X COMMANDMENTS

My ten design-rules explained through histories
manifests and key texts.

Marko Baković
Designlab
Gerrit Rietveld Academie
Lecturer: Xandra de Jongh
Design: Ruben Baart
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Introduction

From the very beginning of my education, I have been curiously hesitant in anticipation of writing my thesis. I always imagined my thesis as a record of self-reflection that would give me insights in my position as a designer - if not as a human - in the world.

Will I be a moralist or a fatalist? An optimist or a cynic? A mocking bird or a philosopher? A realist or a fantasist? A folklorist or a child of science? What is my position as a designer in the world? Do I have any world-improving ambitions? What is the essence of what I want to contribute? Am I an one-man practitioner or do I want to embrace the comfort of a studio team? Is it possible to be a commercially successful designer without making any concessions on the content of my work? Can I be a photographer, writer, financial manager, PR agent, technician, craftsman, even a real-life design celebrity (recognition is more than enough) all in the functional parameters of what is called a 'designer'? Do I want to call myself a designer at all? All these questions are popping up dauntingly, as I head forward towards the finalization of this year. Together with all the mundane everyday obstacles, these questions form a cluttered, schizophrenic frenzy in my head, which calls for straightening out.

I know what you might think: somebody help this poor confused wanderer! But I am actually quite sure that everybody has this same voice, that constantly urges them to seek their placement within a context and perspective. I, as well as most people, deal with this voice intuitively, not stopping to examine everything. But being on the threshold of closing a few chapters, and opening new ones, one finds himself questioning everything. This thesis is an exploration of these questions, and of the instruments devised throughout history (of design) to deal with them.

In my third year of art academy, we were asked to contemplate on, and formulate, ten design commandments; ten rules that would give us a grip on our practice, that would give us restraints we could use to our advantage. Having written them down, I felt a sense of comfort. It felt as if I had started to unravel the DNA of my work, the thread that binds everything together. And I knew that these rules are not absolute and that they exist to be moulded and applied in an appropriate form. These ten rules are the seed and point of departure for the observation in my thesis. Through the eyes of historical manifests and key texts in Art and Design, I will explore the contrasts and similarities of the rules to get an understanding of their heritage.

By doing so, I will weave a rich panoramic overview, in which my goal is to position myself as a maker, thinker and humble successor of all those who paved the way before me.

Notes on how to read this thesis

This thesis consists of two parallel layers: the first being the research itself, and the second the visualized process of how this thesis came about. There are five chapters. Within these chapters, there are subchapters discussing the rules that fit the context of the chapter. These rules were more or less assumptions to start with. Through research and diving into the matter, the rule will grow, break, change, mutate or stay the same. This very process is the essence of this thesis. We start with ten rules that go through the machine which is research; and the outcome, the modified rules are the conclusion of this thesis. You will find them at the very end of this booklet.

At the end of each chapter, there will be a summary of sources. I have gone through a vast array of manifests, texts and essays, but did not actively use all of them in my writing. The ones that are used in the text are ~~crossed through~~. I have done this, to underpin the fact that even though I have not addressed all texts in my thesis, they all have contributed to the formulation of my thoughts, and in that sense deserve to be mentioned as part of the chapter. These sources, together with the mutating rules, allow an inside glance in my process; they are visualized notes on the making of this thesis.

As this thesis covers a significant timespan of theoretical writing in design, I have included a diagram on the inside of the cover, which could be consulted in between reading, in order not to get lost.

Last but not least, it must be understood that I have grouped the commandments in chapters according to their similarities and common grounds. These chapters are organized in a certain order that reflects a version of my workflow. However, a creative process is a process that is by no means linear. The commandments are always present, and actively contribute to a continuous intermittent flow. Instead of regarding the content list as a straight line climbing from one departure point, one should look at it as if it spiralled from ten simultaneous departure points (the rules) that intersected on the way up.

Chapter one
Technology versus Craft

There must be a dialogue between the analogue and the digital. One needs the other to form a balance.

In the age of the so-called CAD (computer-aided design) and CAM (computer-aided manufacturing) software and rapid prototyping techniques such as 3D printing, CNC milling and laser cutting, the development and production of models, as well as that of finished products has increased. After all, the cut I make with my cutting blade, however sharp it may be, will be inferior to the deadly accuracy of the laser cutter. Why would I even bother to cut by hand then, you may ask. During the course of my studies, I have observed my fellow students, and often noticed an unintentional division between the techniques offered downstairs (the CAD/CAM workshop is located in the cellar) and the work done upstairs in the classroom. I believe this is the cause of the fundamental difference in workflow, leading up to the moment of actual experimenting and production. It does not matter how handy and fast the tools downstairs are, preparing the digital files to try something often takes the same amount of time as quick sketch-like try-outs with materials that were lying around. In my opinion, depending too much on digital tools that offer incredible precision straight away results in missed opportunities and a lack of freedom, while working hands-on facilitates quick, boundary-less and fruitful means of working.

In the case of post-experimental production, meaning the production and assemblage of the final product, the same notion can be applied. With the immense growth of the desktop 3D printer, images of printed knickknacks (such as keychains, figurines and toys) already seem to flood our environment, and the chances that the desktop 3D printer will revolutionize our relationship with products and production altogether are tremendous. We all know the arguments in favour of the 3D printer; the most important one being the revolutionizing idea that goods do not need to be transported anymore, and all shapes can be synthesized in the privacy of your own home or company. But are we forgetting the cons? Are we forgetting the huge increase in image/object pollution and abuse we are heading towards? As if all the unnecessary soulless junk overwhelming our shops and homes, accumulated by insanely huge players like China, is not enough. By handing out 3D printers to use privately we are giving wildcards to people who are not trained in design whatsoever, to bring the accumulation of useless junk to a saturation point we have never seen before.

Junkspace, a text written by the Dutch architect Rem Koolhaas in 2002, is posing the same questions in the form of an elaborate lecture, which harshly calls for contemplation on today's consumer society. The text is hard to categorize. Hal Foster, in his essay Junkspace with Running Room, in my opinion, comes close to a striking

categorization, or rather justification, of what kind of breed Junkspace is. Foster argues that Koolhaas has invented his own variety of the manifesto – or in Koolhaas' words, a retroactive manifesto. The manifesto is in essence a modernist phenomenon, one that looks into the future. It often aims to influence all future generations with its visionary will. But Foster argues that Junkspace makes no such claim. 'Architecture disappeared in the twentieth century', Koolhaas states matter-of-factly. Therefore, Junkspace does a harder thing than a conventional manifest. It 'foretells' the present, which is to say that it calls for recognizing what is already everywhere around us.(1)

"If space-junk is the human debris that litters the universe, junk-space is the residue mankind leaves on the planet."(2)

Foster has dealt with Junkspace in an intriguing manner. He essentially dissected Koolhaas' jeremiad into themes which reflect upon Koolhaas' text and give background through the introduction of external sources, whilst he slyly weaves his own remarks through the whole thing. The result is a very effective, almost parasitical manifest-in-manifest. The fragmented short subchapters each shed light on different perspectives of Koolhaas' Junkspace. In the chapter Running Room, Foster begins with a quote written by Karl Kraus, an Austrian theorist, in 1912. Kraus compares himself to Adolf Loos, one of the most influential design critics of the early 20th century: 'Adolf Loos and I have done nothing more than show there is a distinction between the urn and a chamber pot, and that it is this distinction above all that provides culture with running room [Spielraum]. The others, the positive ones [those who fail to make this distinction], are divided into those who use the urn as a chamber pot and those who use the chamber pot as an urn.'

Foster explains that with 'Those who use the urn as a chamber pot', Kraus was referring to the Art Nouveau designers, who wanted to inject art (the urn) into the utilitarian object (the chamber pot), while those who did the exact opposite were functionalist modernists who wanted to elevate the utilitarian object into art. For Kraus, Foster explains, both of the options were mistakes. Both confused the relationship of use and value, and art and value, and both risked a regressive indifference; they failed to 'safeguard the running room necessary, to liberal subjectivity and culture, to living and striving, developing and desiring'. In other words, both parties pleaded for change in such a fierce manner, that there was no room left for creativity and play. An artist either belonged to one side, or the other. Foster explains that Running room, or Spielraum, which translates as 'play room' has been a crucial term in aesthetics since Schiller, who associated it with the imaginative invention that to insist on play in art is to prepare for freedom in life.

So how do this quote and its ideology

relate to Junkspace? Foster cleverly explains that Koolhaas' Junkspace is the reincarnation of the urn/chamber pot problem; but then a hundred years later, and a hundred times worse. Junkspace starts and ends in a way reminiscent of Adolf Loos' writings, with a violent criticism on the fraudulent, and a warning about the ornamental. If ornament was a crime to Loos, then so is Junkspace to Koolhaas. 'Both critics dream of a motivated architecture with a clarified language, both seek an autonomous place in a heteronomous world. '

In a world where 3D print is bound to become the default production method of designers and consumers alike, we should read and reread Junkspace in order to remember the consequences of unsupervised and unrestricted 3D print megalomania. (Even though it is not so much the actual content of Koolhaas' text that should remind us, as much as the vigour and intensity of how it is written.)

"Craftsmanship is something you do by yourself, that you do with your hands, if you make a mistake, you do not damage any other organization. Even better; if you make a mistake, you gain competence. You know how to avoid making the same mistake. And that is something that helps a lot to experiment, to understand what is right, what is wrong. What is beautiful today, is that the industry understands it needs craftsmanship. The craftsmanship today understands that it needs the industry."(3)

Today, this could refer to the 3D printer, but at the end of the 18th century a comparable situation was subject to discussion in the field of design. Alice Rawsthorn has described in her book 'Hello World' that the start of the industrial revolution was around 1780. Industrialization transformed the attitude towards design and production as never seen before. Once it became possible to make an object in huge quantities, it was necessary to ensure that each example was manufactured with identical specifications. The industrial design process was developed to fulfil that function, and the design profession emerged to execute it. However, the fashion of industrialization soon ebbed away. By the early 1800s, millions of workers and their families had exchanged rural poverty for urban squalor by abandoning the countryside for better paid, but often dangerous jobs in filthy, noisy factories. Although the life expectancy rose, the working conditions took a plunge. The socialites and intellectuals who had once attended factory tours in order to praise the industrial marvels, regarded manufacturing as dirty, soulless and destructive, rather than exhilarating. Rawsthorn describes how artists lost their early enthusiasm for industrial commissions, leaving manufacturers to employ salesmen to draw specifications of their products, and engineers or modellers to interpret them for production. But the new designer salesmen was poorly paid, barely trained and exerted little influence over their

employers. Mostly, they copied historic shapes and motifs from books, and the quality of their work was questionable. (Here we can draw a parallel to the present, and possibly more so to the future. Are the designer-salesmen of the past not equivalent to the 3D print hobbyists at home? If not even superior to these?)

Politicians, including Benjamin Franklin in the United States, Robert Peel in Britain and the French social reformer Francois Alexandre Frederic, tried to convince their governments to improve the training of designers and engineers, e.g. by showing off their manufacturers' outputs in a series of trade fairs. Other countries followed by opening their own design schools and trying to outdo one another by staging even bigger, more ambitious fairs.(4)

Gottfried Semper was a German architect, art critic and professor of architecture who wrote numerous texts. One of his essays was a review to the Great Exhibition in London (1851), called Science, Industry, and Art. In this essay, he ventilated his criticism and questioned the relationship between technology and design form-language. He starts with a description of the 'unmeasurably far-reaching consequences' the Exhibition stirred amongst the 'pensive minds and aspiring hearts of thousands'. Clearly impressed, very early on in his text, he states his concern regarding the ever-increasing developing technologies used in Art and Design, and the inability of mankind to keep up with these.

"What is the inevitable result of this? [inventions] The present has no time to become familiar with the half-imposed benefits and to master them [...] Old, outdated comforts are called back into use when speculation cannot think of anything new."(5)

He gives examples of technological novelties and their application in the design industry during that time: form-pressed ivory, vulcanized rubber, galvanized metal and the ability of machines to sew, knit, embroider, paint, carve and 'encroach deeply into the field of human art, putting to shame every human skill.'

Essentially, his point was that even though the achievements were to be recognized, and in the end probably would serve in favour of the well-being and honour of society, he observed an imbalance between the possibilities, promise and the way these technologies were put to use. Instead of forming new aesthetics and forms as the technology developed, and thus harvesting the most out of their potential, the makers and industrial designers of that day applied newly learned technologies on old means of working, and outdated forms. Semper describes it as follows: 'The same, shameful truth confronts us when we compare our products with those of our ancestors. Notwithstanding our many technical advances, we remain far behind them in formal beauty, and even in a feeling for the suitable and appropriate. Our best things are more or less faithful reminiscences'.

It is an obvious step to translate his worries to today. I believe the same concerns arise when talking about 3D printing and its usage today. As printing is packed with benefits, the tragedy is even greater when we print shapes that do not appeal to these benefits; when we print just for the sake of printing, as we can produce the same shape, faster and cheaper by using the expertise of e.g. a craftsman with years of experience. By taking a detour instead of cutting to the chase (printing instead of adhering to the knowledge of the artisan), we deprive the craftsman of his work, and by doing so jeopardize the legacy of his craft. To exemplify this jeopardy, we could think of a ceramicist who has mastered the craft of pottery. He knows all the limits and quirks of moulding, wall-thicknesses and how to deal with them and if necessary how to prevent any beginner's traps and mistakes. To produce a simple ceramic bowl, the ceramicist will be able to predict the time it will take to produce and bake, and to predict what the glazing will look like, while the 3D print of the same bowl brings a whole array of new difficulties and problems.

However, 3D printing does become interesting when it exceeds the capacities of the ceramicist, and makes possible what no mortal potter could achieve, e.g. complex shapes, with no, or barely any structural support. Someone who named and described his concern of diminishing craftsman-based knowledge as industrialization would keep evolving and growing was William Morris, 3-4 decades after Semper wrote the text discussed above.

The Brit William Morris dismissed industrialization as a commercial process and championed a return to traditional craftsmanship. Being one of the more popular speakers of his time, he aired his opinions on art, design, politics and education during the late 1800's. In his text The Arts and Crafts of To-day, written in 1889, Morris stresses his point in a very urgent fashion. He scoldingly describes the trend of designers who sell their souls to make more money, in spite of the quality of their work. Morris speaks of the position of this commercially driven designer as if they are at war with their customers, since they have no desire to bring joy to the customers' lives, but simply to take as much money as possible from them; an analogy, that in today's commerce-rooted society would not be deemed plausible, or would not bother us that much. Today we simply differentiate good design and quality from bad and do not even recognize it as being damaging. Advertising and consumerism are resorting to increasingly aggressive tactics, and there is nothing we can do about it, so we accept it. We do not see the aggressor as the one at fault, but the consumer, who should know better than to fall for the sly tricks and bribes of the 'market vendor'.

Morris called for a revival of the medieval crafts system of the guilds, where production and

completion of the product, as well as the product itself spoke to the joyful solace and virtue of the maker, instead of the interruption of this sacred connection that he believed industrialization was.

But yet he did not see the shift from 'the logical and orderly system of the Middle Ages'(6) to the 'confusion of incipient commercialism in the sixteenth century' as a retrogression, but simply as a break in time in order for us to return to, or rather continue from the point we abandoned it in the Middle Ages. In that sense, it is a plead against industrialization, and a cry for a return to the individual craftsman to regain respect for and an understanding of the product instead of resorting to blind mass production.

On March 6, in 1901, two years after Morris' The Arts and Crafts of To-day, the American architect Frank Lloyd Wright gave a speech in which he addressed Morris and his Arts and Crafts Movement. It would go down in history as one of Wright's most famous and intense speeches, largely because of its early recognition that modern machinery would expand architectural possibility. Later, the speech was published under the title 'The Art and Craft of the Machine'. With a fierce intensity, Wright proclaimed the arrival of the age of machines.

In the text, Wright starts by dismissing the ideas of Morris, not in a crude manner, but with pity: 'Morris himself deeply sensed the danger'(7) and 'That he[Morris] had abundant faith in the new art [machine] his every essay will testify. That he had miscalculated the machine does not matter.' It did not matter, because the 'Machine' – which Wright uses as a metaphor for the age and processes of production, not so much as for the object – was not recognized by Morris and his followers. According to Wright, in its true, to be, world enveloping emergence. If Morris had known the true consequences of the machine age, his attitude towards it would have been very different. 'It had not then advanced to the point which now so plainly indicates that it will surely and swiftly, by its own momentum, undo the mischief it has made, and the usurping vulgarians as well', Wright writes. 'Nor was it so grown as to become apparent to William Morris, the grand democrat, that the machine was the great forerunner of democracy.'

Wright claims that, instead of clinging to ancient crafts because they would otherwise disappear, we should accept new techniques and machinery as the craft of our age. 'Every age has done its work, produced its art with the best tools or contrivances it knew, the tools most successful in saving the most precious thing in the world. – human effort.' Clearly, he defended the virtues of machine production against – amongst others – Morris, but interestingly he did so in the service of more fundamental values, which he did share with Morris: the integrity of materials, the unity of form and function, the belief that even the most mundane object should be made beautiful. These

very convictions, he shared with the Arts and Crafts Movement.

The ideas about the role of the machine, were where Morris and Wright parted ways. Embodying technology as a whole, Morris saw the machine as a dehumanizing factor in modern life, whereas Wright saw the machine as an ally and the ultimate tool for the expression of democracy precisely because it could liberate individuals from the drudgery of repetitive labour. 'The Machine has finally made for the Artist, whether he will yet own it or not, a splendid distinction between the Art of the old and the Art to come. A distinction made by the tool which frees human labor, lengthens and broadens the life of the simplest man, thereby the basis of Democracy upon which we insist.' According to Wright 'the tall modern office building', was a perfect task for machine technology. Pointing to the steel frame that allowed buildings to express their purpose without any pretence, he insisted that Morris' followers were working with outmoded ideas and did not fully understand this call for simplicity; until they grasped the nature of the machine and found an appropriate vocabulary for expressing it, they should work as social reformers and not as architects.

Although I do not agree with Morris' complete rejection of all that is industrialized, – as mass production in itself can be beautiful and honourable in its repetitiveness and fragmentation– I do share his beliefs regarding the importance of craft and the consequences when man sets about to produce something without the understanding of and respect to craftsmanship and its legacy. Wright, on the other hand, is advocating the machine with such intensity, that he cuts off all the poetry craft has within itself.

When mentioning important texts throughout the history of Art and Design, the manifest as a phenomenon is a format that has been repeated decade after decade, bearing its founders' principles, either fragmented in a set of rules or demands or in the form of prose, poetry or text, calling for change and usually with a recruiting intention to stabilize a new movement. When F.T Marinetti revealed his historic document The Foundation and Manifesto of Futurism, he not only announced the founding of Futurism, but he also unleashed the very first idea of the Artist's manifesto. It was at once a new genre, and a reinvention of the political original The Communist Manifesto.

"To manifest is to perform. It is a highly self-conscious and self-referential form. The art of making manifestos is also the art of appropriation. If the bad poet borrows, and the good poet steals, as T.S Eliot said, then artist-manifestoists are very good poets indeed."(8)

In his book 100 Artists' Manifestos, Alex Danchev explains that the Futurist Manifesto had an impact that was both immediate and long

lasting. It loosened tongues and shortened tempers 'of every nation and persuasion'. It triggered an avalanche of artists' manifestos – fifty more were published in the next few years by the Futurists alone, many of them composed or inspired by the unstoppable Marinetti. Danchev cleverly describes the manifesto as a continuation of art by other means. Antonio Sant'Elia was probably one of the most important creative forces of the Futurists – save from Marinetti – and one of the most ambitious ones. Sant'Elia had style, was a dandy; he was provided with free clothes by the grandest Milanese tailor as an advertisement of his wares. Even though he had built little as an architect, he had great influence. He was, as were all the Futurists, committed to rejecting the past, revolutionizing the present, and using all possible structures (from basement to attic) in an innovative way. 'Let us raise the level of the city,' he said. When it came to radical architectural ideas, he did not presumptuously put on a monumental air. As the visionary he was, in 1914, he wrote his contributing manifesto Manifest of Futurist Architecture, in the name of the Futurists.

If William Morris called for a return to the Crafts, Sant'Elia urged for the exact opposite. He pleaded for the Futurist house, which in his eyes should have been constructed with all the resources of technology and science, satisfying all the demands of the spirit, trampling down all that is grotesque and antithetical (tradition, style, aesthetics, ornamentation) determining new forms, new lines, a new harmony of profiles and volumes, an architecture whose reason for existence can be found solely in the unique conditions of modern life. He found that this new architecture could not be subjected to any law of historical continuity, that all the decorative must be abolished. Dismissing all architecture from 1700 onwards, he calls it a 'moronic mixture of the most various stylistic elements used to mask the skeletons of modern houses'(9) and 'rapacious architectonic prostitutions'. Clearly discontented with the architectural developments, he fiercely describes his disgust of the architecture and the way of life in his day: 'the supreme imbecility of modern architecture, perpetrated by the venal complicity of the academies, the internment camps of the intelligentsia, where the young are forced into the onanistic recopying of classical models instead of throwing their minds open in the search for new frontiers and in the solution of the new and pressing problem: THE FUTURIST HOUSE AND CITY.' Later on in the manifest, he assembled a list of demands, in which he proclaims the visions of the futurists. One of the points clearly illustrates the Futurist attitude towards Technology (and Craft). It states 'that, just as the ancients drew inspiration for their art from the elements of nature, we – who are materially and spiritually artificial– must find that inspiration in the elements of the utterly new mechanical world

we have created, and of which architecture must be the most beautiful expression, the most complete synthesis, the most efficacious integration.'

You might claim that the Futurists were operating in a time where the whole world was obsessed with speed, technological development and machine driven aggression; an obsession that transformed in a global machine-fetish of the futurists' promise, with the First World War as a climax. But after WWI, a new institution was formed, which was not in line with the tech-glorifications of the Futurists.

"The boon of imagination is always more important than all technique, which always adapts itself to man's creative will."(10)

In 1919, Walter Gropius publishes his Bauhaus Manifesto and Program, which would be the template and plan for one of the most influential platforms of modern design that we know. As Deyan Sudjic describes in his book B is for Bauhaus, the Bauhaus was born in de midst of the revolutionary traumas that followed the collapse of Imperial Germany. Gropius takes over the Art school in Weimar, originally established by the Belgian designer Henry van der Velde, and rebrands it with a new name and a new mission. It becomes the focus of all radical ideas about design that had been crystallizing across Europe in the prior two decades. For fourteen years, it had been the centre of everything; then the Nazis took over Germany,

and shut the school down. But the Bauhaus idea was too strong for them to wipe out. The Bauhaus ethic spread everywhere (nearly all the Bauhausler migrate to other parts of the world, particularly the United States, and set off to teach at renowned universities, or start new institutions altogether), and reshaped the world to its own image.(11)

In his Manifest, Gropius proclaims his vision, by naming the program, aims, principles and instructions of Bauhaus. He states that architects, designers, painters and sculptors essentially belong to the same breed, and that their collective Arts exist in isolation, which can only be rescued by the cooperative effort of craft. The artist is therefore, in the eyes of the Bauhaus, a craftsman of the highest rank. Gropius explains that he wants to create a new guild of craftsmen without the class distinctions that raise an arrogant barrier between craftsmen and artists in the traditional sense. In essence, it is a throwback to the ideologies of Morris, but this time executed in a highly inspirational, active environment, which was the Bauhaus.

Unlike Morris, the Bauhaus sought a balance between crafts and industrial means of production; Morris was very one-dimensional in his convictions. Next to maintaining their philosophies regarding craftsmanship, they had found a way to manufacture products in the workshops industrially, that were sold commercially, and by doing so, secured a financial royalty for the

school. They succeeded, in a sense, to accomplish Morris' wish to bring proper, crafted design to the bigger masses. Many would say, however, that Morris failed in a certain respect, because of the paradoxical inability to offer his objects in a price range appropriate for these masses.

The Bauhaus-philosophy being the one I mostly adhere to, I do believe in the technological future driven by 3D print and rapid prototyping techniques in general in means of production, as long as they are well-considered and used appropriately as a tool towards model-making, as a production technique, but always harmonized with analogue ways of working and producing. I believe that working solely analogue today is out-dated, but that working only with digital techniques lacks soul.

~~(1852) Gottfried Semoer, Science industry and Art~~
~~(1889) William Morris ,The Arts and Crafts of today~~
~~(1901) Frank Lloyd Wright,The Art and Craft of the Machine~~
~~(1908) Adolf Loos, Ornament is Crime~~
~~(1914) Antonio Sant'Elia, Manifesto of Futurist Architecture~~
~~(1919) Walter Gropius,What is Architecture?~~
~~(1919) Walter Gropius,Bauhaus Manifesto and Program~~
~~(2002) Rem Koolhaas, Junkspace~~
(2008)Richard Sennet,The craftsman
~~(2013) Hal Foster,Junkspace with Running Room~~

Always try to master new skills; if the time does not allow to do so, delegate parts to those who will do the job better and faster.

On a windy autumn evening, my best friend and I were sitting by the river IJ, on the bank opposite Amsterdam central station. Reluctant to go home, slightly intoxicated by the beer we drank, we found ourselves in a philosophical examination of our personalities. After much discussion and analysis (alongside a lot of nonsense; we were getting drunk fast), we concluded that I have a deeply rooted obsession with how things work. You might say that this is a big advantage for someone who aspires to be a designer, but is it? Think about it. As I see it, a modern time designer is no longer an individual that is locked up in some grimy studio, days in a row, studying and deciphering machines, techniques and processes. Nor am I sure he has ever been. Surely, a certain amount of curiosity is good, if not essential, but is it in the favour of the designer to want to do everything by himself and, by doing so, having to decode every single step on the way? Is the role of the designer not also a delegating, generous one? Is he not someone who keeps the overview but divides the tasks amongst the people he entrusted a specific project to? Or can he be a sole practitioner, an omnipotent maker and craftsman, who is not only the one who designs, but also the one who executes a task, and constantly learns new techniques in order to keep up with his profession?
Although I am not quite able to say that I have devoted all my time and, ultimately, life to that what triggers my motivational motors, I am at a place where I start to pinpoint the matters of importance more precisely. And by doing so, I am yanking up my 'devotion' to a level which corresponds with my needs and aspirations.

For one of my projects, the Daily extreme, I acquired a knitting machine, (or was it the other way around? Did I make the project as a result of buying the machine? I can't recall) in an obscure village somewhere in North Holland, without having the slightest idea of how to use it. I had seen one before though, in the textiles workshop of the academy, with its numerous delicate metal antennae, and complicated bits and parts, standing on spindly black legs, reminiscent of strange science-fictional insects from the future. My newly acquired knitting machine though, was not a beast from the future, but more one from the past. Its yellow/crème plastic housing, and retro typefaces and buttons scream the 70s. It is a Brother 910, the first electronic machine released by Brother, and it was a high tech state-of-the-art piece in its time.
I had been toying with the idea of getting one for a while, even though I had absolutely no idea how it worked, what its possibilities were, and what to look for when buying one. I wanted to own one, to unravel its secrets, in my own pace. By chance, I stumbled on such a machine on the internet, and

it fell within my budget. After a quick consultation with the textile workshop from the academy, I decided to go for it.
I had been lucky; when I got back to the academy, the workshop assistants were amazed by what I brought in. I did not only bring a basic knitting machine back, but also a double-bed part, and five big boxes filled with all kinds of add-ons and accessories, some of which were highly sought after, and not in production anymore. I had made a good deal, and was ready to learn.

By spending many tedious hours in the workshop (the knitting requires unbelievable amounts of patience), I quickly learned the abilities and restraints of my machine in comparison to the modern knitting-machines of school, the biggest difference being the school machine's ability to knit digital files, created on a computer. My machine model, the 910, was one generation behind the 940, which can be hacked relatively easy to connect to the computer. But to my great surprise, a friendly girl from the textiles department approached me one day and asked if she could use my machine for her graduation project. She would hack my machine and upgrade it, so it would be able to do all the things modern machines were capable of. My machine was getting a promotion!
Today, I still have learned only a fraction of what there is to know in the complicated world of (machine) knitting, but my hacked machine is patiently awaiting a next project.

The idea of outsourcing can manifest itself in many forms. In this case, the outsourcing was the hacking. On the other hand, if I had never even bought a machine, I would have outsourced the knitting to a different party altogether. The point is that outsourcing is inevitable in the creative process to some degree. Even 'crafts-advocate' William Morris often outsourced some parts of his work. A shoemaker also does not tan his own leather; he acquires it from the leather-tanner, who practices a different craft altogether.
The degree of outsourcing is different for every project, as the importance of mastering the skill of a certain specification lies in the nature of the project itself. If the project is about leather and its finish, for example, we should tan it ourselves, or at least dive into the tanning process with the help of a specialist. If it is about harvesting the most out of one cowhide with minimum waste, thus maximizing profit, then tanning the hide ourselves probably would be a waste of time. Our focus would lie elsewhere. In that sense, my convictions on outsourcing lie between those of the great gentlemen I have researched and quoted. The Futurists and Wright urged to make use of the machine, this can be applied to the industry and the rapid prototyping machines of today, while Morris and his contemporaries fought against it.
I say we should make use of time economically, and harvest the best from both worlds before profiling ourselves as either the 'craftsman' or the 'industrial designer'.

~~(1852) Gottfried Semoer, Science industry and Art~~
~~(1889) William Morris ,The Arts and Crafts of today~~
~~(1901) Frank Lloyd Wright, The Art and Craft of the Machine~~
~~(1908) Adolf Loos, Ornament is Crime~~
~~(1914) Antonio Sant'Elia, Manifesto of Futurist Architecture~~
(1919) Walter Gropius, What is Architecture?
(1919) Walter Gropius, Bauhaus Manifesto and Program
(2008)Richard Sennet, The craftsman

Chapter two
Material versus Time

Material hierarchy does not exist. One kind of material is not to be considered more valuable than others. One kind of material can be considered more appropriate than others.

Never impose colour without the intention of a higher cause or concept, like durability. Material has its own colour; do not dye it to make it more appealing. When picking a colour, go for neutrality.

When we turn on the television, we are confronted with mind-blowing amounts of glitter, glamour, synthetic diamonds, faux teeth and faux everything. The idea that you have to be ashamed of wearing fake nails, sporting a fake nose or having a fabricated tan is long gone. At least, it seems that way when looking at the dozens of reality shows which are channelled by the bombastic studios of Hollywood, and other plastic fantastic American cities, to our TV screens. But does this tendency translate to the norm? No. Of course, there is an element of entertainment in gloating on the extremities of tackiness, while knowing that this is not our reality, although it might be theirs. But we can find examples of 'accepted fakeness' closer to home. Think of all the chromed tire rims, gold-plated jewellery, painted plastic and 'wood'-panelled car interiors we can find around us on a daily basis. Another example are the PETA conscious fur coats promoted by lower end and higher end stores all over the world.

By brands ranging from H&M to Prada and Chanel, faux fur is not only accepted, but also regarded as more responsible by many among us. When we look in terms of design, we know this open-mindedness towards all kinds of materials is relatively new. Up until the recent past, materials were valued for their exclusivity, richness and status instead of their properties. Could you imagine Louis XIV reclining in a dirt proof vinyl chaise longue in his palace in Versailles? Or sending his guests chocolate truffles in Tupperware containers? Ignoring the fact that these materials were not invented yet, I would guess your answer to be 'no'.

In hindsight, I can see evidence for an inclination to this alternative attitude towards material, throughout my childhood and teenage years, as well throughout my 'creative' life. To name a few examples (however banal it seems), I have never bothered to worry about torn or ripped clothes growing up, while my peers and mother seemed to fuss about it. Of course, I was not the only kid in the world who was unbothered by rips and holes in clothes, but thinking of it, I now know it was not a matter of not caring. I simply regarded these clothes, that were slowly disintegrating, as though they were developing into the next stage of their dutiful service. I did not think them inferior to how they had been once ; they simply evolved into a new structure, a structure with a new set of properties and capacities. In addition, I always seem to have had affinity with raw found materials.

Junk thrown out on the streets, I collected and treasured for some qualities that I found in them. (To great horror of my mother and, later on, my roommates.)

I found that during the making of something, sometimes the same values prevailed to me. This idea first dawned on me during the process of my paper chair. Exploring the qualities and limitations of brown wrapping paper, I laboriously started drawing, stitching and quilting scrap pieces of paper together with foam without knowing which shape, or direction I was heading towards.

It was a mock-up sketch, so I was not particularly gentle or cautious with the piece, scribbling notes and measures on it on the go. In the end, the intricately sewn, pencil inscribed scraps of paper, together with foam and tape, formed a unity which exceeded its previous worthlessness into a new form and value. My intention all along was to remake the sketched model, but while I was retracing my steps, and 'neatly' worked on the new version with better paper without tape and pencil marks, I came to the conclusion that the fresh remake lacked the essential characteristics of the sketch. Sometimes cheaper, improvisational, dirty solutions are better.

Antonio Sant'Elia, the Futurist Dandy mentioned before, was one of the first to describe this makeshift attitude towards material, linked to its usage in architecture. In his manifest, he champions the application of cheap common

materials such as reinforced concrete, steel, glass, cardboard and textile fibre as substitutes for wood, stone and brick in order to obtain maximum elasticity and lightness. In the name of the Futurists, he rejects all that is massive, voluminous, durable, antiquated and costly.(12) What is striking is that the Futurists do not see this architecture as monumental and lasting. They make it very clear that things will not last as long as we do. Every generation must build its own city; the speed of modern times is accelerating and time waits for no one; not even for the Futurists themselves.

This is made even clearer in the debuting Futurist Manifest the Foundation and Manifesto of Futurism, written by F.T. Marinetti, that was published on the front page of the newspaper Figaro in 1909. Someone who has described this point very clearly, was Boris Groys in his captivating essay On Art Activism.(13) Groys explains that the Futurist Manifest condemned the outdated cultural taste of the bourgeoisie and championed the beauty and form language of the new industrial civilization. It praised war as 'the hygiene of the world' and encouraged to 'destroy museums, libraries and academies of any sort'.(14)

It has been said that this ideology of destructive progress was the sole thing proclaimed in the manifest. However, Marinetti did not publish his wishes and demands isolated in a set of rules, but included them into a bigger narrative. Marinetti begins with a story in which he describes how he

himself and his friends were interrupting a long night of discussions and collective contemplation with the idea to take a ride in a fast car. And they did. He continues: 'And we, like young lions, chased after Death.. Nothing at all worth dying for, other than the desire to divest ourselves finally of the courage that weighed us down.' And they did 'divest' themselves. He continues by describing a sudden turn of events, a car accident: 'How ridiculous! What a nuisance!.. I braked hard and to my disgust the wheels left the ground and I flew into a ditch. O mother of a ditch, brimful with muddy water!.. How I relished your strength-giving sludge that reminded me so much of the saintly black breasts of my Sudanese nurse.' At this point, Groys, in his essay, cleverly observes the speedy race, and the car ending up in the ditch as an analogy of a holy return to the mother's womb followed by a rebirth. During this event, Marinetti saw the light again, in a new and revolutionizing way; the Futurist way.

Marinetti continues to describe how he and his group were pulled out of the ditch by a few fishermen; the same people the manifesto is directed against. Thus, the manifesto opens with a description of the failure of its own program. Next to this failure as an introduction, Groys points out that the figure of defeat is repeated later on in the text, when Marinetti envisions the emergence of a new generation for which he and his aforementioned friends will be, in their turn,

the hated 'passéists' that should be obliterated. But when the agents of this coming generation come, and try to destroy him and his friends, they will find them 'on a winter's night, in a humble shed, far away in the country, with an incessant rain drumming upon it, and they'll see us huddling anxiously together, warming our hands around the flickering flames of our present-day books.' Groys explains that these very passages show that Marinetti, to visualize his point on modernity, has no intention to improve it, to make it more efficient by means of design. On the contrary, from the beginning of his artistic career Marinetti looked at modernity in retrospect, as had it already collapsed, as had it become a thing of the past already. And in this retrospective view, Marinetti envisions the failure of his own project. But he understands this failure as a failure of progress itself, which leaves behind only debris, ruins, and catastrophes.

However radical the Futurists may have been, I believe there is a truth concealed in attitude towards monumentalism. I am not in favour of the obliteration of all that is old, in the name of the new, but I do find common ground in their approach and my notions towards materiality. Instead of worshiping the preconceived ideals set by history and our predecessors, of what is to be seen as superior and luxurious, we should find beauty in the characteristics of raw, common and available materials.

Colour has always been a concept I have an ambiguous relationship with. I believe the cause of this friction finds its roots in my brief experience as a fashion student, where colour and choosing one played a prominent role in the 'designing' process of other students. Daunting stores crammed with overwhelming shelves packed with the same material in a thousand different hues to me only seem to fulfil a stylistic purpose instead of a practical one, and thus should be regarded as decorative.

The constantly shifting seasonal colours of dozens of gloss magazines, the forecast of the trend colours of cars, nail polish and thousands of other products; I have never accepted colour as a serious design criterion. But am I dismissing colour without even considering its values and historic significance? Yes, possibly. But when is adding colour appropriate? And what colour would I have to go for in what situation? When is colour crucial and when is it a stylistic addition that we can dispose of?

There is much to be found on technical colour theory, about hues, saturations, brightness, primary colours, complementary colours. About colour wheels, subtractive colour systems, additive colour systems, colours in context and many, many more interesting facts, ranging from ancient times to the latest graphic designer jargon. And I have not even mentioned the meanings and symbolisms of colour, where red stands for aggression and

love and what not. But this is not the direction my research is going to. I have restricted my research area to manifests, texts and essays in design history and, to a lesser extent, art history. If I would go into the theory of colour, as I just described, I would venture into realms with which I would be able to fill another thesis.

Ludwig Wittgenstein is one of the few who have written about colour in its most philosophical, ethereal sense. He was born in Vienna in 1889, and proved to be one of the more influential philosophers of his time. Comprised of material written by Wittgenstein in the last eighteen months of his life, Remarks on Colour is one of the few documents that shows a philosopher who concentrates on a single philosophic issue. The principal themes address the features of different colours, of different kinds of colours and luminosity. Wittgenstein treats them in a way as if to destroy the idea that colour is a simple and uniform thing. The small volume is fragmented in manifold remarks, some of which have relations with each other, while others apparently stand on their own. It is not sure whether Wittgenstein intended to leave his findings loosely written in separate rules, but most likely, it was a first draft intended to be altered and edited along the way. This does not make the work easier to read, but it does offer an insight into the process of a great mind.

"Of two places in my surroundings which I see in one sense as being the same colour, in another sense, the one can seem to me white and the other grey. To me in one context this colour is white in a poor light, in another it is grey in good light. These are propositions about the concepts 'white' and 'grey'."(15)

Remarks on colour produce a wide range of what Wittgenstein called 'puzzle questions': what makes bright colours bright? Why is white not considered a colour? What is the relationship between the world of objects and the world of consciousness? Are 'pure' colours mere abstractions, never found in reality? Is there such a thing as a 'natural history of colour'? Confronted with more mysteries than answers, Wittgenstein had little faith the logic of colour perceptions could be clarified: 'there is merely an inability to bring the concepts into some kind of order. We stand there like the ox in front of the newly-painted stall door.' Contemporary speculation on colour remains divided between those who see the world as 'essentially devoid of colour' and 'those who see the subjective experience of colour as a straightforward consequence of the nature of colours themselves'. (16) In other words, either you accept the theory that colours are in our heads, and not in the world itself, or you believe that colours are inherent to the objects around us, and exist in the physical world. Both compelling theories that I believe Wittgenstein attempted to explore through his writings.

"The bucket which I see in front of me is glazed shining white; it would be absurd to call it 'grey' or to say: 'I really see a light grey'. But it has a shiny highlight that is far lighter than the rest of its surface part of which is turned toward the light and part away from it, without appearing to be differently coloured. (Appearing not just being.)"

The question whether colour exists or not is one I cannot answer, but Wittgenstein's remarks did activate a new perspective in some cases, and successfully formulated some inherent thoughts I had in others. To look at the world without the assumption that colours exist and are fixed brings a vibrant new layer of possibilities. I had this realization one day when I woke up earlier than usual, lay in bed, and could not go back to sleep. The twilight washed away most colours in my room, and turned other colours into a different shade altogether. There were blues and iridescent violets that seemed to glow, which I believe you only get to see during those ghostly twilight hours, if you are lucky. And I could not help but wonder how different the perception of colours can be, influenced by different variables as light, shadow and surrounding colours, and whether we ought to look at colours with this regard always. Why do we cling to the knowledge and boundaries of one colour, when our eyes perceive a different shade or different colour? If I know my jacket is blue, but I see it hanging in a dark corridor where I perceive it to be black, I will still call it blue, because I know it is or should be.

"We might speak of the colour-impression of a surface, by which we wouldn't mean the colour, but rather the composite of the shades of colour, which produces the impression (e.g.) of a brown surface."(17)

The severity of Modernism tolerates more or less only non-colours, white, grey and black, and the colour inherited to the material used itself. But what constituted the usage of colours in post-modern minds? In 1996, Charles Jencks has written 13 propositions of Post-Modern Architecture. Jencks – as Alex Danchev describes in his book 100 manifestos – is an architectural historian, theorist and designer in addition to being a devoted commentator on post-modern architecture. He is clearly prepared to argue against the purity, clarity and simplicity of modernism, in favour of non-straightforward architecture.

One of his propositions states: 'Memory and history are inevitable in DNA, language, style and the city are positive catalysts for invention'.

Jencks does not refer to colour explicitly. But to me, this rule does give an inside in the post-modern mind-set, and it has sparked the insights for my own questions that I posed earlier. Could it be that the usage of colour – or the invention of it – is appropriate when it is based on the history, place and circumstances of the project in question? Jencks speaks of adhocism in his text. If not present in the material itself, could we extract colour in its direct environment and impose it on

the material? Could we look for certification of colour in the etymological process?

When looking for a sequenced display of material-based technological developments throughout design history, there is one object, more than any other, that can tell the story of materialistic evolution in design. The chair, over the years, has been a research test-bed for new materials that has withstood the trials of time. Why has the chair always been such a popular subject amongst designers? And why has it been so well-suited for material experiments?

First of all, the chair, more than many other objects, has been made and developed time and time again, in order to obtain a certain sense of professional longevity, if not immortality. After all, when designing a new phone, television set or other trend or technologically sensitive object, one knows it is just a matter of time before the product ends up in a drawer, or worse at a landfill. Secondly, although an utilitarian object, it has gained cultural significance because of its rich history. The chair is the first object that has penetrated the consciousness of common men, beyond the bubble of the design world. It has become an object of power and status. But why is it so appealing to everyone as an object? As Deyan Sudjic explains in his book B is for Bauhaus, architect Peter Smithson has developed a theory to answer this very question. According to Smithson, the chair has

such attractive powers due to its anthropomorphic properties. Or, in other words, because of its cute 'human-like look'.

'The act of marking territory starts with our clothes, with their style, with our gestures and postures when we wear them. With a chair we extend our sense of territory beyond our skin. With a chair we first impose ourselves on blind space.'(18)

What kind of impacts of technological and aesthetic innovations have we seen in the form of a chair throughout the various episodes in the evolution of design? Wood has always been the default material for chairs around the world. They were always constructed by means of carving, turning or joining, until Michael Thonet revolutionized the production of chairs by turning something that has always been a carpenter's craft into a fully industrialized process. By doing so, he changed the whole concept of a chair. He deskilled chair making by investing in machinery and by developing wood bending techniques, which allowed him to make complex shapes in a relatively simple way. He brought good, cheap chairs to the masses.

The next step in the evolution was the tubular steel chair. Marcel Breuer, Mart Stam and Mies van der Rohe, among others, started experimenting with tubular steel, and redefined the shape of the chair by getting rid of its four legs. It was the embodiment of change, caused by the machine age.

Sudjic describes the change with striking clarity: 'They wanted to remake familiar domestic objects in radically new forms to make a point about the modern world. They might not be actually able to build Utopia, but Stam could at least pay a plumber to knock up something that hinted at what an Utopian machine age might one day look like, with the aid of nothing much more than a few feet of gas pipe.'(19)

Charles Eames was a key player in the next chapter of chair evolution. He devised ground-breaking methods to mould plywood into curved shapes. This was not a new technique at all, but he lifted the technique to new heights by forcing the plywood into complex multiple-curved shapes and surfaces. He also introduced cast aluminium for his furniture and in combination with the plywood, articulated a new form language, which seems modern and contemporary even today.
Thonet and Eames have revolutionized the production, and cultural stance of the chair. At that point in time, a set of materials was on its way to revolutionize the modern world, and they would so intensely root themselves in our daily lives that, today, we cannot imagine a life without them. These materials are so commonly distributed, have been used so intensely throughout the decades, that instead of the bright future they once promised, today, they foretell a grim one.
Plastics were used for the first time in furniture making around 1933 when Jean Prouvé, a French

designer, used Plexiglas for one of his armchairs. The development and usage of plastics in furniture design spiralled so quickly into the reality of daily life that designers not only had to deal with technical problems in means of production, but also had to change the way people thought about plastic. 'Plastic was seen as an ersatz substitute for a ' real' material', writes Sudjic. Other designers used plastic for parts of their chairs, for the seat and back, not for the structural arms or legs. 'Using a single material for an entire chair would transform the process of manufacturing, and create a truly mass-produced chair, with no handwork of any kind. That did not happen until the 1960's, with the use of injection-moulded plastics.' Where did this mistrust in plastic of the bigger public come from? People were used to see a certain skill in products of quality. The products showed a physical 'struggle'. 'Made by skilled hands with years of experience' was the message they used to radiate. But now these slick, seemingly effortless shiny shapes had come along. No wonder the public mistrusted them. Although the moulds and tools of the plastic chairs demanded a high level of skill and were very expensive, the chair itself is not skilled, and it is cheap. If plastic was to be accepted, it needed a 'new aesthetic based on ejection of the tradition of handwork and conventional ideas of what constituted quality.'(20)

In 1966, a text was published that deals with the very idea of public mistrust towards plastic.

Rayner Banham persuasively, and with great wit and conviction, has written All that glitters is not stainless. In his text, he examines the decade-old attitude towards plastic: it was conceived as fake, and there were worries that prevailed with the acknowledgement that plastics were out-performing other materials, such as wood and metal. Banham examines this by introducing two – in his opinion – of the most important resources of modern design, one being the plastics industry itself, and the other the tradition of worrying about 'the state of the art'.

Although it would not be used in furniture for many years to come due to technical difficulties, plastics have been introduced by Alexander Parkes in the middle of the 1850's in the form of celluloid, and 'design worry' as he calls it, has consequently been introduced by John Ruskin, William Morris and Gottfried Semper, amongst others. These 'design-worries' are the concerns that have risen with the emerging industrialization and new techniques later on.

Since the emergence of plastics, the question of how to deal with the seemingly boundary-less capacities and properties plastics seemed to have has existed. (Tragically, today we shudder when thinking back to our prediction towards this seemingly 'boundary-less capacity'.)
Banham explains the attitude of design-worry against materials such as plastic by sketching the confusion of a car dealer when confronted with

a new car-badge, which shone mercilessly on his newly acquired car. 'Is it an exquisite specimen of the goldsmith's art, sealed under crystal glass or just crafty vapour gilding on the back of one-shot styrene molding?'(21) This clearly implies the car dealer would have preferred the first. Another example tells the story of Banham's own family, driving around in a red minicar. According to Banham, the red minicar was protected by a bumper which was implied to be made of stainless steel, but proved to be metal foil sealed under clear plastic. It shone like stainless steel, but it was not. Ironically, plastic did a better job than stainless steel ever could by diminishing risks of snagging, tearing and breaking that makes steel dangerous in an accident. Yet the classic tradition, Banham explains, would insist on genuine stainless steel over plastic, and denounced the latter as a cheap substitute or trick.

Design-worry would allow plastic, if it did not pretend to be something it is not, Banham explains. But that would mean we would be deprived of things that we clearly love: shimmer, high finish, shine. Make no mistake, this love of shimmering is not just a vulgar dream of the common man. The greatest generation of design theorists loved glitter and shimmer, and eventually taught us to love it too. Banham phrases it as follows: 'Frank Lloyd Wright rejoiced in the lights of Chicago by night, Marinetti saw the new age reflected in the light bouncing back from control consoles and

electrical plants, Gropius called for buildings like crystal symbols, and Mies van der Rohe built them. Fernard Leger was struck by the magic of light on metal on a field gun, Le Corbusier and Marcel Breuer put that magic into production on furniture.' According to Banham, industrial design rides upon the back of an industrial complex that exists primarily to satisfy mankind's universal desire for glitter. But why does the heart of man desire it? Why did the great masters of modern design teach us to echo, in life, Goethe's dying demand 'Mehr Licht'?

Throughout the text, he gives multiple theories that try to answer the question why the lust for sparkle is so embedded in us. One answer is that man has inherited a fascination for it because of the light bouncing back, through history, of polished armours of respected men during aristocratic tournaments. Another, even older, reason points towards the bible, where the word 'shining' rings with virtue on many, many pages ('They would see that Moses' face was shining' – Exodus 34:35). And yet another theory tells us that 'the shininess of modern design symbolizes the fresh start, the clean new way of life that was, and is, to replace the miseries of those dark satanic mills in which industry and its arts of design were born.'(22) People where more prone to forget the bleak conditions of factories which churned out goods, if these goods where shiny and bright, and more importantly, the shine would possibly make

them forget their own miseries for a moment as well.

Good. So we now have an idea of why mankind loves shiny things. But where does this refusal towards so-called 'inferior' materials come from then? According to Banham, one of the reasons is the fact that while physical resources – new materials, new production methods etcetera – are developing constantly, many of design's psychological sources fall behind. Banham explains this by introducing the idea of the Vorkurs, the basic course that exists within the Bauhaus teaching system, used by Art Academies all over the world. (The Gerrit Rietveld Academie included.) 'It has a noble simplicity to it', Banham writes. 'The student is to be returned to zero and made to begin again with the elementary materials and primary relationships of his craft. The sophisticated shall be brought low, the honest and humble shall be lifted up'. According to Banham, it is no longer necessary, to disabuse students of ingrained visual prejudices, because a lot has happened since the Bauhaus was young: 'junk sculpture, hand-held movies, Batman, action painting, Hell's Angels, surrealism, custom-car shows, Pop art, Henry Moore, Cinerama', and not to mention the things that have popped up since Banham's text: internet, social media, smartphones, the 70s, 80s, 90s and the new millennium. People have become sophisticated, and far less visually prejudiced. 'Beady little eyes that can tell

stainless from spray chrome at fifty paces and prefer the latter because it is more jokey, clearly need a very different type of education from what suited the mystical peasants who crawled out of the Biedermeier woodwork to join Gropius at Weimar.' Although the education of today – at least in the Netherlands – probably is a lot more progressive than that of the art academies in the 60s, when Banham wrote his text, the idea of the psychological ideas falling behind technological developments is one that is current even today. 3D printing is the main topic of today's 'design-worry'.

There is a reason that the rule of colour and the rule of material are grouped in one chapter. If we go back to the rule that colour should not be imposed on the material, that the inherited colour of the material should be respected, I can conclude I have miscalculated the very role of colour by asking the wrong questions. This realization has brought up a memory that snapped in place after putting the words on paper. In the very beginning of the first year of art academy, in sculpture class, we were given an assignment on a tiny leaflet that had just a handful of words: 'Make a sculpture of colour with a cloud above it.' It was only the first weeks of education, and I remember being utterly confused and slightly panicky. (I had experience with design, but sculpturing was alien to me.) What did it mean: a sculpture of colour? Surely not a painting, as we were in sculpture class? I remember

that in the end, I used black and grey acrylic paint to sculpt a relief on a wooden table, and stuck goose feathers perpendicular to the table, with their soft side down, so they all stuck in the paint and stayed erected neatly in the same direction, with their pointy side up. All of the feathers formed a sort of cloud, with the paint itself being the binding foundation. I chose black because of its contrasting properties in comparison to the feathers. Although I did not exactly know what I was doing, the teacher seemed to love it.

I believe that material and colour are in essence the same thing. So instead of degrading colour as an addition, a 'sauce' or afterthought that is applied afterwards to prettify an object, it should be seen as a constructive component in itself. The colour, regardless of its physical form, can be used as a visual binding agent, a building block. Materials lend their properties to the larger whole, colour does the same. It is equal to material, a discovery that is amplified greatly by the memory of the goose feather paint sculpture. The idea of starting my education as a nervous freshman with a try-out I had long forgotten and concluding it four years later with the same notion in this thesis is something that brings a great sense of closure.

I plead for usage of materials chosen for their properties and availability, locally, grown, found, sold, dug, produced, and for acceptance of unconventional usage of 'cheap' materials with more exclusive ones. Value is obtained in form, execution, idea, simplicity or complexity and craftsmanship opposed to the materialistic 'value' in the old-fashioned sense of the word.

(1852) Gottfried Semper, Science industry and Art
~~(1909) F.T Marinetti, The Founding and Manifesto of Futurism~~
~~(1914) Antonio Sant'Elia, Manifesto of Futurist Architecture~~
(1920) Bruno Taut, Down with Seriousism
~~(1966) Reyner Banham, All that glitters is not stainless~~
(1972)Robert Venturi, Learning from Las Vegas
~~(1977)Ludwig Wittgenstein, Remarks on colour~~
~~(1996)Charles Jencks, 13 propositions of Post-Modern Architecture~~
~~(2014)Deyan Sudjic, B is for Bauhaus~~

Things are expressions of frozen time. It should be taken in account that things are always in a process of materialization or dematerialization. Material rips, ages and cracks and time leaves it traces. Take this in account, and if possible celebrate this fact. Imperfections are the coincidental finish of the product.

Always aim for a balanced cleanness, but not for sterility. You do not want your object to be lifeless.

Science fiction has a tendency to portrait our (near or distant) future roughly in one of two categories: either one of utopian technological design at all-time heights, or a post-apocalyptic prophecy of chaos and destruction. A combination of both is rare, but when it happens, they are always separated from each other, in whatever medium it may appear. (For example, in 2013, the film Elysium screened. The film takes place on both a ravaged Earth, and a luxurious space habitat called Elysium.) Apparently, we can imagine heading towards either hyper-designed cleanness and lightness, or towards a dystopian favela like anarchy. Although they are not meant to be serious prognoses, in my opinion, these films do indicate a universal non-acceptance of having 'designed' spotlessness associated with everything that is organic, cluttered and 'real'. I see it as a rejection of Ying and Yang.(23) Instead of clinging

to a youthful vanity, we should accept the traces of time. I am not referring to the mangled faces and bodies of surgery victims, but to our daily consumption. From unnaturally shiny, pesticide-ridden apples propped up as plastic jewellery in the supermarket, to the low lifespan of smartphones and the high-paced rotation of the fashion industry. Instead of producing and discarding endlessly, we should invest in quality, sustainability and design products that age gracefully, and transform according to their usage.

"There is hope in honest error; none in the icy perfections of the mere stylist."(24)

The examples of the overly designed environments date from as early as 1900. Described in the essay Poor little rich man, Adolf Loos describes the imagined fate of a rich Viennese man who decided to have his entire house designed by an artist. This man totally subjected his everyday life to the dictates of the designer, for as soon as his thoroughly designed house is finished, the man can no longer change anything without the designer's permission. Everything the man later bought and did had to fit in the overall design of the house, not just literally but also aesthetically. In a world of total design, the man himself has become a designed thing, a kind of museum object, a mummy, a publicly exhibited corpse. Loos concludes his description of the fate of the poor rich man as follows(25): 'He was shut out of future life and strivings, its developments, and its desires.

He felt: Now is the time to learn to walk about with one's own corpse. Indeed! He is finished! He is complete!'(26)

In a sense, the idea of total design described by Loos to me bears the same message as the poisoned pesticide-infested apple or the science fictional austere minimalist world of the film screen. It is an illusion, a make-believe world, painstakingly kept pristine and free of bugs, clutter and signs of life. In this pursuit of sterilized, aestheticized cleanness, measures are taken that take a toll on our physical and emotional health.

Although Loos was Morris' nemesis in many ways, (Loos wrote an antithesis of Morris' ideals called Ornament and Crime about the same time Morris was active.) I do see a common ground shared by the two: the fact that both warn against the loss of freedom, conjured by the industrialization and its offspring. Morris does that by proclaiming the deadness of machined design, and Loos by his alarmed reaction towards total design.

“To get wholeness you must try to strive for this kind of perfection, where things that don't matter are left rough and unimportant and the things that really matter are given deep attention. This is a perfection that seems imperfect, but it is a far deeper thing.”(27)

Reyner Banham too has addressed the notion of freedom in design, yet again on another level, in ‘All that glitters is not stainless’. He explains

that moral reassurance seems to be remarkable necessary in all branches of design. That in his case, professional designers go to meetings on a regular basis, to be told what is right and wrong. 'No other profession', he writes, 'not even those bound by massive oaths of probity like the Hippocratic oath of the medicals, has this rage to keep itself morally pure by public self-examination.' He continues: 'This moral preoccupation is one of the principal driving forces of modern design and could be a great guarantee to the general public were it not so self-regarding.' To illustrate his point, he includes a poem by Louis Macneice:

“Our Freedom as free-lances
Advances towards its end;
The earth compels, upon it
Sonnets and Birds descend;
And soon, my friend,
We shall have no time for dances.”(28)

Banham connects this concept of the freedom of freelances coming to an end to the many meetings he has had with fellow designers and design theorists, where year after year 'men have stood at the microphone and preached hellfire, the population explosion, and the sands of time running out.' 'We love it!' states Banham, and he explains that they all 'gladly agree that our time for dancing has come to an end', while leaving the meeting with the determination to do better and

take the situation more seriously. 'Better? What's so good about a world where the designers have salved their consciences by taking everything so seriously that poetry falls flat. The birds are all grounded, and nobody dances?!'(29)

For me, with this very question, Banham hits the nail on the head. Very witty, very true. Designers do bear social responsibility, but these responsibilities should not cripple the designer into a restraint that chokes all creativity. Society seems to recognize the designer as a possible bringer of a green, healed future more and more, which is a good thing, but jeopardizes freedom. Banham's writing in turn reminds me of a quote from the anarchistic activist Emma Goldman who was born in Lithuania and moved to the United States in 1885: 'If I can't dance, I don't want to be part of your revolution'.(30) This statement suggests that the search for agency and the potential for empowerment lies in all elements of life and cannot be regulated by a firmly cordoned-off arena named politics. Is the same not true for design?

When looking at the concept of imperfection in design, what is there to be learned from history? In his book B is for Bauhaus, Sudjic does a great job summarizing the history and addressing the present with the notion of imperfection. He describes that perfection has always been the aim of designers, caused by the emergence of mass production. Moulds and tools were used to produce many objects with exactly the same measures,

characteristics and specifications. This pursuit of perfection transformed into the very language and ideology of Modernism. It was the celebration of the Machine.

Moulds and tools used in production were always able to produce a certain number of their 'offspring', before the mould would wear out, resulting in the decrease of quality in their castings. The lines, once sharp and bold, would slowly blur into ghosts of their earlier 'brothers' and 'sisters'. To prevent this deterioration of quality, moulds were to produce a certain amount of parts, before retirement. This was the birth of 'the limited edition'. Everything that deviated from this synchronized production line was considered a defect. Nowadays, however, with the development of more techniques that allow us to produce without moulds, this very pursuit of perfection for the production of identical objects in order to keep costs low is no longer needed. It has become an ideology ,which belongs to an old-fashioned industry.

Imperfection is not a defect nowadays. It is not inferior to perfection, it is simply a different kind of quality, which can also be positive. However, imperfection is more difficult to grasp and measure. As Sudjic explains, in order to justify the positive qualities of imperfection, you cannot blindly rely on a mechanical skill or template and expect the desired outcome simply through 'the exercise of skill or persistence or

consistency. It demands the exercise of a different kind of judgement.' In other words, the consistency of machined work, which usually is a desired attribute, has no particular value in the case of imperfection. The designer who explores the qualities of imperfection is, in a certain sense, exposed. All the steps of his design process are to be taken without a safety net, being the comfort of the repetitiveness and stability of machined work. This is why the assumption that striving for perfection in design is harder – and therefore superior to imperfection – is false.(31)

Perfection by itself is in many ways antithetical to human nature, while imperfection allows the recognition of something familiar, something that is close to ourselves. The ancient carpet weavers of the Muslim world understood this very thought. They weaved mistakes in their carpets as an expression of humbleness and religious humility in the face of The Almighty. Sudjic cleverly observes: 'When there is no tool needed to make an object, then it is no longer credible to continue to depend on the intellectual equipment developed to deal with mass production.'

Today, the visual language of design is formed by modernist systems built over the decades. Designers used factories to inject plastic in moulds, which were themselves constructed by industrialized processes. These shapes and tools have formed the visual vocabulary designers have worked in ever since: 'A vocabulary of finishes',

a vocabulary that is based on the past. Sudjic states that 'we are in the middle of creating a new vocabulary. And it is changing the idea of the relationship between Perfection and Imperfection, that will define it.' Meaning that the aesthetic of the machine in its traditional sense is radically changing. How could it not be? After all, the machinery and equipment of today has never undergone such radical changes itself since the Industrial Revolution.

I had never heard of wabi-sabi, until by chance, I picked up a book called Wabi-Sabi; for Artists, Designers, Poets & Philosophers. Instantaneously it gripped me, and I knew I had finally found the framework of my own deeply rooted convictions. The little golden brown booklet, written by Leonard Kohen, spoke to me in a crystal-clear language, which seemed so familiar and known to me. It felt as though I had found the confirmation of my lifelong attraction to the Japanese culture. To my surprise and slight disappointment, wabi-sabi seemed to be an old and known concept for my classmates, which they swatted away with their hand as if bored with the question. It did not matter, the booklet anchored my fascination with Japan, and I will keep it close when I set off to Tokyo next October.

In his book, Kohen introduces the fact that the term wabi-sabi over time has been adapted by western magazines, books and critics to summarize everything related to 'obscure' Japanese traditional

arts, which are unfortunately portrayed by Western media as dramatically mystical and mockingly ethereal. According to Kohen, it has almost become a dirty word. (This would explain why my classmates rolled their eyes, when I mentioned it.) But wabi-sabi has much deeper and more profound origins. In my opinion, Kohen has attempted to introduce the true and deciphered meaning of wabi-sabi to us 'Westerners'.

'When asked what wabi-sabi is, most Japanese will shake their head, hesitate, and offer a few apologetic words about how difficult it is to explain.'(32) writes Kohen. He explains that even though wabi-sabi is supposed to be one of the core concepts of Japanese culture, very few can articulate this feeling. This is not only because the Japanese language may be better in communicating nuances of mood, vagueness and the logic of the heart instead of explaining things in a rational way, but because most of the Japanese have not learned about wabi-sabi in an intellectual way, as there are no books or teachers to learn from. This, explains Kohen, is not by accident. Throughout history, rational understanding of wabi-sabi has intentionally been obscured to avoid it being misinterpreted. It needs to stay mysterious and elusive, because these qualities are part of wabi-sabi itself. From this vantage point, missing indefinable knowledge is simply another aspect of wabi-sabi's inherent 'incompleteness'.

Wabi-sabi can in its fullest expression be a way of life; at the very least, a particular type of beauty. Wabi-sabi objects are simple and unpretentious, and produced with natural materials. Kohen explains that the Japanese words wabi and sabi had quite different meanings. Sabi originally meant 'chill', 'lean', or 'withered'. Wabi originally meant the misery of living alone in nature, away from society, and suggested a discouraged, dispirited, cheerless emotional state. It was in the 14th century that both words combined started to evolve into more positive meanings of aesthetic value. Today, the words are connected, even though they still exist as individual words. Wabi envelopes several notions: a way of life, the inward, a philosophical construct, spatial events. Sabi on the other hand embodies material objects, art and literature, the outward, an aesthetic ideal and temporal events.

Interestingly, in one of his chapters, Kohen compares wabi-sabi to modernism. It is his attempt to try to communicate the notion of wabi-sabi by comparimg it with something more familiar, something we have grown to know over decades. He divided the chapter in two parts: the similarities with modernism, and the differences. He describes the similarities as follows: 'Both apply to all manner of manmade objects, spaces and designs. Both are strong reactions against the dominant, established sensibilities of the time. Both eschew any decoration that is not integral to structure. Both are abstract, nonrepresentational ideals of

beauty.' He continues by giving a vast array of differences. While modernism is absolute, wabi-sabi is relative. While modernism expresses faith in progress, wabi-sabi does not believe in progress. While modernism is rational, wabi-sabi is intuitive. While modernism calls for maintenance, wabi-sabi accommodates to degradation. Modernism contains a belief that purity makes expression richer, while wabi-sabi believes corrosion and contamination make its expression richer. Thus, he illustrates the notions of wabi-sabi.

There is much more to be discovered, not only in Kohens book, but also in the nuanced culture and history of Japan. This is something I hope to get closer to, during my first, but hopefully not last, journey to the land of the rising sun.

~~(1889) William Morris ,The Arts and Crafts of today~~
~~(1900) Adolf Loos, Poor Little Rich man~~
(1914) Antonio Sant'Elia, Manifesto of Futurist Architecture
~~(1966) Reyner Banham, All that glitters is not stainless~~
~~(1994) Leonard Kohen, Wabi-Sabi~~
~~(2010) Boris Groys The Obligation to Self-design~~
~~(2014) Deyan Sudjic, B is for Bauhaus~~

Chapter three
Praxis

Instead of inventing form or technique, trace back the etymology and form language of your starting point. Always build on steps previously made.

Acknowledge the importance of the process. The process is as important as the outcome, if not more important. Design the process instead of the product and the product will come out without effort.

As I said in my introduction, I have been contemplating on my thesis topic years before I had to start writing. Or perhaps my thoughts were not forming the boundaries of a thesis, but more my stances as a maker. I was trying to decipher my choices, my configurations and the way I dealt with my projects. In my opinion, the process is divided into two parts. The first I will call the etymological process, and the second the machine. The machine is a process of making, of assemblage, of production technique; it is the the physical action of producing (parts of) a product. It implies planning, preparation and efficiency. It is the design, not of the object, but of the system that will produce the product.

The etymological process is the process that comes before production; the process of designing, and of historical consideration. What is the starting point? Who is my audience/user? What visual connotations does this form/colour/texture have? What has been done before in this field? What kind of baggage will this choice provoke? There is one more aspect that is embodied by both the machine and the etymological process. It is the trial and error and modification that in the end will steer the product in a certain way; learning from mistakes, always expanding on your previous model, idea or experiment, Always learning from step one, and taking some aspects to the next phase of development.

Dutch designer Jurgen Bey said in an interview: ‘For decades, designers worked to make better things. Now, it is time to point our interests towards the creation of better processes to make those things. Making better things entails a focus on materials and aesthetics. This is true for both industrially manufactured products and handmade ones. Working on better processes, on the contrary, means envisaging innovative machines, new ways of doing and production. We now have the technological means to conjure up ideas so that industries can stay small (or be very big yet somewhat fragmented) and still be profitable, come back into our cities, work on smaller scale productions to be distributed locally.
Let us enjoy the pleasures of the machine, instead of blinding ourselves by solely envisioning the beauty of the products that it churns out. It is not by creating more things that design can improve the future, but by thinking up processes to shake the very essence of the system itself.’’(33)

My parents and I were born in Tuzla, a city in what is now called Bosnia, but was Yugoslavia back then. Just a few months before the civil war broke out, my mother, then twenty-one years old, left Tuzla in pursuit of a new life, to end up in Utrecht. Later, my grandparents arrived too. Utrecht is still the place where both my mother and my grandparents live. As a kid, my grandmother babysat me on a daily basis, while my mother studied and worked. I loved spending time with her and my grandfather. Every day after supper, we would walk through the woods close to our house. (Back then, the 'woods' seemed huge to me. In reality, they comprised a few grass-fields surrounded by a few strips of trees. Hardly a small forest.) I would learn all about plants, birds, and the few mushrooms that grew about. For my great amusement, my grandmother would often tell stories of her childhood, when she and her sisters climbed trees and resorted to mischievous child's play. The stories of the pre-war Yugoslavian 1950s sounded highly enchanting and exotic to me, not only because of their imaginative content, but also because of my grandmother's language, sayings and metaphors. Through her words, I discovered the subtle (sometimes not so subtle!) nuances of the Yugoslavian language in comparison to the language I grew up with, Dutch. Through her language and stories, I noticed not only the linguistic differences, but also the differences of mentality. The differences between

my sober modern Dutch reality, and the illusive East-European upbringing gave me an interesting perspective, which let me observe both sides with an objective and open mind. I believe that in my case this attitude allowed me to rid myself of nationalistic configurations, and made me a nation-free person.

One of the things my grandmother would say when I attempted to talk myself out of trouble or, the opposite, tried to talk her into some sort of scheme with a lot of 'thought out' plans and strategies, was that I should not 'philosophise' so much and get to work if I wanted to achieve anything. To me, although witty, her choice of words is still an intelligent one today. But what, or rather, who is the philosopher? If I had to answer this question, I would say the philosopher is the person who brings and devises alternative tools for viewing or interacting differently with ourselves or the world around us.

Plato also gives answers to this question, by describing the dialogue between his teacher Socrates and older brother Glaucon in The Republic. Socrates defines the philosopher by focusing on the etymology of philosophos, a combination of philia, meaning love or friendship, and sophia, meaning wisdom. Thus, the philosopher is literally the 'lover of wisdom'. All lovers, Socrates claims, love the object of their desire in all its aspects and manifestations. In other words, they love the 'whole class of things' rather

than simply 'one particular example of it'.(34)

Before I proceed with a description of Plato's theories and link them to my own thoughts, it must be emphasised that I am an absolute beginner in the readings of Plato, and the studies of philosophy altogether. I have embarked on his writings, particularly The Allegory of the Cave, and the Theory of Forms, with an open mind and heart. I do not pretend to have deciphered his work, far from it. I can merely react instinctively to what I have read, and distil the particularities that I found relevant for this chapter.

In book VII of Plato's Republic (coincidentally the same number as one of the commandments of this chapter), Socrates asks Glaucon to imagine a cave with a long entrance as wide as the cave itself, in which human beings dwell. There they have been since childhood, shackled so they can only see the rear wall of the cave, unable to even turn their heads and look at one another. A fire burning behind and above them provides light. A path runs between the fire and the shackled humans with a low wall running along its length 'like the screen which hides people when they are giving a puppet show and above which they make the puppets appear.'(35) Behind the wall on the side of the fire, a separate group of humans hold 'all sorts of implements' in the air in the manner of puppeteers; some accompanying their actions with noises, whilst other remain silent. Those shackled experience no more of each other

or the implements carried by the second group of humans than what they see of the 'shadows cast by the fire on the wall' of the cave in front of them, and the sounds that contrast these sights. They understand them not as shadows but as truth.

Socrates asks Glaucon to imagine what would happen if 'nature brought this state of affairs to an end' and one of the captives were released and compelled to turn and walk towards the light. No longer able to make out the shadows of the wall, and confused by the sight of the objects now placed in front of him, Socrates suggests that 'he'd find all these things painful', and be unlikely to agree that he was closer to the truth. Indeed, 'wouldn't he believe the things he saw before to be more true than what was being pointed out to him now?' Glaucon agrees. The individual would be sure to return to his former state, and, since he was pained by the blinding light, it would be necessary to use force to bring him out into the sunlight. To overcome his sun blindness, the released prisoner would require time to acclimatise by looking first at shadows, then 'reflections – of people and other things– in the water', the objects themselves and in turn 'the heavenly bodies and the heavens themselves' by night. Only afterwards would he be able to cope with the light of day and gaze upon 'the sun itself', understanding that it 'caused the seasons and the years, which governed everything in the visible realm'.

This analogy is the vessel in which Plato's

Theory of Forms is captivated. These Forms – as he calls them – are the essences of various objects; they are that without which a thing would not be the kind of thing it is. For example, there are countless chairs in the world but the Form of Chairness is at the core; it is the essence of all of them. Plato's Socrates argued that the world of Forms is parallel to our own world, the world of substances, and that it is the essential basis of reality. Superior to matter, Forms are the most pure of all things; he believed that true knowledge is the ability to grasp the world of Forms with one's mind. A Form is an objective 'blueprint' of perfection. The Forms are perfect themselves because they are unchanging. The visible objects are not real according to Plato, but literally mimic the real Forms. The things that we perceive in our physical world are projections or shadows of the real things, which cannot be perceived directly.

So what processes does the prisoner undergo, when moving towards the light and, ultimately, the truth? And how can we relate this process of finding out the 'truth' to the designing process? In my opinion, the prisoner first needs to clearly see and determine the shadow in the cave before him. He sees the shadow of what he thinks is, e.g. a vase. In design, we could translate this moment to the moment of topic choice and determining its vague outlines. The designer, after numerous considerations, decides it will be a vase (it could also be the choice of a process instead of an object). Secondly, the prisoner needs to unshackle himself to turn towards the light. He looks up, and sees the silhouette of that what has cast the shadow on the wall behind him. But the light prevents him to see clearly. His eyes need to adjust.

The designer has established the object, and now needs to decide on a number of parameters: history, user, material and numerous other variables. He needs to establish them first, and address them before moving on. This struggle of the designer is the same struggle the prisoner has to deal with when he meets the glare of the sun. This struggle is the most difficult and time-consuming one there is. When the prisoner is at a point where he can see the silhouette and the way to it clearly, he will start to go towards it, but if he only keeps his eyes on the goal, there is a chance he will stumble or slip due to loose rocks on the way. The same goes for the designer.

Once there, the prisoner will see the true Form of the vase, and understand it was impossible to imagine the vase by only relying on its shadow, as its shadow was merely a fraction of what its true form constitutes. He will understand that the way towards the Form, with all its slippery slopes and loose rocks, have contributed to the manifestation of the Form. The same goes for the designer.
In the end, both prisoner and designer know that to reach the source of all light – the sun –, they need to venture past the fire and all the Forms on the way. They suspect the road to be increasingly

rocky and bumpy, and the sun's light to become increasingly harder to endure, but they know they have to go towards it as staying in the cave would be to accept they will never know the whole truth.

~~(380 BC) Plato, The Republic~~
(1914) Antonio Sant'Elia, Manifesto of Futurist Architecture
(1923) Le Corbusier, Towards an Architecture
(2002) Rem Koolhaas, Junkspace

Chapter four
Form follows function?

Never cover up or hide. All elements should be exposed and contribute to the larger whole.

As a child, I have always kept myself busy with occupations and pastimes that I can recognize now as an omen to the study and career choices I have made later on in life and the ones I am currently making. I was never an overly social child; I preferred drawing in solitude over the hustle and bustle of the playground. The older I got, the more socially disengaged from my peers I became, and the more I sought comfort in the safety of the stories my grandparents and - during holidays – my aunts and uncles told me. I have always been a serious child, preoccupied with my own affairs, not as interested in the perceptions of my peers, as in the code of the grownups, which I was trying to figure out. I always had the impression that I was ahead of others of my age, but was not understood by the elders. The one thing I did understand, and which seemed to go naturally, was drawing. Making things. And I could lose track of time fantasizing about various contraptions: drone-like miniature helicopters that bring objects from one secret place to another, utopian fantastic cities, make-shift shelters made out of imaginary junk lying around, tree house villages interconnected by tube-like infrastructures. I never lost this appetite for fantasizing, and still often drift off when struck by insomnia.

When I became a pre-teen, I discovered the world of design. At first, I was drawn by fashion, but this quickly expanded to all sorts of design, and I started registering everything that I could get my hands on that was slightly related to design. Although completely unaware of the history of design and aesthetics, it was only a matter of time before I was aware of differences in form language, and sensed the implications these different “styles” brought with them. I could recognize that there was a vast difference between ornamented furniture and minimalistic austere furniture. Somehow, the notion emerged that clean, reduced abstracted shapes were superior to those that were not. Of course, terms as Modernism and Post-Modernism were still completely alien to me. But somehow the notion that Form follows function, was able to sink into my unconsciousness, simply by observing everything that, in my eyes, was related to design and was thus interesting.

Now I understand that this feeling which I developed over the years – that clean, reduced design is the only good design – is a prejudice that many people probably have. It is simply a superficial image that, over the years, has been propagated by the media, and is reminiscent of the notions of modern design that remain embedded in society’s archetypical stereotypes. So that brings us to the question: does the notion of Form following Function hold true against the developments we have made, since its invention?

“It is the pervading law of all things

organic and inorganic, of all things physical and metaphysical, of all things human and all things superhuman, of all true manifestations of the head, of the heart, of the soul, that the life is recognizable in its expression, that form ever follows function. This is the law."(36)

Both Deyan Sudjic and Alice Rawsthorn have dealt with this question in their books. Both have concluded that the notion of 'Form follows function' is an outdated one. But why? First of all, let us look at the history of functionalism. According to Sudjic, the philosophical idea of functionalism is more complex and less utilitarian than the famous phrase 'Form follows function' suggests. Sudjic explains that throughout history, there has been a belief that scrutinizing and focusing on technical purposes of things would provide everything that is needed to dictate the shape. Therefore, this belief had become just as much an aesthetic question as a functional one, long before the term 'funtionalism' was first used. 'It is a view of the world suggesting not only the means with which to achieve efficiency, but also the conviction that perfect efficiency is the route to visual perfection', (37) writes Sudjic. This view is the echo of the teachings of Plato and his belief in ideal form described in his allegory of the cave.

Functionalist ideals are not new. Vitruvius, an architect from ancient Rome, has run his practice under the motto 'Firmness, Commodity and Delight', while Mao Zedong believed in

'Utility, Economy and if possible, Beauty' when rebuilding Beijing. The functional ideal in John Keats' lines in Ode to a Grecian Urn read 'Beauty is truth. Truth is beauty.', reminding us that the functional ideal may be much more aesthetic than utilitarian.

Mankind has always found beauty in the craftsman-made object, because it was usually perfected over time, worked for generations, and thus achieved its most natural and optimal form towards a physical and material demand. For example, think of the metal-coiled sheers shepherds used for centuries, which haven't changed over time. Or the ancient black-lacquered Japanese cabinets, made by masters that learnt the craft from their fathers and grandfathers, preserving the complicated techniques for hundreds of years. But another source in which we can find beauty of a different kind is high technology. This is something relatively new. Think, for example, of the streamlined features of racing cars, the structural wonders of bridges, and the elegant lines found in aircrafts. Sudjic explains that the idea of formal values growing out of a technical discipline is a kind of Darwinian evolution that has been put forward by theorists and critics, and has competed with our traditional notions of beauty since their prevalence.

One of the advocates of beauty in technology was Le Corbusier. Vers un Architecture (Towards an Architecture), written in 1923, was an

emancipatory work. It began as a series of articles in a newspaper, but when issued as a book, it shocked and bewildered the public, more because of its imagery than anything else. Le Corbusier had juxtaposed images of monumental historic architecture with utilitarian practical buildings and, with this, made a huge statement. He had set a sleek grain silo against the Pisa Basilica, images of the Parthenon against motorcars and biplanes, 'suggesting that they shared the same pursuit of unadorned simplicity, truth to materials, and the expression of the optimum solutions to structural demands', says Sudjic. "Aesthetic of the Engineer, Architecture; two things firmly allied, sequential, the one in full flower, the other in painful regression."(38)

Alex Danchev explains in his book 100 artists manifestos that the responses of other architects and designers to Vers un Architecture were a bit more ambiguous than those of the bigger audience. According to Danchev, there was a certain amount of professional jealousy. Theo van Doesburg, one of the founders of the Dutch movement De Stijl, formed in 1917, rushed out a manifesto entitled Towards a Collective Construction, written in the same year. Members of De Stijl called Le Corbusier's work propaganda, not architecture. Frank Lloyd Wright on the other hand approved of Corbusier, up to a point. Danchev explains that Wright was rivalling the claim of importance; the claim of the Americans over Europeans, the New World over the Old. (Just as he was doing with William Morris, as I pointed out in the first chapter.) In 'Towards a new Architecture', Wright argues on behalf of the Americans: 'We Are, by nature of our own opportunity, time and place, the logical people to give highest expression to the "new" ... We fail to see it in ourselves because we have been imitating an old world that now sees in us, neglected, a higher estate than it has even known in its own sense of itself'.(39) One thing is for sure, Le Corbusier's Vers un Architecture has made a huge impact on both the general public and his peers.

Sudjic explains that the specific formulation 'Form follows function' is an excerpt taken from a text written by one of Frank Lloyd Wright's first mentors, Louis Sullivan, in Chicago in 1896. It would become the mantra for modernity in the early part of the 20th century, in the form of the pseudo-scientific religion of functionalism. 'Functionalists believed that an object that appeared rational, actually was so', Sudjic says. 'Using the metaphor of the machine, and the analogy of the scientific method, the modernists purported to eliminate the sentimental and irrational from their work.'(40) It was a search for the objective process within design. The language of simple forms and smoothness was suggestive of mechanical production.

Le Corbusier was the one to call 'the house' a 'machine for living in'(41), (an improvement

of Sant'Elia's 'The Futurist house must be like a gigantic machine'(42)) and with this sole sentence he equipped architects and designers with means to propose themselves as scientists and engineers. Sudjic describes it slightly differently: 'He took what had been essentially poetic or metaphysical ideas and made them into the basis for a method of design that brought with it the promise of optimal outcomes.' The Futurists on the other hand celebrated the beauty of war and fell in love with the imagery and rhetoric of the machine, but they were somewhat less interested in its actual efficiency.

To talk about the function of an object, but without taking its ritual expressions and social hierarchies in account, would mean to discuss the most literal and shallow view of its purpose. According to Sudjic, a better question to ask would 'require the considerations of a more detailed set of functional attributes for an object'. If someone would ask me to design a chair, I would want to know what its purpose will be. Will it be used in an office? Or in a room for children? Or in a public space like a library? What will the surroundings be like? What is the price range? Is it a chair of 20, 200 or 2000 EUR? All these questions affect the outcome in such a way that just the most rudimentary, basic function (in the case of a chair the ability to sit on it) of it would be an inadequate amount of information.

As Boris Groys explains in his essay Obligation to Self-Design, modern design internalized the criticism that design is only about the appearance of objects, aims at the traditional applied arts and sets itself the task of revealing the hidden essence of things rather than designing their surfaces. 'Avant-garde design sought to eliminate and purify all that had accumulated on the surface of things through the practice of the applied arts over centuries in order to expose the true, undesigned nature of things.'(43) Furniture was the first branch that was subject to this shift in attitude, with the Gesamtskunstwerk as the ultimate totalitarian manifestation of this new approach.

It was in this undesigned sense, that all of the useful objects with moving parts, like cameras for instance, where designed in such a way, that it would clarify how they work. Their mechanical parts were exposed as much as possible, without making the object indecipherable, and the shape emphasized the optimal way to use it, while still sheltering and providing enough space for all the mechanical parts, and their motion within its housing. However, everything changed with the emergence of digitalization. The room left within the housing was not needed anymore, nor was its shape dictated by its mechanics, as the internal components, the chips and boards, became completely modular, and decreased substantially in size.

But still, digital cameras have more or less

the shape and size of an analogue, old model, probably because we are used to the archetypical shape of the camera, which by now feels most comfortable to use. Other things, however, did not keep their original form. Take the iPhone for example. Try to imagine that you have never seen one before. If you came across one for the very first time, how could you possibly guess what it is meant to do? With this question, Alice Rawsthorn begins her book(44). Nothing in the iPhone's appearance would betray its functions as a telephone, game console, navigation system, clock, camera, dvd player, calculator, compass, address book and its many other applications, but still it is an elegant, beautiful design that works. Therefore, the claim that form follows function, is one that cannot be used anymore.

I agree with Rawsthorn and Sudjic to some degree. The Modernistic idea of 'Form follows function' may not always be applicable in today's digital society, and who knows if it will be at all in the future. Another phrase that has been borrowed from the Modernists mind-set is 'Less is more', coined by Mies van der Rohe, which I believe is a phrase that could still be universally applicable. But is that not a mind-set that lets us move in one direction only? Is the truly contemporary hybrid man not able to choose whether less is more or it is a bore according to the situation? I would say no, because that is exactly the postmodern spirit that has brought us in the Junkspace, which Rem

Koolhaas describes so sharply. I think it is not a question of choosing sides; I believe the modernist ghost should partly be reintroduced, if it is not already here with us, but then translated to the 21th century. If modernists insisted to rid ourselves from cluttered, thoughtless ornamentation in our world, and to make use of current techniques, we should do just that.

~~(380 BC) Plato, The Republic~~
(1889) William Morris ,The Arts and Crafts of today
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Chapter five
Context

Always consider objects in a larger context. Objects are props in a world created by the designer. Give context to the object.

The Rietveld Academie has an arrangement that is called the basic year. Based on the Bauhaus model mentioned before, it is the first year of studies, where all students, regardless of their interests, collectively commence with a year of mixed media, crafts, and courses ranging from drawing/painting, design, sculpture and performance. We are all exposed to an array of perspectives and techniques before we decide which department to choose. In my case, the choice was not so easily made. Although I instinctively knew I had to choose a design direction, I also knew that simply producing products in the spirit of industrial design taught at a technical university would make me very unhappy. I wanted design with a background story. I was not sure if something like that existed. And, if it did, to what extend? What are the boundaries of contextual design? When does it begin to enter the premises of art and how far can you push these boundaries and still undeniably talk about design and not art? Does a grey area between art and design exist? Or do these two separate worlds co-exist, but are they fated not to touch each other?

“There should be no such thing as art divorced from life, with beautiful things to look at and hideous things to use. If what we use every

day is made with art, and not thrown together by chance or caprice, then we shall have nothing to hide."(45)

In my short movie Juxtaposed, I addressed my frustration with contextualization of objects (or rather the lack of it) for the first time. In the second year, we were given the assignment to design an in-flight food tray for a hypothetical airline company, to practice our 3D modelling skills. I suffered greatly, because this task was the exact embodiment of what I did not want to do later on in my professional, creative life. I postponed the work until the very last moment, as if I would deceive something or someone by giving in to the assignment. Finally, I did and, not to my surprise, I was left unsatisfied with the finalised product. I was content with the design of the tray, but felt its sole existence was in conflict with my beliefs about what an object of my hand should be. Although made for a make-believe commission, there was a shape, but no story. I decided to make a film for my tray to star in as a visualized research of my frustration.

In the movie, there are two scenes that play parallel to each other. The dual screen shows two worlds, both with the tray as a main object, both displayed with the same actress who is rendered anonymous and plain-clothed on one side, and extravagantly fluffed up on the other. The video shows two opposite worlds, both advertising the product. It is a visualized comment on the power

of presentation, on the fact that a product, however good (or bad) it might be, not only depends on its own qualities, but also on branding, exposure and circumstances.

The video is a good example of how I would like to deal with the term context, as it is a popular word that is often used in regard to design and art. The tenth rule is about creating an autonomous own context, instead of how context is usually coined, namely as the consideration of existing parameters and circumstances. (Think of the function of the chair, described in the previous chapter.) While that contextual ad hoc consideration is very important during the design process, in this chapter I would like to write about a different one. The context, or rather scenario, of the design, is a world or story that needs to exist to complete the object. It is an idea that many (I certainly wonder about it) would classify as an artistic approach instead of a designed one. To get to the truth of which domain it belongs to (if to any), we have to research the difficult relationship between art and design throughout history (Objects are props in a world created by the designer).

In her book Hello World, Alice Rawsthorn elaborately describes why design is not art and should never be confused with art. When we look at the relationship between art and design and boil it down to the the essential notions of what is traditionally rooted in our society, we

can establish that, bluntly said, art is good, and design is bad. Art is considered intellectually superior, because artists are free to express whatever they want, and often - but not in all cases - produce the work themselves. Design, on the other hand, is considered to be commercially tainted, and intellectually less interesting because of its numerous constraints, be it the functional qualities, agreements with clients or the delegation of production. Deep down, design is understood as useful, and therefore it is taken to have less significance than a work of art, which is unburdened by utility. This tension is something that has triggered the interest of many designers ever since the time of the ancient Greeks, and today more than ever. Deyan Sudjic describes it as follows: 'Designers continually try to explore the scar tissue that divides them from Art'(46)

According to Rawsthorn, there was no distinction between design, art, craftsmanship or even medicine and music in ancient Greece. All these disciplines were combined in a single word, techne.(47) One might think this would mean that all the disciplines were held in the same regard, but this was not the case. The only reputable applications were the practical ones, dealing with craftsmanship. (That is why Plato repeatedly praises craftsmen over artists in The Republic.) Change came in the Renaissance, with the increased status of the artists, but still with an engagement in other disciplines. Leonardo da

Vinci is a good example of the homo universalis who thrived during the Renaissance. Da Vinci, as we all know, was not merely a painter, but also a philosopher and engineer, and he has made many architectural drawings as well as infrastructural plans amongst other ambitious projects. In the late 16th century, the first Art Academies opened, and interestingly, divided Arts from Design. The Accademia di San Luca, which opened in Rome in 1577, was the first institution that changed the general notion that craftsmanship was the highest application one could practice. It was the first time that art gained a higher status then craft. The Academies that followed in the 17th and 18th century followed this principle as well. However, the academy was evolving into a new format. It was not only a place where young students were tutored anymore, but the academy also emerged as a forum where students and teachers could discuss and ventilate their political and societal opinions, and through that, could become even more rooted and influential within society. Craftsmen on the other hand, unlike the art academy students, were not, simply because they were confided to their own workshops, where they grew increasingly isolated.

Immediately after the industrial revolution, design made a huge leap towards Art. It was the era of the machine, where the biggest and most sophisticated factory machines, and the products they churned out, won prizes and were displayed in great, practical exhibitions, where the public were

invited to to see and experience the - in those times - overwhelming qualities of the industry. This newly emerged industrial design was not considered to have the same status as Art, but it was granted its own intellectual depth and appeal.
As described in chapter one, the industry lost its novelty soon, and was discredited by the audience. It would set a new paradigm, which would be the basis of the Arts and Crafts movement, which – as we know now – aspired to revive pre-industrial craftsmanship. Although conservative, they did set an encouraging precedent of embracing different disciplines, which would resonate in the future. Next to the Arts and Crafts movement, there was the Vienna Secession in Austria, the Art Nouveau in France and Belgium, and Jugendstil in Germany, which were positioned between the tugging and pulling of the industry and the Arts and Craft movement. Rawsthorn explains they were less hostile towards the industry, but far from enthusiastic about it.

Drastic measures changed affairs in the early twentieth century. Members of the Eastern European Constructivism and the German Werkbund emerged as prolific revolutionaries, determined to raise standards of industrial design, and subscribe intellectual debate to it.

'The Artists of today, all over the world, impelled by one and the same consciousness, have taken part on the spiritual plane in the world war against the domination of individualism, of

arbitrariness. They therefore sympathize with all who are fighting spirituality or materiality for the formation of an international unity in life, art, and culture.'(48)

Under the influence of the Constructivists, the Bauhaus opened her doors. As discussed before, it was a new type of school, embracing architecture, sculpturing and painting in a new unity. The influence of the school is known. However, it was also because of Gropius' great talent for publicity, that we've known nothing but that the was school visionary, egalitarian and technocratic. Rawsthorn writes: 'It is now seen as a progressive institution which championed design, performance and photography as well as the disciplines cited in the manifesto, and encourages its students to work together to build a fair, more dynamic society. But in reality, it took time for that ethos to emerge.'(49) Rawsthorn proceeds to explain that the early years of the school were chaotic, and muddled. There were a number of reasons for this. First of all, Gropius faced constant complaints of local residents about the rowdiness of the students in the town and neighbourhood. On the other hand, although not actively, female students were being pushed towards the ceramics and textile departments, and unsurprisingly started to revolt. As the school was founded in 1919, one year after the end of the First World War, many teachers were still traumatized and had to process both physical and emotional damage. And most importantly,

the school was under constant review of the increasingly more powerful Nazi Party, which was accusing the Bauhaus of Bolshevik subversions and would ultimately, shut the school down.

However, before being shut down in 1933, Gropius reorganized the Bauhaus with help of his new partner, Laszlo Moholy-Nagy. They rid themselves of the unspoken gender-frameworks, and granted female students access to all departments. They also adopted a new slogan which stated 'Art and Technology, a new unity!'(50) The teachers were encouraged to - if necessary - tweak their methods and prepare their students more towards industrial design, whilst still staying true to the Bauhaus principles. Rawshorn writes: 'The inclusive, collaborative vision of visual language taught at the Bauhaus at least during the Art and Technology era, had a profound influence, not only on the teaching of art and design, but also on public perceptions of them'.

According to Rawsthorn, the assumption that art is good and design is bad, was reinforced mainly after the Second World War. During these years, design was characterized as a commercial medium and these perceptions were crystallized in Thomas Watson Jnr's aphorism 'Good design is good business.' Watson himself, in addition to of the chiefs of IBM in the 60s and 70s, was a fierce businessman. It would become a phrase that embodies societal views on design. 'Those five worlds continued to define perceptions of design in general, by reinforcing its stereotype as a commercial tool, whose purpose, spirit and impact were very different from the purity and expressiveness of art', writes Rawsthorn.

Postwar Italy was a hotbed for different kinds of design during the time. The Castiglioni brothers, (Achille, Pier Giacomo, Livio), Ettore Sottsass, Allessandro Mendini, Joe Colombo and Enzo Mari all made thoughtful, humorous designs which interpreted and played with Futurism, Art Nouveau, Modernism, Biomorphism and Surrealism. They all conformed to the Neo-Constructivist principles of Bruno Munari, who 'believed that the challenge of designing for daily life was too important to be relegated to a commercial role, and should be imbued with the values of Art'.(51) During that time, the Pop-Art movement emerged, and engaged with design as part of consumer culture. However, the consumer-driven ideology of Pop-Art was not embraced by all. Next to the rejection of a lot of artists, designers as Allessandro Mendini were turning away from it too. In one case, he translated his rejection in the form of his 'Lassù'-project, which caused an uproar in his day. 'Having mounted a simple wooden chair like on one a child might draw, on a pedestal, he poured petrol over it and set it alight on a derelict industrial site.'(52) Mendini recorded the destruction on video. He did not create an object as his work, but imagery that would function in itself as the outcome.

Rawsthorn points out that since the early 2000s, the means of working and production between artists and designers have become closer and more similar, to the point that there hardly is any distinction. Artists like Donald Judd, Soll Lewitt and many more make use of the same outsourcing facilities as designers in the production of their work. Other artists, like Olafur Elliasson, have set up huge interdisciplinary studios with internal workshops, which are staffed by architects, engineers, computer-programmers, as well as other residential artists. Designers, on the other hand, often have access to digital technologies that allow them to produce and test prototypes in their own studio, instead of sending out drawings to an external producer, like in the old days. This resulted in longer development times and possible deviations during the development done by others. Next to these aligning production and development methods, designers have cast themselves more and more, 'as auteurs and activists' over time and are 'exercising their right to use their work as medium of self-expression and research, as artists have traditionally done, free from the restrictions imposed by the demands of commercial design briefs.'

Rawsthorn continues with the crucial question: 'Does this mean that the end result is the same as art, or that it should be defined as art rather than design?' 'No on both accounts'(53) is her own answer. She explains that design always

had an applied function, no matter whether it was determined by commercial objectives or by the designer's intellectual curiosity. This designated function does not necessarily need to have a practical purpose or commercial value. It might as well enable the designer to embark on a research-based project or to communicate a political or societal message, as opposed to works of art, which of course can be functional too, but do not necessarily have to be. According to Rawsthorn, this is a critical distinction between the disciplines. Another factor is that every design project, be it conceptual, commercial or critical, is defined by design culture. 'Perhaps the design process was applied to its development, or the finished work incorporates design techniques and design references,' Rawsthorn says. 'Alternatively, it might explore an aspect of design's history or its impact on contemporary life. ' Art can do the same, but it can also choose not to, which enables freedom and intensity of expression that design is denied. Rawsthorn concludes by underpinning her theory with a quote of Charles Eames, who answered the question whether design was an expression of art: 'I would rather say that it is an expression of purpose, it may (if it is good enough) later be judged as art'. (54)

I will end this chapter the same way it has begun. Staying true to my education and its heritage, I believe, like the Bauhaus tradition of Walter Gropius states (much like that of Laszlo

Moholy-Nagy, Enzo Mari and Theo van Doesburg), in the unification of design and art. Maybe not in daily life, but more in the form of extensive research, and its delicate visualisation. Although we should avoid the totalitarian consequences of the Gesamtskunstwerk, I believe there is much to discover in the 'scar-tissue that divides art from design.'

We live in an era that is spinning into realms of hybridized everything: blurred genders, races, preferences and configurations; cross-contaminated roles and functions between artists and designers, makers and thinkers. We are bombarded with increasingly layered, intensified imagery and information of everything that is possible: from global news to intimate personal details of nearly every person in our direct (digital) environment and way beyond, communicated in mind-blowing real-time speed through personal devices, which are increasingly linked and embedded in our daily reality. These accelerating changes call for us to mutate along with them in order to keep up. Rather than constantly comparing design with art, we should accept the fact that both art and design have reached the point that their terminology has become ambivalent. They are not the same, and they have other routes, but perhaps we should accept that they might have the same destination.

~~(380 BC) Plato, The Republic~~
(1900) Adolf Loos, Poor little rich man
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(2010) Boris Groys The Obligation to Self-design
~~(2012) Alice Rawsthorn, Hello World:where design meets life~~
~~(2014) Deyan Sudjic- B is for Bauhaus~~

Conclusions

I ~~There must be a dialogue between the analogue and the digital. One needs the other to form a balance.~~

I There must be a dialogue between the analogue and the digital. One needs the other to form a contemporary harmony.

II Material hierarchy does not exist. One kind of material is not to be considered more valuable than others. One kind of material can be considered more appropriate than others.

III ~~Things are expressions of frozen time. It should be taken in account that things are always in a process of materialization or dematerialization./ Material rips, ages, cracks and time leaves it traces. Take this in account, and if possible celebrate this fact. Imperfections are the coincidental finish of the product.~~

III Things are expressions of frozen time. It should be taken in account that things are always in a process of materialization or dematerialization./ Material rips, ages , cracks and time leaves it traces. Take this in account, and if possible celebrate this fact. Imperfections are the finish of the product.

IV ~~Always aim for a balanced cleanness, but not for sterility, you do not want your object to be lifeless.~~

IV Always aim for a balanced cleanness, but not for sterility, you do not want your object to radiate lifelessness.

V ~~Never impose colour without the intention of a higher cause or concept, like durability. Material has its own colour, do not dye to make it more appealing. When picking a colour, go for neutrality.~~

V Instead of using colour as a stylistic addition, use it as a constructional component. Colour is equal to material.

VI ~~Instead of inventing form or technique, trace back the etymology and form language of your starting-point. Always build on steps previously made.~~

VI Instead of inventing form or technique, trace back the etymology and form language of your starting-point. Always build on steps previously made; steps made by yourself, as well as steps made in history.

VII ~~Acknowledge the importance of the process. The process is as important as the outcome, if not more important. Design the process instead of the product and the product will come out effortless.~~

VII Acknowledge the importance of the process. The process is as important as the outcome, if not more important. Design the process instead of the product and the product will come out fluently natural.

VIII ~~Always try to master a new skill. If the time does not allow to do so, delegate parts to those who will do the job better and faster.~~

VIII Always try to master a new skill. If circumstances do not allow to do so, delegate parts to those who will do the job better.

IX ~~Never cover up, or hide. All elements should be exposed and contribute to the larger whole.~~

IX Never cover up or hide. All elements should be exposed and contribute to the larger whole. Reduce to the bare minimum.

X Always consider objects in a larger context. Objects are props in a world created by the designer. Give context to the object.

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