilitate a certain task. The most important tool of *conditional design* is *logic*.

Turn,

A participant's period of action during one round.

Workbook,

A guide that helps to understand and explain *conditional design*, full of useful information.

Workshop,

One or multiple sessions with participants, a setup and a set of restrictive rules (*conditions*) that enables a process and a *by-product*, a *residue*.

Zhiango,

A fictitious Chinese city from the year 2061, built according to *conditional design* principles.