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Editorial

The Journal of Design, Planning and Aesthetics Research (**DepArch**) has just set out its publication life with the pleasure, excitement, and enthusiasm of interdisciplinary work with a very valuable team with editorial experience in various journals, in line with specific goals to contribute to scientific academia. The journal, DepArch elaborates on the role of architecture in aesthetics. As an editorial board, we are pleased to present the first issue of DepArch, a new free, peer-reviewed, open access, scholarly international, e-journal in architecture, mainly focusing on design, planning and aesthetics research.

Architecture is a growing topic that influences daily experiences and behaviours and touches every aspect of life. We are all surrounded by architecture, but it is more than physical structure; it is a way of understanding life. If we think and look deeply enough, we can see further. With this approach, the journal team would like to expand the meaning of architecture by criticising the relationship between architecture and psychology, ethics and beauty, and debates and representation of ornament in this first issue.

This issue's content begins with a discussion of Architectural Psychology. It is an excellent contribution that **Professor David Canter**'s autobiography (The Early Days of Architectural Psychology in the United Kingdom), from whom we, as architects, learned psychology, encouraged us by sharing his academic career, which is shaped around architectural psychology. This article perfectly presents his 20-year research process. This process reflects a shift from the empirical, perceptual tradition toward an interactional and social-psychological framework. In this challenging journey, which began in the 1960s, Canter laid the groundwork for Environmental Behavioural Research studies in this tough journey that began in the 1960s, and many researchers to-day use a variety of methods to answer the questions they pursue. Listening to Canter's adventures in his own words will inspire and motivate many researchers, as well as possibly answer many unresolved spatial and behavioural questions.

When discussing aesthetics, one of the first words that comes to mind is 'beauty'. **Professor Juhani Pallasmaa** helps us understand beauty from several perspectives, including integrity and ethics. He uses the term 'beauty' as a form of total judgement. The phenomenon encourages us to rethink and shape our understanding of architecture and beauty in every possible field. I would like to give special thanks to dear Professor Juhani Pallasmaa for accompanying us on this new journey and sharing his thoughts on "The Ethical and Existential Meaning of Beauty". It is a great honour to have the words of Pallasmaa in our newly published academic journal.

The ornament has been one of the main discussion points for architecture and interiors through times when the aesthetics was mentioned. The article written by **Durgut & Akalın**, "Ornament in Architecture: Symbol & Representation" reflects various perspectives from theorists who argue ornament and expression. The following article "Debates and Dis-courses on Ornament in Contemporary Architecture" focuses on contemporary architecture and the function of ornament. In her article **Balık** references etymological background research of ornament and criticizes the book The Function of Ornament (2006), edited by Farshid Moussavi and Michael Kubo. **Şentürk**'s concerns about anti-ornamentation and its limitations are explained in his article entitled "Critique of Loos's Anti-Ornament Through Lucretius and Adorno", which begins with an ancient understanding of ornament and its reflections. "The Digital Nature of Gothic - Lars Spuybroek & John Ruskin" by **Dallı & Soyluk** discusses the relationship between the digital and nature of Gothic based on the words of Spuybroek and Ruskin. This article examines the digitalized beauty of today as well as the beauty of imperfection. The last article in this issue written by **Büyükkök** illustrates Adolf Loos' view of ornament in different contexts. "Adolf Loos and Ornament" primarily reflects Loos' architecture design through the mask metaphor, while criticizing the motto of 'ornament is a crime'.

As the editor-in-chief of DepArch, I would like to express my deepest gratitude to **Professor Henry Sanoff**, who generously shared his invaluable experiences on editorship and journal themes while devoting his valuable time to us. The architectural community is grateful for your presence and inspiring contributions. I am so glad we have you, dear Sanoff! I am also thankful to **Professor Soumyen Bandyopadhyay**, Head of Liverpool School of Architecture, for his unwavering support; **Professor Aysu Akalın**, my supervisor, who has always been there for me with her superior experiences and knowledge; and **H. Şule Özer, Dr. H. Abdullah Erdoğan, Gülşah Üner** for their efforts throughout the publication process. My last thanks go to all contributing authors, readers and reviewers who support DepArch's first step into academia.

Despite the fact that the world's conditions have worsened as a result of wars and out-breaks in recent years, I hope the beauty of your life remains permanent. Enjoy your cur-rent issue focusing on "beauty and ornamentation" and stay tuned for the next issue in the Fall Season of 2022.

My Warmest Regards
Assoc. Prof. Dr. Ebru Erdoğan

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VOL.1 NO.1 - SPRING 2022

CONTENTS

The Early Days of Architectural Psychology in The United Kingdom

An Intellectual Autobiography

David Canter[1]

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Abstract

The personal history is described, stating in the late 1960's, that gave rise to an involvement in architectural, and later environmental psychology. This includes both the research activity and the emergence of a theoretical perspective of people's active involvement in their surroundings that has been the basis of subsequent research and professional activity. The impact of particular areas of application, notably the study of human activities when caught in a building on fire, and other emergencies, facilitated the emergence of the concept of environmental roles and rules, which enriched the developing Psychology of Place theory. This autobiographical account leads to the unexpected involvement in the early 1990's in contributing to police investigations. As in all autobiographies it is a work in progress, looking back in order to gain some understanding of the future.

Keywords: Environmental Psychology, The Psychology of Place, Purposive Evaluation.

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BRIEF SUMMARY OF EARLY BACKGROUND

When there were riots in Liverpool's Toxteth district in the early 1980s, they led to the closure of the bank I and my father before me had used for over 30 years. This brought to an end the last remaining contact I had with a small area of Liverpool in which I had been born on January 5, 1944, where I had gone to the Hebrew Primary School and the Collegiate Grammar school. The same square mile also housed Liverpool University, where I had obtained my undergraduate degree in psychology in 1964 and my doctorate in 1968.

Like many Jews in Liverpool, my father had arrived there around the time of World War I, escaping from the pogroms in Lithuania, with every intention of going on to the United States. His painful life, including the murder of all his close relatives by the Nazis, culminated in his marrying my mother who had been born in Liverpool, but whose father had come from Russia. My Liverpudlian roots being so shallow, it is not surprising that in 1966, I took the opportunity to join the Psychology department at Strathclyde University, in Glasgow, and the year after to move to the School of Architecture in the same university, as a member of the Building Performance Research Unit.

In Glasgow, I was joined by Sandra, who had been doing psychology with me at Liverpool (she did rather more than I did because I spent so much time in the university dramatic society). Sandra had completed an outstanding MSc in clinical psychology at Queens University in Ontario before coming to Glasgow. She went on to do a PhD at Glasgow University on schizophrenic thought disorder, while working as a clinical psychologist. Over a 10-year period, she developed her career as a clinical psychologist as well as giving birth to our three children. Our first child, Hana, was just 6 months old when we went to Japan in 1970 on a Leverhulme Fellowship. On our return we spent a year in Glasgow, where Daniel was born. Then we moved to Guildford, where I took up a lectureship in the psychology department at Surrey University in 1972. We managed a sabbatical at the University of California-Berkeley in 1980 a few months after Lily was born, which makes her virtually the same age as the Journal of Environmental Psychology, which Ken Craik and I got moving while I was on sabbatical.

The lack of movement in the British university system kept me in Surrey for as long as I lived in Liverpool, being appointed as a Professor of Psychology and then Head of the Department in 1988. Being less than one-hour's journey from the centre of London undoubtedly contributed to the very many research opportunities I had whilst living in Surrey, from government departments, industry, commerce, charitable bodies, and research councils.

I enjoyed horse riding, and in the 1980's started to learn the clarinet. I even had an exhibition of my collages in the University of Surrey gallery in 1988. Exposing myself to that kind of public scrutiny was a good preparation for writing the present chapter.

EARLY ACADEMIC DEVELOPMENTS

Any account of a natural process must be a simplification. The written word can only sketch the variety that is integral to growth and change. This is true whether it is a garden that is being described or a human career. But for a career there is a further distortion. The sequence of activities that intertwine to make a period in a person's life when written as a history has far more shape and direction to it than it ever had at the time, when it is being experienced. Certainly, for me, setting out to produce an intellectual history of myself, I am aware that the history I am about to describe, as confused as it may be presented, will appear far less haphazard than it felt at the time.

The arbitrariness of the emerging story line may be gauged by considering the research contracts for which I was responsible in those early day in Surrey. These ranged from studies of the experience of homoeopathy to examination of the behaviour of serial murderers and rapists. They included studies of safety in the steel industry and the design of psychogeriatric facilities. All these projects have roots in my earlier work in architectural psychology, even though those roots may be confusingly entangled in a disordered undergrowth.

OFFICE SIZE

The profligate diversity of my research started from an unambitious PhD on the effects of office size on worker performance. What the PhD had in common with nearly all my later work was a determination to use field-based methodologies to develop psychological theories about environmental actions and experience. In this sense the 'architectural'

aspect of this is the need for the research to be embedded in some recognisable physical context.

A predilection for using multivariate statistics as an aid to the development of these theories was also present from my earliest studies. Curiously, though, I had found my way into the study of office size from an undergraduate degree in psychology at Liverpool University. The Psychology department at Liverpool was steeped in the experimental tradition of British psychology, but through the guidance of its head, L. S. Hearnshaw (made clear in his *History of Psychology* 1987) and other members of staff, notably D. B. Bromley (as revealed clearly in his book on *Case Study Methodology*, 1986), there was a productively eclectic debate about the nature of psychology and appropriate directions for its growth. I had wished to follow my personal interests in art to study empirical aesthetics for a doctorate, but the only opportunity available to me was to join the Pilkington Research Unit in Liverpool University's Department of Building Science. This multidisciplinary team was led by an architect, Peter Manning, who had written on architectural education and systematic design procedures. His objective was to develop appraisals of all aspects of a building's environment. He brought a geographer and a physicist on to the team as well as a psychologist, Brian Wells, who was studying the psychological implications of open plan offices (Manning, 1965).

In effect, Brian Wells supervised my PhD, which was nonetheless registered in the Department of Psychology. Thus, my existence with feet in more than one university discipline was presaged from my earliest days as a researcher. The Pilkington Research Unit encouraged me to move away from a focus on aesthetics and look directly at the implications of office size for worker performance. At times I feel that my subsequent research has been a struggle to return to my original interest in how the physical phenomena that are artistic productions can have such a significant emotional impact[1]. The office research convinced me that field research explores a different class of phenomena to those, so popular amongst psychologists, that are studied within the confines of the experimental psychology laboratory. Although there can be fruitful interactions between laboratory and field studies, they should not be misconstrued as studying the same thing.

My own interests have always been in what people do in their daily lives rather than in what they can do if a psychologist asks them. I think that this perhaps also has some roots in my experiences as an actor and producer in student drama when I was an undergraduate. It became very clear to me that people have a huge flexibility for generating actions under training and instruction. The laboratory experiment really examines the range and limits of this flexibility. The study of offices taught me this. I had a simple stimulus-response idea of how buildings have their influence. This led me to set up the study to examine directly the impact of office size on the performance of clerical workers. The results showed that people in their own small offices were performing better than people in their own large offices but that this effect disappeared when people were tested in other people's large or small offices. This finding was difficult to understand as a direct effect of office size on performance.

When I stopped considering the results as revealing the effects of the office size on the workforce and started looking at them as an indication of the type of person who would accept, or stay in, a job in an office of a particular size, they made much more sense. Looking on the subjects of the research as actively part of their context, selecting where they would work (or at least being selected), rather than passively being influenced by the room made the results quite comprehensible (Canter, 1968).

Better, more committed clerical workers were more likely to be found in the preferable smaller offices. Yet this active, context-specific interpretation could never have been gleaned by asking people to rate pictures of offices presented to them or other laboratory techniques, unless they were asked to say if they would be prepared to work in such a room. That question, though, touches on the wider significance of the design. Its meaning to the respondent as part of their lives, rather than as a 'stimulus'.

ROOM MEANING

My experimental, mechanical, origins in psychology did not fade away too rapidly. After the office research, I thought (as many researchers still do) that I could study the meanings, implied by the differences between the people found in different rooms, in a systematic, controlled way. So that when Roger Wools, an architect, joined me to do a PhD under my supervision, together we continued with simple laboratory studies. We wanted to look

1 My current study of music composition is an integrated exploration of that original fascination!

at which aspects of buildings held particular meanings for people and used a classical, factorial experimental design in which types of furniture, ceiling angles, and window sizes were modified in drawings and photographs of models (Canter & Wools, 1970). These studies showed very clearly that people did associate sloping ceilings and easy chairs with room friendliness. But although a few doctoral students attempted to follow this idea directly, they found that it was not really possible to establish a vocabulary of forms, whereby certain physical constituents could be linked to particular responses. One reason was a methodological one. The experimental design quickly becomes very complicated and unmanageable if a large number of aspects of form are explored. Yet the need to explore interactions between aspects of form mean that a series of simple experiments are likely to prove inconclusive.

Another reason for the difficulty of developing a vocabulary of meaning of building forms was more closely tied to the psychological processes revealed by later studies. The meaning of the forms is specific to context and culture as well as relating closely to respondents' reasons for judging meaning. In other words, just as office workers' responses are a function of their position in the organization, so the ratings of pictures relate to the particular type of experimental/subject role that the respondent is taking. This continues to be a challenging area of architectural psychology research. But it is noteworthy that most of the people who have started to explore this avenue have moved on to quite other research questions, usually more distinctly field based. Even those who set up major laboratories to create simulations of environments to study have changed the way these simulations have been used and distanced themselves from the mechanical stimulus/response examination inherent in looking at which architectural variables "cause" which semantic differential responses.

It was about 15 years after I supervised Roger Wools's thesis that I was able to work with Linda Groat, who, having a design training initially, asked very similar questions to Roger but who was able to benefit from the work that had been going on in the interim. In supervising her MSc (published in part in Groat, 1982) and PhD thesis (Groat, 1985), it was possible to work on nonexperimental approaches to architectural meaning. That work helped to establish an approach very different from the semantic differential and the factorial design models that Roger Wools had worked with (Canter et al., 1985). It gave rise to work that was published in Progressive Architecture (Groat & Canter, 1979), a rare acceptance by the architectural profession of findings from an uncompromising piece of architectural psychology.

The study of environmental "meaning" as it has been called has continued to be a recurrent theme in my research. As an undergraduate, I had been very interested in empirical aesthetics. At that time, in the mid-1960s there was virtually no literature on the topic, and what there was appeared to be mainly the discursive writing of retired professors. It not being a fit subject around which to build a career. But I had carried out my own undergraduate projects on Christmas card selection and the judgments of paintings. These studies, cast in a quite strong experimental tradition had been unsatisfying, but I had wanted to take these studies further. The opportunity to join the Pilkington Research Unit had therefore been seen as a way of approaching aesthetic issues through the architectural context.

But I have also thought that the roots might have been even deeper than an interest in the arts. It dawns on me that the search for significance beyond mere signs, attempting to reach for more symbolic aspects of the environment, may well have been laid in my study from the age of 10 or so of Talmudic interpretations of the Bible. To be introduced to the possibility, at such an early age, that words can have layers of meaning that can be peeled back, or like a Swiss Army knife, have hidden within them an unfolding range of tools and applications, did, I think, prepare a way of thinking that has remained with me ever since. Indeed, the facet approach that I came to much later can be seen as a scientific procedure for generating hermeneutic frameworks.

THE ARCHITECTURAL CONTEXT

We are all conduits for the ideas and actions of others. So that one of the illusions my personal intellectual history could create is that my actions in some way can be clearly distinguished from the actions of others. This, of course, is far from the truth. Peter Manning and Brian Wells both set the agenda for my PhD work, and although I was supervising Roger Wools, he taught me much of what an architect strives for in psychological research. The research that was my main activity at the time that I was working with Roger was also shaped by the perspectives of others. This was the development of building evaluation procedures and their use in the evaluation of the newly emerging British 'comprehensive'

schools. My work on offices was conducted as part of the "total environment" evaluations of the Pilkington Research Unit at the University of Liverpool. That unit had pioneered the use of building appraisals as a contribution to design. Following on directly from it, Tom Markus established at Strathclyde University, in Glasgow, the Building Performance Research Unit. It was as a member of that unit that I found myself supervising Roger Wools. In 1967, it did not seem as strange as it might today for a psychologist to join a research team in a school of architecture. The quest for interdisciplinarity was still strong then. Tom Markus brought together a team with very varied backgrounds. Tom Markus brought a rare combination of expertise to lead the Building Performance Research Unit (which published a book, BPRU, 1972). Trained as an architect, he had completed higher degrees in both architectural history and building science. We were joined throughout the 5 years of the team by Tom Maver, who had a degree in mechanical engineering with postgraduate research in service engineering, and Peter Whyman, an architect with a particular interest in modular design.

Tom Markus brought the team together to develop architectural evaluation, or performance, procedures that could be widely used. Once the team was together, we all soon agreed that we had to know what was being evaluated before evaluation procedures could be developed. Thus began the continuing debate on how to conceptualize buildings and where to find the appropriate criteria for their assessment. I had published a couple of papers while still a student with the Pilkington Research Unit. One pointed out that building appraisal procedures could learn a lot from psychometric concerns about reliability and validity (Canter, 1966). The other was a first attempt to outline a theory of what the function of a building was (Canter, 1970). It should be remembered that in the late 1960s when these papers were written, the architectural slogans of "form follows function" in praise of the International Style was still the dominant fashion. Postmodernism and the associated discussions of architectural meaning were unheard of. Consequently, to suggest, as I did, that one of the functions of a building was to provide meaning was treated as fairly radical.

The burden of my earlier arguments had been that the central function of buildings was to provide appropriate contexts for people, an idea that had certainly not been accepted within architecture and one that was challenged in the late 1960s. Architecture was heralded as an 'art' form, or just some functional means of housing activities. The idea that buildings carried meaning and significance beyond their aesthetic contribution (whatever that was?) was not understood.

The work of the BPRU gave me a chance to take that idea a step further by asking what it meant to evaluate a building when its function was seen in human terms. The answer to this question required some view on the nature of people, and this was where my perspective on the active, context-specific use of the environment had its influence. Drawing on my office research, I took a broadly organizational view on building use and proposed that evaluation was an indication of the extent to which a building enabled people to achieve their objectives. It was a number of years later that this idea was developed into the model of purposive evaluation (Canter, 1983), partly because at this stage I was still reliant on statistical models that constrained solutions as distinct, orthogonal dimensions; yet what I was studying was a system of interrelated components.

The list of variables produced from factor analysis has really been absorbed into more complex later models. But one particular aspect of the BPRU work did encourage me to take the more active models of human experience of place even more seriously. Peter Whyman and I had noted how many of the new school buildings had undergone changes to their fabric and use in the few years since they had been first occupied. He had called these modifications improvisations and had noted for a number of school buildings that the changes varied from major alterations, such as the addition of new classrooms, to minor changes, such as the redesignation of room allocation, with sealing up doors or moving walls as more intermediary levels of change. We wondered what the consequence of all this improvisation was. A simple environmental effect hypothesis would suggest people were reacting to poor conditions. A more active hypothesis would suggest that they were positively making sense of their buildings. It was possible to test these opposing hypotheses because we had building evaluations of the schools and we were able to derive scores for the amount of improvisation that had been carried out. The result was very clear: a significant positive correlation between degree of satisfaction and degree of improvisation. I took this to support the active hypothesis. Unfortunately, no one has been able to replicate this study. It takes a dedicated architect and a large-scale survey to make it possible, but if the result could be reproduced, it would have enormous implications both for architectural psychology and for approaches to design.

Towards the end of my time at the School of Architecture at Strathclyde University, my research activity had provided me with some basic principles that my subsequent research struggled to make sense of. These may be summarized as follows:

1. Architectural psychology had to be carried out in existing environments. Too much is left unsaid and unstudied if it is moved into the abstractions of the laboratory.

2. The environment is not just a useful base for research with complex variables. It provides a *context* for examination that has to be studied in its own terms.

3. The environmental context cannot be approached devoid of any world view or meta-theory. A perspective that searches for the role of human agency is most likely to be fruitful.

4. But human agency itself implies that people have some understanding of their environment and its significance. Examination of people's experience of environments must therefore include exploration of what is signified by them as well as how people evaluate their contribution to their own actions.

THE ARCHITECTURAL CONTEXT

By 1970, I had become convinced that psychology had much to offer architecture, especially architectural education. As part of my job in the School of Architecture I had set up a variety of courses, so that students studied various aspects of psychology in every one of their 5 years. Increasingly, I had found that as the Architectural Psychology literature had been developing, architecture students needed some background in psychology in order to understand the advancing field of research. But none of the existing psychology texts answered their needs. I therefore set about writing Psychology for Architects (Canter, 1974). I mention this because, although I now regard it as being very dated in its account of psychology, it continued to sell a few copies each year for the almost 20 years it had been in print. It therefore continued to answer some sort of need, serving to show that psychologists can be too ambitious in what they aspire to give to designers. This book contains virtually no "architectural psychology," just an account of psychological ideas with architecturally relevant examples.

THE ARCHITECTURAL CONTEXT

The seeds of my subsequent projects can be seen in the principles and emphases of Building Performance (BPRU, 1972) and other publications from the late 1960s and very early 1970s. Certainly, if in those days, I'd been asked if 20 years later I'd be working with the Salvation Army on hostel design, I'd have said I hope so. But behaviour in fires and emergencies would have been more difficult to foresee, and the eventual involvement with the police on offender profiling would have seemed beyond the scope of our theories and methods. Two nascent themes already present in the late 1960s, but the significance of which I had not recognized then, can now be seen as directly pertinent to later directions that my work took. One of these themes was the drift from an individualistic to a social psychological context for considering architectural experience and meaning. The other was the need for methods for constructing theories and the associated analysis systems that would help in finding patterns in data harvested from 'the field'. So that when the opportunity arose of spending a year in Japan, I was already primed to be sensitive to a number of possibilities that later dominated my research. The undemanding fellowship to Japan was of particular significance in that it virtually shocked me into seeing the power of culture on all aspects of behaviour, especially the way people deal with each other and make use of their surroundings.

Living in such a different culture it became clear to me that the significance of a place was not some reflection of the external physical parameters that characterize that place. That significance derives from the cultural framework within which a person experiences a place. These are reflections of the way they see the world and think about it.

ETHNOSCAPES

It was a number of years before the Japanese experience really surfaced openly in my publications. It was certainly one of the reasons why I was so keen to include regional reviews in the *Journal of Environmental Psychology*, a development that was clearly seen to be of value because the distinguished editors of the *Handbook of Environmental Psychology* later copied the practice. Even more directly, the series of books I established

with David Stea, Ethnoscapes: Current Challenges in the Environmental Social Sciences (Canter et al., 1988), make explicit the need for environmental research to embrace cultural diversity. This is not just a matter of including cross-cultural comparisons on the research agenda but of integrating studies in different national and subcultural contexts within the framework of research activities.

One important example of this context aware approach is allowing research questions to be defined by local, cultural imperatives, rather than by some reference to the current intellectual fashion in North America. This series had truly transnational roots, evolving out of meetings I had with David Stea in Indonesia and Venezuela and Martin Krampen in Germany. All three of us were aware that there was a changing mood in environment and behaviour studies being reflected in conferences around the world. Yet the old vocabulary of environment, behaviour, architecture, psychology, and so on was masking these changes. We therefore deliberately set out to coin a new term that would reflect the new sensitivities of researchers in many countries and to launch a series of books that could act as a vehicle for publishing this research. We defined Ethnoscapes as:

"*Scholarly and/or scientific explorations of the relations between people, their activities and the places they create and/or inhabit; historical, psychological or sociological studies of the experience of places, attitudes toward them, or the processes of shaping, managing or designing them*" (Canter et al., 1988, p. xi).

To some extent, the growth of our field beyond the North Atlantic Basin has naturally led to a greater cultural diversity in the studies being carried out, with, I think, enormous long-term benefits to the field. But I was also made aware, in Japan, that the cultural divide could be bridged in some ways by the written word. I was really surprised to find copies of my early papers already known and translated in Japan, being quoted and drawn on, even if inappropriately. An intellectual imperialism can be rife without really intending it. The experience of living in an unfamiliar large city also alerted me to environmental psychology issues at a planning scale, which I had never really explored before. In particular I was aware that Tokyo was such a complex city to find my way around that I became interested in how that was possible. Route finding appeared an inappropriately simple-minded, and practically extremely difficult way of exploring the basis of urban navigation. I therefore started asking people to estimate "crow flight" distances (although in one study that I supervised in Japanese this got lost in the translation and the respondents ended up giving me shortest walking route distances!). I had begun some similar, tentative explorations in Glasgow before going to Japan, but I was surprised by how accurate people could be in a city as complex as Tokyo.

On my return to Glasgow, I worked with Stephen Tagg and to explore this further (Canter & Tagg, 1975) and became aware of the power of dominant features such as the 'circle line' of Tokyo's underground system and the Thames and underground train network in London. Clearly, people form some sort of composite conceptualization of a city that they use to act on. This is more pragmatic and individualistic than Lynch's 'image/' although it clearly relates to it. But it was not until my return to Britain and my move to Surrey University in Guildford, near London, that I was able to develop these ideas much further. I also needed the opportunity to get to know a strange building in depth in the way I had got to know Tokyo.

EMERGING CONCEPTUALIZATIONS OF PLACE

On my return from Japan, I had a unique opportunity to study the Royal Hospital for Sick Children at Yorkhill in Glasgow. I was able to spend a great deal of time over 6 months, with assistance from students and colleagues, examining the new building at the request of the *Architects' Journal*. The editor had requested the study because he felt that a children's hospital should not look like a multistorey office block and he wanted, I think, a psychologist to confirm this. The intensive study I was able to conduct (Canter, 1972) was close to an ethnographic account of the building and quite unconstrained by any limitations as to how it should be done. I interviewed whomever I could, carried out behavioural mapping studies, and got people to complete repertory grids and questionnaires.

Probably the most valuable aspect of the work for me was the training it gave me in what a building is and how it is shaped by many forces. I certainly learned more about the real world or architecture in that study than I had in the previous five years in a School of Architecture. The study helped me to develop a number of ideas for which I had been reaching. Three in particular are worth noting at this stage.

- First, how a building is created, the socio-political and economic processes, as well as the design intentions, is very important in influencing what results. This will seem obvious to any practicing architect, but it is a point that is too often ignored in the architectural psychology literature.

- Second, by being able to explore in detail, with a number of people, their views and experience of the building, it became very clear what large differences there were between them in what they saw the building as being and, as a consequence, how they evaluated it. The major difference appeared to be a function of what they wanted to do in the building, what they were in the building for. This I summarized as 'role differences' in conceptualizations.

The third idea to emerge more strongly from the Yorkhill study had been presaged a few years earlier in a paper entitled "Should We Treat Building Users as Subjects or Objects?" (Canter, 1969) in which I argued that, to get a full picture of the psychological implications of a building, we needed to combine observation of buildings in use with explorations of the significance of those uses to the users. The intensive Yorkhill study, using a mixture of very different methods of data collection, also forced me to accept that the experience of the building was reflected in the combination of actions and conceptualisations. By carrying out behaviourally oriented studies following Barker's ecological perspective, in combination with personal construct studies following Kelly, it was clear that both had something to offer and any future development must find ways of combining these two very different perspectives.

Barker had ignored the interpretations of the people being studied, and Kelly's intense clinical perspective seemed inappropriate for the essentially public and social qualities of a building. Taken together they could leaven each other's weaknesses.

A STUDENT QUEST

Soon after the Yorkhill study I moved from Glasgow to Surrey. (The final draft of the special issue of the *Architects Journal* was written in the greenhouse of my new Surrey residence because there was still no furniture in the house.) At Surrey I joined a new, rapidly developing psychology department. There was something of a culture change as I rediscovered my psychological roots and also came to terms with the difference between the south of England and Scotland. Yet, with the foolhardiness of youth, being in my mid-20s, I quickly (possibly too quickly) established the graduate program in environmental psychology, the first entry of which was in 1972, which is still attracting students from around the world half a century later.

In those days, there were almost no books in the field, and most teaching was done from photocopies of articles. Therefore, one of the first major tasks was to write a text book for the course. This text I put together with Peter Stringer. It was called *Environmental Interaction* (Canter & Stringer, 1975) in order to emphasize the significance of what people brought to their surroundings as well as what consequences the environment had for people.

In order to organize the course and the book, a simple framework was needed that would capture the range of material that we wanted to cover. It seemed reasonable to choose environmental scale as the structuring component because this also provided increasingly complex phenomena to deal with, starting with heating and noise through to building use and on to the urban scale and landscape. In retrospect, this appears far more of a theoretical statement about the psychological processes involved than it did at the time. By eschewing the psychologist's approach of dealing with supposedly "fundamental" issues such as perception and learning, before moving on to matters like social processes, we made a stand on the integrated nature of environmental experience, showing that differences of the scale of variable dealt with may change the complexity of the interactions under study but do not necessarily change fundamentally the psychological processes involved.

This idea was to see light in a much stronger, more theoretically articulate form in my book published a couple of years later, *The Psychology of Place* (Canter, 1977). The postgraduate program, especially the dominant 12-months' master's course, had a direct impact on the development of my thinking. The challenge from students to put ideas into a more coherent framework, as well as the rapid evolution of ideas brought about by postgraduate dissertations being produced by a cohort of 10 or so students every 12 months meant that I was now exploring in publications ideas that had been superseded by subsequent student activities. Some scale of this problem can be gauged by the fact that there are now hundreds of Environmental Psychology MSc dissertations in

Surry University and more than hundred PhD. At least a quarter of these contains material well worthy of publication, but even today very few have seen the light of day in formal publication. This very poor rate of publication against a background of a full library of theses has the strange consequence that master's and doctoral students at the University of Surrey have access to a rapidly evolving body of knowledge. They can learn a great deal from work completed only a few months earlier, but unfortunately this creates a sort of hidden school of environmental psychology that the outside world catches curious glimpses of. It is like a medieval monastery with its illustrated scrolls available to its residents. I have been told that other graduate schools in our field suffer in similar ways. It is partly a function of the employability of our graduates. They are so quickly taken off into practical jobs that they have no time or inclination to write up their dissertations for a journal. It also serves to show why productive new developments in our field can take so long to spread. They really have to wait their turn in the queue before time can be found to give a public account of them.

THE THEORY OF PLACE

By the mid-1970s, students on the MSc course were pressing for some coherent, theoretical account of where I stood in relation to environmental psychology. It was probably clearer to them than to me that the type of research I had done and the context within which I had done it made it rather different from the essentially U.S.-based texts they were reading. These differences were not characterized by a total repudiation of U.S.- based empirical research, but it was possibly confusing to students that I found such a mixture of good and bad in apparently different traditions in U.S. research. For example, with hindsight, I wonder what they made of my strong criticisms of the behavioural tradition in U.S. research and its associated S-R models of environmental impact, yet my obvious interest in the general value of Barker's ecological approach (Barker, 1965) that so self-consciously focuses on behaviour.

They were possibly confused further by my arguments that Kelly's personal construct theory (Kelly, 1955), with the importance given to individual interpretations of experience, was not only of great potential significance to environmental psychology but actually complemented Barker's approach. The pressure from students for me to organize my ideas in a way they could grasp, together with the Japanese experience, the Yorkhill study, and the distance estimation studies, became the basis for an attempt at an outline of an environmental psychology theory, which became my book *The Psychology of Place*[2] (Canter, 1977).

The book explored how the complex process that shapes our surroundings could be influenced by a psychological perspective. Further, the need to deal with different environmental scales, made clear to me in producing Environmental Interaction, was a further specification for designing the book. The need to take human objectives into account was implicit in much of the book, stemming from my office studies and the BPRU work, but because the book was written very much with students, rather than researchers in mind (remembering the apparent value of Psychology for Architects), it became more of a descriptive text than an articulated theory. Nonetheless, *The Psychology of Place* does articulate a model of environmental experience with which I am still reasonably comfortable.

The writing of that book was the most personally valuable course of study I have ever undertaken. Indeed, in working on a totally revised second edition, I realise how much the personal development that I experienced when writing the book is reflected in the unfolding story line of the chapters. It is the final chapter that reveals the nub of the book because it was only really at that point in writing it that I began to become clear in my own mind what the book was aiming at, although this is not really the best place to put the most significant part of any book.

Two fundamental challenges of architectural/environmental psychology emerged when developing the book. One is the empirical fact that the physical environment can only be shown to have any strong impact at the margins of physiological tolerance. Any other significance of variations in the environment can be readily swamped by social processes and human determination. Yet a great deal of effort and resource goes into shaping our surroundings. One task for architectural psychology is to resolve this paradox of why resources are spent on something that does not seem to produce direct measurable effects on behaviour or performance. The second difficulty stems from the first. How can psychological involvement contribute to the improvement of our

2 The opening chapter that I have put online is still, to my amazement, the most highly read and cited of any of my publications. That is why I am currently working on a total revision of it 45 years later.

surroundings? If social processes and personal expectations are so much more important than any direct impact of the surroundings, how can we make recommendations about the form, shape, or characteristics that those surroundings can take? Talking in general terms about design flexibility, individual variation and social constraints do not really give an architect anything very specific, or concrete, to go on. In considering these issues, they seemed to me to be so fundamentally difficult to resolve that the questions themselves must have some basic illogicality in them. It was out of these reflections that I began to think that taking the environment as an entity distinct from behaviour was the flaw.

A unit of focus for research was needed that adjusted the emphasis. The idea of a *place* as that unit seemed worth exploring. This 'place' became a system that integrated physical and psychological aspects of experience. Research therefore needed to discover the structure of places. Contribution to design became participation in the shaping of these structured systems. This introduced the idea of 'place making', which has now become a commonly accepted approach to design.

When *The Psychology of Place* was published, there were very many loose ends to the model outlined there and some fairly fundamental ambiguities in what was being proposed, but it took a variety of further studies to identify these clearly and begin to tidy them up. In doing so, certain aspects of the model that were not emphasized in the book turned out to be very fruitful and have taken on much more significance in later writing. This includes *role differences* and associated *rules* of environmental use. These became specified as 'environmental roles' and related 'place rules'.

THE JOURNAL OF ENVIRONMENTAL PSYCHOLOGY

Writing *The Psychology of Place* and the associated reading and discussion with students had alerted me to the fact that there was a strange hiatus in publications in our field. The only major journal, *Environment and Behavior*, deliberately had the important objectives of communicating across disciplines and making direct contact with policy issues. Furthermore, because so many researchers carrying out applied studies, in effect, published mostly for the non-specialist who might act on their results, there were very few opportunities for researchers to present to other researchers intensive, academic accounts of their work.

It is essential that there is a debate between experts at the most demanding intellectual levels, the theories, methods, and results out of which our discipline is evolving. After all, it is such internal debate that gives science its strength. But by the late 1970s, although there was a reasonably sized, scholarly community in environmental psychology, the pressures to communicate with those who fund our activities tended to mask the equally important communication among ourselves. I therefore proposed to Academic Press that we launch *The Journal of Environmental Psychology*. A sabbatical in 1980, at UC-Berkeley with Ken Craik enabled us to launch the journal by 1981.

In launching the Journal, though, we were determined that it should not ossify the field but contribute to its evolution. From the beginning the journal was eclectic in what it takes 'environmental psychology' to be. It deliberately cherished many forms of communication besides the report of empirical studies. Forty years on it has grown in significance, being of ever more relevance. Although it has appropriately moved its emphasis to 'green' environmental psychology issues, it still retains its original roots in the broad discipline that Ken Craik and I envisaged.

FIRE RESEARCH

My directly applicable research activities were also given a fillip in Japan when I came across a small study carried out by Masao Inui and his colleagues, which as far as I know was never published. They had interviewed people who had been in buildings on fire. I was struck by the possibility that these Japanese Building Science researchers had discovered of getting people to answer questions about a threatening and traumatic situation. As an undergraduate, I had been introduced to the work of Quarantelli (1957) on disasters and learned from his studies that patterns could be found to seemingly bizarre and random behaviour. But I had not appreciated the potential significance of these studies for building design.

In the context of the Japanese Building Research Institute, I began to see that the fire regulations governing the design of buildings were based upon assumptions of what people would do in a fire and other emergencies. Yet these assumptions were all derived from major enquiries of very unusual incidents. Very little systematic research had been

done pm day to day events. On my return from Japan, I approached the British Fire Research Station and discovered that they, themselves, were developing an interest in human behaviour in fires and so started to support our own endeavours. This research on fires provided me with one of the strongest themes to my work for over 10 years. It was unlike my other research activities in very many ways. It is field research in the most extreme form, in that the only really effective way to carry it out is to follow up incidents that have already happened. What emerged as quite remarkable from studies of 20 or so incidents, including some very large-scale ones that my colleagues John Breaux and Jonathan Sime and I examined, was the consistency in the overall pattern of actions that occur in fatal building fires (Canter et al., 1980).

In order to explain these consistencies, it was necessary to ask what are the mechanisms that maintain human actions in these very unusual circumstances? The answer that I propose draws heavily on the idea of place rules and environmental roles (Canter, 1986). The work also revealed that the early stages in any emergency are potentially very confused. The time it takes to make sense of the rapidly changing events can be what turns an emergency into a disaster. The importance of these findings was recognised by the Fire Research Station, especially because they acknowledged the widely experienced problem that alarm bells are not, usually, taken seriously.

A series of studies were therefore commissioned on what we called Informative Fire Warning systems (Canter et al., 1987). Out of this work, prototype computer-based warning systems have been developed and installed, which could have a large impact on approaches to fire safety in buildings. It is interesting that this work, with its roots in a fixed engineering view of provision for escape, should have matured into yet another context in which the interpretations that people make of their surroundings and the opportunities or threats they pose are paramount. This approach to design for active understanding and control doubtless has applications to many other aspects of architecture.

BUILDING EVALUATIONS

The studies of human behaviour in fires were one strand of the contract research that I was carrying out during the mid-1970s to the mid-1980s. In parallel, my earlier involvement in building evaluations was continuing through a series of studies of housing satisfaction and evaluations of acute wards in hospitals and prison buildings (Canter, 1986; Canter & Rees, 1982; Kenny & Canter, 1981). These were all studies that were defined in terms of the methodology most appropriate for them. I found this increasingly unsatisfying for three reasons. One, it was difficult to see any accumulation of approach or knowledge. Each study seemed to exist on its own, in a sort of theoretical limbo. Secondly, the questionnaire methodology sometimes seemed to so structure people's responses that many of the insights apparent in the pilot work were lost by the time that the main study was completed. Third, the implications for action from the evaluation studies were not always apparent. These three problems led me to use the evaluation studies, increasingly, as a vehicle for developing new methodologies and a general theory of evaluation. The multiple sorting task (Canter et al., 1985) and the purposive evaluation model (Canter, 1983) were the result.

Curiously, these rather academic developments opened the way to a much more direct, yet rather distinct, mode of involvement in the design process. These developments required a much more flexible methodology, more subtle in how it could be used to uncover interacting systems. Facet theory increasingly provided the vehicle for this.

FACET THEORY

One of the other coincidences about my stay in Tokyo was that during my time there Louis Guttman visited for a month. I had been interested in the unusualness of the approach to attitude scaling that is named after Guttman and wished to explore possible developments of it with him. To my amazement, I discovered that the principles inherent in Guttman scaling had evolved into a major new approach to doing scientific research. When I met Louis Guttman in Tokyo, he had probably not met anyone for a few weeks who spoke fluent English and was prepared to listen at length to his thoughts. I was therefore given the privilege of a lengthy disquisition on his theory about how science should be carried out, which he called Facet Theory.

It took me a number of years to digest and understand the implications of what I was told that morning (Canter, 1985). Indeed, looking through my diary and notes for my year in Japan, I can find no reference to that meeting, although I remember it clearly, and Louis Guttman also mentioned it when I met him again a few years later. What attracted me

to his approach was that it did away with arbitrary levels of acceptability for 'findings' and put the creation of a lucid account of the system being studied at the forefront of scientific activity.

My methodological interests, and the search for some sort of theoretical perspective that would capture the essence of an ongoing system, had pushed me further and further away from the experimental models in which I had been schooled. But I did not feel comfortable with a retreat into a type of journalistic, purely qualitative account rendering. As I worked within the facet framework, it became clearer to me that it would provide a sound methodological framework for the type of theoretical accounts I was trying to give.

Facet Theory enables me to generate models that describe initially complex phenomena in quite simple, clearly structured ways. Probably the two most fruitful uses this has been put to so far are first in the development of the purposive model of evaluation (Canter, 1983) and second in the analysis of multiple sorting procedures (Canter et al., 1985). In both these cases, a system of interrelationships is revealed upon which future elaboration is possible without having to start from scratch.

PURPOSIVE EVALUATION

One particular contribution of the facet approach was to start building a model of environmental evaluation that would evolve from one study to the next. The first large data set we had to work with was drawn from an evaluation of hospital wards (Kenny & Canter, 1981). Initial factor analysis provided a very patchy picture of the reactions to these wards. However, nonmetric multidimensional scaling, with a faceted framework for interpretation revealed that the provision of care at the bedside was the metaphorical as well as the literal focus of ward evaluation. Furthermore, a clear level of interaction facet, showing the different scales of the place, from the bedside to the whole ward, was also found in the results.

This provided a testable system of relationships that was consistent with studies of attitudes in other very diverse fields. We were therefore encouraged to look for evidence for this framework in other data. The housing satisfaction data we had collected yielded a similar structure (Canter & Rees, 1982), and Donald (1985) found evidence for the same model in office evaluation. Because each of these studies used different questionnaires, they were able to identify quite different foci for the places being studied. Such foci were the central purposes of those places as conceptualized by the respondents.

PLACE GOALS

Other studies conducted since, as part of graduate dissertations, have found the model fruitful when applied to places as varied as neighbourhoods, city parks, and training centres. This range of applications led to the consideration of whether there are places in which there is a mixture of purposes that may be in conflict. Such an idea had already been presaged in the work Sandra Canter, a clinical psychologist, and I had done on therapeutic environments. This was summarized in the book we edited, *Designing for Therapeutic Environments* (Canter & Canter, 1979).

In the introduction to that book, we outlined the various goals for therapeutic environments, ranging from custodial to personal enhancement. Subsequent student research showed that different groups within a hospital will have different goals and, as a consequence, will differ in the designs that they consider appropriate. Some of these goals may be in conflict. The purposive model of place is consequently of value as a way of establishing the emphases in place goals and how conflicts between them may be resolved by approaches to management and design.

A DEVELOPING THEORY OF ENVIRONMENTAL (SOCIAL) PSYCHOLOGY

The use of the facet approach, to help develop the Model of Place, also served to show that some of the directions in which such unfolding was productive related to social and conceptual processes, rather than perceptual or formal architectural ones. This helped to move beyond some of the weaknesses of earlier frameworks. Indeed, once *The Psychology of Place* had been published, it became clear in discussions with students that there was a productive, but fundamental, ambiguity in the model sketched out in the book.

In striving to develop a research focus that bridged the environment/behaviour divide, I had left it unclear as to where the "places" being studied were. It was argued that they were not simply physical locations, but shaped by the actions and experiences of people. It was also argued that they were not merely mental representations of environments. They clearly have physical components that are integral constituents. If they are not just a part of an individual's psyche and they are not simply a physical location, the question emerges as to what they actually are. To provide any confident answer to this would be to imply that 2,000 years of philosophical debate had been resolved, but some interesting possibilities can be gleaned from taking a social psychological perspective (or even a sociological one, depending where you draw the boundaries between the disciplines) on our experience of our surroundings. Within this framework, especially as elaborated by Moscovici (Farr & Moscovici, 1984), it is recognized that many phenomena experienced as having an independent existence, whether they are for example, 'health', 'psychoanalysis', or 'unemployment', all are socially constructed. Their existence is more than the agglomeration of attitudes or perceptions held by a number of separate individuals. My development of this view was been spurred on by the shift in the audiences that have asked me to write for them or make presentations to them.

In the 1970s and early 1980s I would guess that the majority of invitations came from architectural sources, but this gave way to far more invitations from psychologists, especially social psychologists. Of course, this shift could be entirely due to what I might be able to comment on with any skill, but I think it is more a reflection of changes in the disciplines themselves.

As architects moved away from a concern with their users to a concern with form and image social psychology has become more environmental. This was drawn to my attention when Michael Argyle asked me to talk at a seminar on 'situations', which eventually emerged as a book edited by Furnham (1986). Here, at last (I thought) were social psychologists examining the context in which behaviour occurred.

Unfortunately, I soon found that their experimental traditions soon destroyed this interesting exploration, treating 'situations' as independent variables to be manipulated, thereby losing the significance of the context to which Barker had drawn attention 30 years earlier. From this experience, I began to look at how the notion of place could be linked to the situational debate in psychology. My paper, "Putting Situations in Their Place" (Canter, 1986) was a result of this exploration. The conclusion I came to was that the search for situations and the associated attempt to classify them and systematize their impact was really at too fine a level of detail to reveal any general structures. The concept of place, which could house a number of characteristic situations, was more likely to prove fruitful. Part of the reason for this view was that a variety of studies of place use had produced consistent, eminently interpretable multivariate structures. In studies of domestic contexts at least, the activities in Glasgow, Tokyo, and Lagos appeared to have a similar form to them, although cultural differences were also apparent, especially among tribal groups in Nigeria (Omotayo, 1988). As I presented these results at a number of conferences, where their self-evident nature was challenged by the difficulty of explaining them to an audience that had not been through the history of my thought processes, I was increasingly concerned to try and understand what it was that these consistencies were consistencies of.

We had found that certain clusters of activities were found in certain rooms. Bedrooms, dining rooms, kitchens, and so on can be characterized by what goes on within them, even though the words used to describe these rooms in different languages do not necessarily encapsulate their function as it does in English. That people should sleep in bedrooms, eat in the room with a dining table in it, should not be too surprising. But that there are a whole range of other activities and expectations that also coalesce around these actions is a clear example of the existence of 'place' systems. The questions that reveal these most strongly, though, deal with who is responsible for the furniture or activities in a room and what is allowed or not allowed in a room. In other words, the rules that structure that place.

This awareness that the interpretable structures we were finding were reflections of 'place rules' took much longer to emerge than might be apparent from a reading of *The Psychology of Place*, written 10 years before Putting Situations in their Place. What might be called an anthropological shift took some accepting. From writing of Putting Situations in their Place, my attention had been drawn to the actions that are central to the definition of places. Nonetheless in that paper I was uncomfortable with the apparently static qualities that this model had.

Places appeared as givens, yet there are many reasons why they should not be expected to be static. Perhaps the most fundamental is the dynamic conflict between the active nature of human agency in making sense of the environment and the implied coercive qualities of places that structure human experience. Furthermore, our daily experience shows change and modification as characteristic of place experience, just as improvisation was so prevalent in the Scottish comprehensive schools. I was therefore puzzled by the need to find a balance between the consistency of place use and experience, necessary for a social sharing, and the dynamic qualities that are part of life as it is lived.

The opportunity to pursue these ideas further came from being asked to give a keynote address at the Berlin IAPS conference (Canter, 1985). For that presentation, I explored the possibility that it is the interplay between the static quality of places and the dynamic, purposive nature of human action that provides the process out of which both places and actions evolve and change. I suppose this is a model of person/environment interaction shifted to a higher level of complexity. In moving to this level there is much more of real possibility of the application of architectural/environmental psychology ideas without diluting their subtlety.

THE FEASIBILITY OF APPLICATION

The fire research was the first set of studies in which I have been involved that led clearly and directly into some aspect of policy formulation. It had the consequence of my being invited to join two government-established enquiries into major fires, one for the Bradford City Football Ground fire, the other set up to examine the Kings Cross Station Underground fire. These experiences have caused me to examine closely what it is that Architectural Psychologists have to contribute. Increasingly, I am coming to the conclusion that it is not some specific facts or findings, but ways of thinking about a problem that is the essence of the contribution.

This parallels the often-quoted remark by Kurt Lewin that "there is nothing so applicable as a good theory." But there is nothing so difficult to develop and then communicate as "a good theory." This attempt to communicate a way of thinking about an environmental problem was followed through in my book, written as a result of the work on the Bradford City Football Ground fire, *Football in Its Plac*e (Canter et al., 1989). The book quite deliberately is used as a vehicle to develop a popular account of the relevance of environmental psychology and had as its subtitle, *An Environmental Psychology of Football Grounds*.

As chance would have it, the book was planned to be published in the late spring of 1989, so it was published shortly after the Hillsborough football ground disaster in which 95 people were killed.

EMBRACING THE 'MEDIA'

The Hillsborough tragedy brought home to me that if we really do have anything to contribute, how inevitable is contact with journalism and the mass-media, for an applied field like ours. Although my research activities have increasingly become of interest to television, radio, and the newspapers, it has been easy, from an academic position within a university, to dismiss all this interest as trivial or to see my involvement as merely significant as a form of advertising or self-enhancement. Yet, when our work may contribute toward the saving of lives, we have to consider seriously how our findings can be communicated to those many important audiences who do not read academic journals or attend professional conferences. We should weigh carefully the implications of media coverage. After all, our research activities are unashamedly aimed at changing environmentally relevant actions and decisions.

The applied orientation of person/environment studies has never been in doubt. As Robert Sommer (1988), for instance, has been at pains to point out, the people outside of the academic community whom we wish not only to communicate with but also to influence, do not read articles in the *Journal of Environmental Psychology* or *Environment and Behavior*. They read newspapers and watch television. In Great Britain, they also listen to national radio. The problem this raises is that once we do have something to say that is of general public interest, there is a temptation to shape research in relation to the questions journalists ask. This is wrong. The role of the research community is to formulate ways of thinking about the world that are shaped by empirical scientific processes, not by populist or political ends. I have found the need to constantly examine what the objectives are for my research in the same way that my research has led me to try and

unravel the role of the objectives of others. This search for objectives is the central scientific quest. This is not an easy point to make to journalists who want immediate discoveries to quote for tomorrow's publication deadlines.

BEYOND APPLICABILITY

Although my research since its earliest days in the study of school buildings and offices had applicability as a major objective, the building satisfaction surveys did not, of themselves, appear to have any impact or even clear consequences for design decision making. Yet the ways of thinking about buildings that emerged from those studies could have radical consequences for architecture and the design process. This consequence stems from two related perspectives. One is that the form of any design is evaluated in terms of its potential contribution to what a person is trying to achieve in any given context. The second is that the social/organizational rules that structure place use have to be incorporated into design considerations. The consequence of this approach has been to reconsider design participation. Drawing heavily on the techniques developed by Arie Peled (Peled & Ayalon, 1988), we have found it possible to get people to develop design proposals that incorporate views of how the building is to be used. From this, principles can be drawn out that give direct, clear guidelines to the design team. The attractive quality of this is that it is open to use with groups that are not usually considered amenable to such investigations. Currently, for instance, I worked with the Salvation Army on the design of facilities for the homeless in London using purpose-oriented design participation exercises.

BROADENING HORIZONS

In writing about the early stages of my intellectual history, it becomes apparent to me that the roots of this work can be traced with some confidence, but the long-term directions in which it is leading are far from clear. Looking back, I did not think at the time and could not have guessed that my PhD research on offices would have taken me so far away from examining the effects of the environment on behaviour. At the time of the Yorkhill Hospital study, I did not think that it would have led me to put such store by role differences. Nor was I aware for at least another 10 years that in-depth evaluation of a building in use could provide the basis for a participative design procedure. The studies of behaviour in fires were aimed at the building regulations, so I had not appreciated how they would lead me into considerations of the management of safety in industry (Powell & Canter, 1985). Although that organizational perspective on emergencies and accidents is completely consonant with the social perspective on building design, the emphasis that the safety research has given with regard to place rules was especially unexpected.

The evolution of these early studies all reflected a drift even further away from the experimental, perceptual tradition, in which I was schooled, to a much more transactional, social psychological framework. Of particular delight is the discovery that the problems of environmental research are so difficult that if some handle can be got on them, then this is likely to be of value in other field-based studies as well. As a direct result of the perspectives and methodologies I have mentioned, I became involved in looking at criminal behaviour, with a direct contribution to ongoing police investigations. In some cases, even making a contribution to the apprehension of a person who has murdered a number of strangers (Canter, 1994).

Thinking about how criminals may structure their objectives, in relation to the understanding they she has of the environment in which they operate, turns out to be a fruitful basis for the application of the facet approach. Even less obviously related are the studies I have been conducting on the experience of alternative medicine, most notably homoeopathy (Canter, 1987). Yet here again it is the understanding and direct experience of the user that is the focus, rather than the medical impact of any particular drug. Not unlike an effective environment, it is also emerging that alternative medicine seems to be attractive because of the control over their illness it gives patients. In other words, how it helps them to be more successful in achieving their daily objectives.

It may seem a long way from studies of the effect of office size on worker performance to the experience of homoeopathic medicine, but the strands tying them together are unbroken. The search for active, human agency, interacting with the world of physical experiences is the problem of why art exists that I was curious about as an undergraduate. Seeing these 20 years of research in this light makes me feel that, at last, I am ready to begin.

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Professor David Canter is one the UK's most eminent applied social psychologists, being one of the few to be appointed as an Honorary Fellow of the British Psychological Society and having been elected as a Fellow of the Academy of Social Sciences, the American Psychological Association, and the Royal Society of Medicine. Although he is internationally known for his development of the discipline of Investigative Psychology, bringing scientific precision to 'offender profiling', his earlier work was the development of Architectural/ Environmental Psychology, having established the well-respects *Journal of Environmental Psychology* in 1980. He has worked as a management consultant to major U.K. companies on risk reduction, amalgamations and briefing for new building complexes. He has also given advice to government enquiries into disasters. He has published many books and hundreds of academic articles, having been awarded a UK Golden Dagger and the US Anthony award for his book *Criminal Shadows*, and having written and presented a six-part documentary series, *Mapping Murder*, which is also published as a widely read book. He is Emeritus Professor at the University of Liverpool, U.K.

The Ethical and Existential Meaning of Beauty

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Abstract

Ethics and beauty have been neglected subjects in modern artistic and architectural discourse. These essential dimensions have been replaced by performative qualities and a manipulative aestheticization. As visual image and techno-economic criteria have replaced existential concerns, mental meanings, experiences and the sense of empathy have been lost. However, beauty and reason are valid criteria in art, architecture as well as science. Beauty is not an added aesthetic surface value, as it expresses the coherence, wholeness and integrity of the work. We should even acknowledge the existence of an aesthetic intelligence along with ethical, emotional, spiritual and existential intelligences.

Art and architecture are modes of existential thinking about the world and the human situation. They need to create a temporal continuum, an existential tradition, and also include the bio-cultural and evolutionary dimension in their truly humanist visions.

Keywords: Aestheticization, Beauty, Ethics, Existential, Integrity.

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THE ETHICAL AND EXISTENTIAL MEANING OF BEAUTY

"Art is realistic when it strives to express an ethical idea. Realism is a striving for the truth, and truth is always beautiful. Here aesthetic coincides with the ethical" (Tarkovsky, 1986, p.113).

"Art is not only a selective sampling of the world; art implies transforming the world, an endless modification towards the good" (Rilke, 1997, p.41).[1]

BEAUTY, AESTHETICISATION AND NEWNESS

Beauty and ethics, as well as their hidden relationships are, no doubt, unfashionable subjects in today's artistic and architectural discourse. In the era that reveres appealing images and formal inventions, the ethical perspective has been pushed aside, and the ethical dimension has rarely entered recent writings on art and architecture. *The Ethical Function of Architecture* (1996) by philosopher Karsten Harries is a rare example in our time of the interest in the ethical dimension of architecture (Harries, 1998). Artistic quality is generally seen as a subjective and unique expression, and instead of suggesting an ethical resonance, it is expected to exhibit unforeseen imagery. In fact, beauty and ethics have been problematic concepts in the arts for a century and a half, and artists have usually questioned or neglected these notions. In our obsessive consumerist culture, beauty has turned into a deliberate aesthetic manipulation and seduction; everything from products to environments, personality to behaviour, and politics to war, is now manipulatively aestheticized. We have entered the era of "aesthetic capitalism" in accordance with the title of a recent book by Gernot Böhme, the German philosopher, who has also pioneered in the philosophical analysis of atmospheres (Böhme, 2016). This new mode of Capitalism implies a distinct calculated manipulation of appearances and the loss of sincerity. Besides, today's formalist and rhetorically dramatized architecture hardly aspires for beauty and serenity, as experiences of the unforeseen, stunning and the *unheimlich,* or of outright imbalance and threat, are frequently more apparent in its imagery.

During the modern era, the requirement for beauty has been replaced by the obsession with newness. Paradoxically, however, even newness turns into repetitiousness. "As the new is searched only because of its newness, everything becomes identical, because it has no other properties but its newness", the Norwegian philosopher Lars Svendsen (1970-) points out in his book *The Philosophy of Boredom* (Svendsen et al., 2005, p.75). However, beauty is always connected with timelessness as it turns our consciousness to permanence and eternity. "The language of beauty is essentially the language of timeless reality", philosopher Karsten Harries (1937-) claims (Harries, 1982). "Beauty connects us with the eternal", as Jorge Luis Borges formulated this thought (Borges, 2002, p.115).

What is the meaning of this forceful distancing of art and architecture from beauty, ethics and life? In his book *The Dehumanization of Art and Other Essays on Art, Culture and Literature* (1925), José Ortega y Gasset (1883-1955) suggests that the subject matter of art has gradually shifted from "things" to "sensations" and, finally, to "ideas" (Ortega y Gasset, 1968). In Ortega's view, this development has gradually weakened the human content in art. Regardless of whether we agree with Ortega´s analysis or not, it opens a thought-provoking view into the transformation of the essence of art. This is a shift from concrete and sensory representations to fabricated and cognitive expression. At the same time, they have moved towards the realms of conceptuality and scientific views. In this development, the role of beauty has changed accordingly, and it is difficult to relate sensory representation and phenomenal experience of beauty with the cerebral and instrumentalised ideas in today's artistic expressions. Art and architecture have turned autonomous and self-conscious of their means and ends. Instead of mediating between different realities, art has turned into an autonomous reality. In this development, the role of beauty has changed accordingly, and it is not possible to relate sensory representation and phenomenal experience of beauty with the cerebral and instrumentalised ideas in today's artistic expressions. Not surprisingly, these fundamental changes in artistic thinking and focus also apply in architecture.

THE ETHICS OF LIMITS

Sublime beauty was the highest aspiration of art until the end of the nineteenth century, but the quasi-rational and materialist consumer culture of today regards art as a cultural deviation, entertainment and investment. However, an interest in the connections of ethics and aesthetics, truth and beauty, seems to be re-emerging

1 Rainer Maria Rilke, "Letter to Jacob Baron Uexkull, Paris, dated August 19, 1909.

again. The haunting environmental and ecological problems and the consequences of uncritical technological development, such as excessive digitalization, artificial intelligence and genetic manipulation, are also awaking wider ethical concerns. At the same time, however, the attention is shifting from the forced and noisy, but mentally empty architecture of abundance to the ways of building that are emerging in the developing world. This architecture of necessity is bound to be based on real needs, scarcities and necessities. In these ways of building, architectural form still arises from the materials and ways of constructing, not from detached aestheticized ideas and meaningless compositional complexities. While the existential meaning is disappearing from the constructions of the world of surreal wealth, the severely restricted constructions in the realities of need still mediate existential and ethical values. This architecture of limits expresses the beauty of necessity as opposed to the limitless aesthetics and swiftly changing fashions of abundance. Leonardo da Vinci's wise advice on the meaning of limits, "Strength is born from constraints, and it dies in freedom", has regrettably been forgotten (Stravinsky & Oramo, 1968, p.72).

The perspective of approaching ecological, political and moral catastrophes definitely calls for a re-integration of the aesthetic and ethical sensibilities. At the same time, our focus needs to shift from the subjective, exclusive and exceptional back to the universal and existential concerns. *The Ethical Function of Architecture* (1997) of Karsten Harries, as well as several other significant philosophical books of the past few years, such as Elaine Scarry's (1946-) *On Beauty and Being Just* (Scarry, 1999) and Martha Nussbaum's (1947-) *Poetic Justice* (Nussbaum, 1995) also exemplify these concerns. Joseph Brodsky (1940-1996), the Nobel Laureate poet, wrote frequently about the interactions of these two mental dimensions and gave the aesthetic perception primacy: "Man is first an aesthetic creature before he is an ethical one" (Brodsky, 1995, p.208). He considers our aesthetic instinct as the origin of ethics: "Every new aesthetic reality makes man's ethical reality more exact, because aesthetics is the mother of ethics". (Brodsky, 1995, p.207) But for the poet, aesthetics means something more universal and autonomous than today's commercialized beauty, serving the purposes of desire, convention, consumption and forced change.

BEAUTY IN SCIENCE

Beauty, reason and truth are usually seen as exclusive and independent properties and notions, but they can well share the same mental and emotive grounding. Beauty and reason seem to be equally valid approaches and criteria of judgement in both science and art. Erich Fromm (1900-1980), philosopher and social psychiatrist, provides a striking expression of the fusion of beauty and truth: "Beauty is not the opposite of the ugly, but of the false".[2] This viewpoint directly at the interconnection of the aesthetics and ethics criteria.

Aesthetic aspirations are primarily related with the world of the arts, architecture, design and styles, but beauty and elegance of thought are essential criteria also in mathematics, physics and other sciences. Beauty represents comprehensive and synthetic qualities and integrities, which cannot be formalized and expressed through any other means. The experience of convincing and disarming beauty is a proof of the correctness, coherence and inner harmony of the phenomenon also outside of art. The pure and selfless beauty of a Piero della Francesca or Johannes Vermeer painting is likely to be beyond analyses and explanations, as it penetrates every cell of the viewer. "Be like me", is the authoritative demand of great poetry, according to Joseph Brodsky, and this command applies to all art (Brodsky, 1995, p.206).

Beauty is also a quality in mathematics and sciences. The theoretical physicist Paul A.M. Dirac (1902-84) argued that the theories of physics, which project beauty, are probably also the correct ones (Dirac, 1963). Physicist Hermann Weyl (1885-1955), who completed the quantum and probability theories, made an even more outspoken confession: "My work has always attempted to combine truth with beauty, but when I have been obliged to choose one of the two, I have chosen the beautiful".[3] Today, mathematicians use the notion "dirty proof" (in the sense of "ugly") of a mathematical proof, which has been attained through immense computing power, beyond the capabilities of human perception and intellectual grasp.[4] I feel the same "dirtiness" in architectural projects generated by computers or algorithms.

2 Erich Fromm, original source unidentified.

3 "In meinen Arbeit habe ich immer versucht, das Wahre mit den Schönen zu vereinen; wenn ich über das Eine oder das Andere entscheiden musste, habe ich stets das Schöne gewällt". The quotation appears above the bust of the Hermann Weyl in the Herman Weyl Zimmer at the ETH in Zürich.

4 The notion was used by several of the mathematician presenters at the Simplicity in Arts and Mathematics: Ideals of Practice in Mathematics & the Arts, City University of New York, Graduate Centre, 3 – 5 April 2013.

THE HOLISTIC ESSENCE OF BEAUTY

Beauty is not an added surface value on top of the essence of things, as it expresses the coherence, integrity, wholeness and completeness of the thing or phenomenon. There is no aesthetic reality separate from the realities of things. Our current culture prioritizes power, cerebral capacity and quantification, although emotive reactions and intuitions are often our most synthetic modes of understanding, and beauty arises from the experience of a complex entity as an integrated singularity. The "understanding" of atmospheres is an example of our capacity of grasping unfocused, shapeless and diffuse phenomena. Altogether, we tend to regard perceptions, skills and understanding as processes that advance from details and parts towards entities. This simplistic idea of the dynamics of understanding is regrettably also the prevailing method in education. However, neuroscience has established that we grasp entities first and they give meaning to the parts. This fact of neuroscience shakes the accepted elementarist pedagogical foundations in a fundamental manner. Students of art and design, for instance, should first be made to encounter real and complete works of art, and only later given detailed intellectual analyses of the artistic phenomena. The individual sensory experience of the work has to precede its conceptual analyses and cognitive understanding. "According to the right hemisphere, understanding is derived from the whole, since it is only in the light of the whole that one can truly understand the nature of the parts", Iain McGilchrist (1953), therapist and philosopher, argues (McGilchrist, 2009, p.142).

Beauty is a complete judgement of a thing in the same way that we grasp the characteristics of places and vast environmental situations through our unfocused atmospheric sense. As I enter a space the space enters me. "I enter a building, see a room, and – in the fraction of a second – have this feeling about it", Peter Zumthor confesses (Zumthor, 2006, p.13). Beauty is an immaterial experiential quality, which suggests a distinct "thingness"- the sensuous and mental thingness of beauty. At the same time that beauty arises from the integration of things, it appears to have its independent existence. As the light artist James Turrell has argued, also light can project a "thingness" in our experience (Turrell & Poole, 2000, p.1-2) Beauty, like atmosphere, is a complex experiential quality, which is encountered and grasped in a synthetic, embodied, multi-sensory and emotional manner, rather than understood through intellectual and analytic reading. As we experience beauty, it does not remain outside of us, but becomes part of our very being.

Phenomena and creatures of nature are beautiful. As products of timeless evolution, they are complete, integrated and self-sufficient entities. The time dimension in reality is surprisingly little understood outside of mere historical chronology. Altogether, we should finally acknowledge that emotions and experiences of beauty are a domain of "existential intelligence", implying a comprehensive judgement of the perceived phenomenon. By this notion I refer to the powerful notion of Merleau-Ponty, "the flesh of The World" Mark Johnson (1949-), philosopher, makes the significant remark: "There is no cognition without emotion, even though we are often unaware of the emotional aspect of our thinking" (Johnson, 2007, p.9). In his view, emotions are the source of primordial meaning: "Emotions are not second-rate cognitions; rather they are affective patterns of our encounter with our world, by which we take the meaning of things at a primordial level" (Johnson, 2007, p.18). Emotions unify ethical and aesthetic qualities and give them their lived existential meanings. "It is only with the heart that one can see right. What is essential is invisible to the eye, Antoine de Saint-Exupéry (1900-1944) asserts (de Saint-Exupéry, 1943).

INTELLIGENCE AND EXPERIENCE

In his book *Intelligence Reframed* psychologist Howard Gardner (1943-) identifies ten categories of intelligence beyond the characteristics measured by the standard IQ test: linguistic, logical-mathematical, musical, bodily-kinaesthetic, spatial, inter-personal and intra-personal, naturalistic, ethical and spiritual intelligence (Gardner, 1999, p.41). Based on my personal experiences and intuitions, I wish to add four further categories - aesthetic, emotional, atmospheric, and existential -intelligences to this already thought-provoking list of the psychologist. It is evident that even in the creative fields and their education, the complexities of human intelligence, embodied and emotional capacities, and the essences of the phenomena of beauty and ethical judgement are hardly understood, not to speak of the complex and unconscious nature of creative processes.

The poetic and artistic reality of a work of art is not in the material and physical object, but in its internalization through individual experience; beauty has to be experienced and felt. "Nothing is real until it has been experienced", as the poet John Keats (1795-1821)

wrote.[5] This is also the seminal view of John Dewey's (1859-1952) book *Art as Experience* of 1934: "In common conception, the work of art is often identified with the building, book, painting, or statue in its existence apart from human experience. Since the actual work of art is what the product does with and in experience, the result is not favourable to understanding [...] When artistic objects are separated from both conditions of origin and operation in experience, a wall is built around them that renders almost opaque their general significance, with which aesthetic theory deals" (Dewey, 2008).

Art articulates and expresses the world of lived experiences, and it mediates the human mental essence of these very encounters. A true artist is not depicting an isolated detail or aspect of the world. Every real artistic work is a microcosm, a complete world of its own, or in the words of Andrei Tarkovsky (1932-86), the film director, "a whole world as reflected in a drop of water" (Tarkovsky, 1986, p.110). Every true work of art, including architecture, projects an entire world.

ART AND THE WORLD

I wish to argue firmly that art is not merely aestheticisation, as it is a form of genuine existential thinking about the world and our being in that very world, through embodied and poeticized images and means characteristic to the art form in question. "How would the poet or the painter express anything other than his encounter with the world", Maurice Merleau-Ponty asks pointing out the existential focus of art (Kearney, 1994).[6] How could the architect express anything else; we need to ask accordingly. Significantly, like Dewey, the philosopher does not regard the material or performed work itself as the objective of art. "We come to see not the work of art, but the world according to the work", he states (McGilchrist, 2009, p.409).[7] This view turns art into a mediating act; it tells primarily of something else than of itself; the meaning of art is always behind and beyond the work itself. This position also rejects the common idea of art as the artist's self-expression. Indeed, art is a relational medium, which tells us about the essences of the lived world, or perhaps more precisely, about being a human in this world. Balthus (Balthazar Klossowsky de Rola, 1908-2001), one of the finest realist painters of last century, points out the significance of the world as the artist´s true subject: "If a work only expresses the person who created it, it wasn't worth doing [...] Expressing the world, understanding it, that is what seems interesting to me" (Claude, 1996, p.18).[8] In another context the painter articulates his position further: "Great painting has to have universal meaning. This is no longer so today and that is why I want to give painting back its lost universality and anonymity, because the more anonymous a painting is, the more real it is" (Claude, 1996, p.18). This is a thought-provoking argument against the understanding of art as self-expression or conscious aestheticisation.

ART AND ITS PAST

Here again the ethical perspective enters the domain of art and architecture. Like all art, the art of building is simultaneously about the lived world and the layered histories and meanings of the artform itself. All arts carry their timeless traditions along their route towards the future. Meaningful works are always conversations across time, and truly radical works open up new ways of reading and experiencing works of art. Picasso has opened our eyes to see the 25.000 years old cave paintings. All great artists reveal the existential essence of art through the layers of recorded history of art. Aldo van Eyck refused to give his inaugural lecture on the suggested topic of the influence of Giotto on Cézanne and gave the lecture on the influence of Cézanne on Giotto, instead.[9]

As a consequence of this multiple perspective, also architecture needs to have a double focus, the lived world and the mythical traditions of constructing. The highly refined technologies of today tend to weaken the deep unconscious meanings and hidden mythical contents of building, which are echoed in all great architectural works. All meaningful works are timeless, and they are always simultaneously about the past, present and future.

A BIOLOGICAL PERSPECTIVE

The aesthetic reality has also been extended to biological phenomena. It has been well known that certain selective criteria, that could be regarded as aesthetic choices, such

5 John Keats, Keats quotes, Google.

6 Maurice Merleau-Ponty quoted in Richard Kearney, in Modern Movements in European Philosophy

7 Maurice Merleau-Ponty quoted in Iain McGilchrist, in The Master and His Emissary: The Divided Brain and the Making of the Western World

8 Balthus (Balthazar Klossowsky de Rola), Claude Roy, Balthus

9 Aldo van Eyck in private conversation with the author in 198?.

as symmetry and signs of health and strength, are essential factors in mate selection among animals. Certain "aesthetic" gestures, rituals and deliberate constructions are also used to attract a mate, such as the empty silk balloon of the Balloon fly (Hilara sartor), the huge staged and decorated nests of the bowerbirds (Ptilonorhynchidae),[10] and the co-ordinated group singing and dancing by male Blue manakins (*Chiroxipia caudata*) (Prum, 2018).

A recent book *The Evolution of Beauty* by Richard O. Prum (1961-) re-introduces Charles Darwin's second book on evolution entitled *The Descent of Man, and Selection in Relation to Sex* published in 1871 (Darwin, 1871), published 13 years after his celebrated *On the Origin of Species* (Darwin, 1859). Darwin published his second book after becoming convinced that the selective principles in his first theory could not explain all the variations among animal species, including the proverbial case of the peacock's tail, which had caused Darwin nightmares at the time of writing *The Origin of Species*. In the Victorian era, a book that suggested autonomous aesthetic choice as sexual motif, practiced by the female sex, could not even be discussed. However, scientists have recently shown through mathematical modelling that, indeed, combining the two theories of Darwin fully explains all the variety among animal species, including the peacock's tail. Surprisingly, an individual aesthetic judgement is a principle of choice also in the animal world.

The notion of *Biophilia*, "the science and ethics of life," introduced and articulated by the biologist Edward O. Wilson (1929-), expands the ethical responsibility beyond the realm of human interaction, all the way to our duty in maintaining biodiversity (Wilson, 1984). Semir Zeki, a pioneering neurobiologist also connects aesthetics with biological evolution, as he suggests the feasibility of "a theory of aesthetics that is biologically based in his book *Inner Vision: An Exploration of Art and the Brain* (Zeki, 1999, p.1-2). With the intuition and courage of a poet, Joseph Brodsky supports the scientist's view: "The purpose of evolution, believe it or not, is beauty, which survives it all and generates truth simply by being a fusion of the mental and the sensual" (Brodsky, 1995, p.206).

BEAUTY, EMPATHY AND INTEGRITY

We have an amazing unconscious capacity to identify ourselves with other living creatures and even with objects and phenomena of our perceptions, such as human and spatial situations, and to project ourselves and emotions onto them. "Be like me", is the imperative of the poem in Joseph Brodsky's view.[11] We even simulate the individual human characters of great novels and momentarily share their fates, lives, life situations and emotions. Experiencing a work of art is an exchange, the work lends us its authority and magic, and we lend the work our emotions. Neuroscience has associated this act of unconscious mirroring and exchange with our "mirror neurons" (De Waal, 2010).

Somewhat unexpectedly, empathy is a capacity that also animals possess, as Frans de Waal's book *The Age of Empathy* argues. The recent research on the chemical communication and collaboration of trees and mushrooms extends the realm of purposeful communication far beyond our own mental worlds (Wohlleben, 2020).

The great ethical value and human equality of art is that we are able to experience our own emotions mirrored by the most profound and sensitive minds in human history. We do not only reflect the thoughts, feelings and experiences of the living, as our empathic imagination can also bring the dead back to life. We can sense through the skin, muscles and emotions of Michelangelo, see through the eyes of Piero della Francesca, hear through the ears of Johann Sebastian Bach, and feel through the heart of Rainer Maria Rilke. As the master poet Rilke suggests in the motto of my essay, art and beauty are not only adjectives, but they also constitute the very core of humane and dignified life.

Beauty is a synthetic and integrated character and quality of a phenomenon, akin to the human ethical quality of integrity. The notion of integrity also refers to the singularity, inner coherence and autonomy of a thing, behaviour or phenomenon. In 1954, at the age of 85, Frank Lloyd Wright formulated the mental task of architecture followingly: "What is needed most in architecture today is the very thing that is most needed in life – integrity. Just as it is in a human being, so integrity is the deepest quality in a building […] If we succeed, we will have done a great service to our moral nature - the psyche - of our democratic society […] Stand up for integrity in your building and you stand for integrity not only in the life of those who did the buildings but socially a reciprocal relationship in inevitable" (Wright, 1954; Wright, Kaufman, & Raeburn, 1960, p.292-300).

10 For decoration in animal constructions, see: Pallasmaa, J. (Ed.). (1995). Animal Architecture. Helsinki: Museum of Finnish Architecture.

11 Mirror-neurons were discovered by the research group of Giacomo Rizzolatti and Vittorio Gallese in the University of Parma over thirty years ago.

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Pallasmaa has published 70 books and 800 essays and prefaces; writings translated in 36 languages. His books include: *The Embodied Image*, *The Thinking Hand*, *The Architecture of Image: existential space in cinema* and *The Eyes of the Skin.*

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Ornament in Architecture: Symbol & Representation

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Abstract

This study aims to provide a new framework for the position of ornament by examining the link between ornament and "the body" as well as its interaction with decorative arts. In this sense, Ernst Cassirer's concepts of symbol and representation which follow Immanuel Kant transcendental philosophy and Kant's dichotomy of free and adherent beauty, are investigated. Within the scope of the article, theorists who discuss ornament with artistic expression are divided into two groups; in the first, Ruskin treats ornament and the body relationship as a "symbol", while others, such as Louis Sullivan and Gottfried Semper, use the combination of both as if it is a "symbol". As Sullivan and Semper reveal, a symbol reflecting the highest artistic creation also requires a process of reinterpretation and abstraction of the figural ornamentation.

As emphasized, the position of ornament in the relationship of architecture to other arts has always been complex and has been unable to be identified with a definite framework since the Renaissance. Leon Battista Alberti, an Italian humanist, architect, and the primary developer of Renaissance art theory, achieves the perfect whole, expressing the highest artistic creation, via the reinterpretation and abstraction of figured forms. However, Alberti's humanist approach differs from John Ruskin's holistic view to the relationship between figural arts and architecture. Although, Alberti and Ruskin disagree in theory, it is shown that Alberti's harmonious geometric whole, somehow corresponds to Kant's purposefulness based on his transcendental scheme. It is concluded that the theoretical conceptualization of figural ornamentation with a metaphorical understanding of the human body expresses Cassirer's symbol / perfect whole, which can only be obtained by achieving perfect mathematical unity between part and whole.

Keywords: Free and Adherent Beauty, Ornament, Representation, Symbol, The Body.

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INTRODUCTION: THE THEORY OF DECORATIVE ART

The necessity of ornament with the shifting aesthetic understanding with the machine era, uncovered the controversial position of ornament in other arts. Isabelle Frank categorizes theorists in the relationship between ornament and decorative arts by correlating them with function, material and production (Frank, 2002, p.1-2). The importance of this classification is that it enables ornament to be associated with a holistic approach of artistic beauty that refers to both fine and decorative arts, as Frank reveals. Among all these names included in Frank's classification, the article discusses John Ruskin, Louis Sullivan, Gottfried Semper, as noteworthy names. Their approaches provide a fusion between ornament and structure. This article aims to reconceptualise the relationship of ornament with decorative arts and body by examining the artistic thinking of these names through Cassirer's concept of symbol, which expresses an embodied system**.** In this sense, John Ruskin is discussed under the title of **"ornament as a symbol".** Louis Sullivan and Gottfried Semper who attempt to integrate the part into the whole are discussed under the title of **"ornament as if a symbol"** in part and whole relationship. Such names as Alois Riegl and Owen Jones are not included in the scope of the article since they deal with just representation, a decoration unrelated to the structure. However, before delving into the cases, the concepts of Immanuel Kant and Ernst Cassirer are introduced in depth.

Kant's Transcendental Philosophy: Free and Adherent Beauty

Immanuel Kant, a German philosopher pioneer, develops a transcendental philosophy that provides a basis for the integral relationship between object and subject. Kant deals with the subjective order of knowledge corresponding to 'transcendental' that is necessary to constitute the object in this philosophy (Kant, 1998, p.133). He mentions a priori knowledge that differs from experimental (Kant, 1998, p.137). Based on this, the reason category also differs from intuition and understanding, which belong to experimental (Kant, 1998, p.152,155). The 'transcendental schema' ensures the integrity between these pure and experimental categories, transforming pure knowledge into empirical (Kant, 1998, p.272).

Kant mentions the synthetic unity of the different forms of knowledge (Kant, 1998, p.231) and synthetic a priori judgements (Kant, 1998, p.146). While investigating the transcendental system of forms of knowledge in different fields, he also inquiries how transcendental system emerges in aesthetic experience. In Critique of the Power of Judgement, Kant also emphasises two crucial terms: purpose and purposiveness. The term purpose refers to the term concept that is the cause belongs to object. If the concept does not belong to object and there appears to be no purpose, this is referred to as purposiveness, i.e., causality does not stem from object (Kant, 1987, p.220-221). Following that, Kant distinguishes free beauty that reflects purposiveness without purpose and adherent beauty. In Analytic of The Beautiful he explains these two thoroughly:

"There are two kinds of beauty, free beauty (pulchritudo vaga) and merely accessory beauty (pulchritudo adhaerens). Free beauty does not presuppose a concept of what the object is [meant] to be. Adherent beauty does presuppose such a concept as well as the object's perfection in terms of that concept (Kant, 1987, p.229-230)."

Kant exemplifies adherent beauty with the human being or horse and building while expressing free beauty through pure forms such as flowers, birds and even pure synthetic objects as decorative wallpapers deprived of any superficial meanings (Kant, 1987, p.230). An aesthetic judgment reflecting the feeling of the power of the presentation on the subject rather than the object's purposefulness (Kant, 1987, p.229) can be associated with the free beauty, which is formed independently of a concept. In this sense, free beauties are not about representation of the object, but about the subject's limitless imagination (Kant, 1987, p.230).

In contrast to Kant's reflection on free beauty on natural and pure forms of integrity, adherent beauty indicates a kind of judgement in which part and whole connection are considered simultaneously. As a result, he refers to adherent beauty as "uniting taste with reason" (Kant, 1987, p.231). The aim of searching for the manifestation of nature's absolute wholeness also connects to different interpretations of adherent beauty. According to Allison, Kant's free and adherent beauty distinction refers to on 'its own' or as part of a larger connection (Allison, 2001, p.142). On the other hand, Kant also reveals combination of part and whole when he says, "complete power of presentation that gains when the two states of mind harmonize" (Kant, 1987, p.231). Kant's critique that ornament is detached from true beauty when it exists only as 'merely attached'

to whole (Kant, 1987, p.226) supports these two models of free and adherent beauty differentiation.

In summary, Kant's contrast between 'free beauty' and 'adherent beauty' in aesthetic judgment refers to a new interpretation of the separation between pure artistic production and impure creations as building, painting, sculpture, music, and poem. This issue of aesthetic judgment arose as a result of historical shifts in the hierarchy of arts (Figure 1). In Greek and Latin, the term decorative art corresponded to a comprehensive concept of art related to the craft or sciences, encompassing both the arts and the fine arts (Kristeller, 1951, p.498). In Medieval, the humanistic concept follows late antique, and there is a distinction between high and low arts. Liberal arts are higher-level arts with more scientific and philosophical content, such as mathematics, geometry, astronomy, rhetoric, and language. Mechanical art comprises different forms of art related with crafts or human activities that were formerly not separated from architecture and sculpture (Kristeller, 1951, p.507-508). Throughout the Renaissance, visual arts such as sculpture, painting, and architecture were separated from other arts and were not related with the concept of holistic artistic beauty and aesthetics (Kristeller, 1951, p.510). This split between the visual arts in the Renaissance serves as a watershed moment for philosophers such as Kant, who offers a new theoretical foundation for artistic beauty.

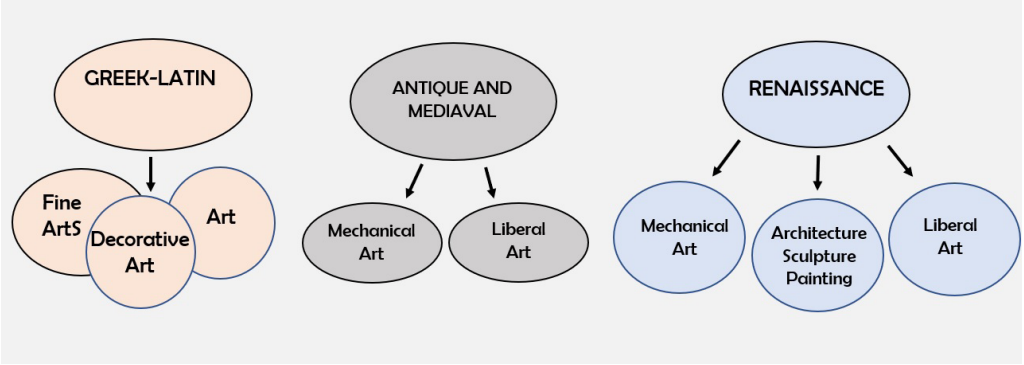

Figure 1. Differences in the classifications of the arts (generated from Kristeller, 1951)

Ernst Cassirer's Transcendental Philosophy: Symbol & Representation

Cassirer, a part of the Marburg school, follows the works of names such as Hegel and seeks to build his symbolic form theory based on Kant's transcendental schema (Coskun, 2007, p.240-241-242). Cassirer focuses on the human mind's integrity in relation to the object form constructed by the human mind; this is how knowledge takes shape. In this sense, there is no distinction between the human mind and the object (Cassirer, 1955, p.38). Each person's individual production of meaning expresses the main starting point of Cassirer's theory of symbolic forms (Schilpp, 1949, p.14) based on transcendental philosophy. Therefore, instead of a ready-made object, the human mind produces its own symbolic form, a whole. As Cassirer points out, symbolic forms are "the sources of real light, the prerequisite of visualization and the wellsprings of all formation" (Cassirer, 1953, p. 93). According to Cassirer, the concept of purposiveness, in which each piece is arranged according to the synthetic unity, reflects the formation of geometric forms as well as natural (Cassirer, 1981, p.288). Cassirer's statement as "the general expression for every harmonious unification of the parts of a manifold" (Cassirer, 1981, p.287) indicates the harmony between the parts and the whole and their reciprocal inseparable relationship. Beauty is a reflection of the perfection that can be attained via the complete union of the human intellect and the object.

Cassirer explains the concept of symbol and representation in his philosophy (Table 1). The former corresponds to a term very different from the meaning of the symbol that can be defined as representation. Instead of ready meaning, the symbol, which is reflected as the perfection of the mind's shaping, discloses new meaning discoveries (Cassirer, 1953, p.50-51). Cassirer emphasizes this symbolic structure of human mind by using the phrase 'symbolic animal' (Cassirer, 1953, p.65). Although symbol reflects the indivisible completeness of all components, representations do not depict the inseparable link between part and whole (Cassirer, 1953, p.103). Symbols mirror reality, whereas representations express 'arbitrary' additions that conceal the truth (Cassirer, 1953, p.49,52). Representations with pre-given meanings are independent of personal experience exploration and they just refer to exact imitations. They limit the imagination of person by preventing the production of new meanings (Cassirer, 1953, p.51,53). In the symbolic form system expressed by Cassirer, the concept of symbol refers to a comprehensive whole that is not only based on the unity in nature, but also based on the unity in forms of culture (Cassirer, 1953, p. 52, 53, 56). As a result, a symbol, which

expresses a perfect whole from which no part can be taken, also should express integrity that includes all geometric forms.

SYMBOL/ TRUTH	REPRESENTATIONS
THE WHOLE/INTEGRAL	CONSISTS OF PARTS
AUTONOMOUS/PERSONAL	UNIVERSAL
ALLOWS MEANING	READY-MADE MEANING-DON'T ALLOW EMOTIONAL MEANING
NO REPRODUCTION OF THE READY	REPEATED WITHOUT MAKING SENSE
MIMETIC TO ANALOGICAL	

Table 1. The distinction between symbol and representation

As previously said, Kant, in accordance with transcendental philosophy, emphasises on the reflection of transcendental structure in aesthetic perception. Cassirer derives his theory of symbolic form from this transcendental schema of Kant. According to Cassirer, the manifestation of the holistic form in nature becomes an issue in cultural sciences (Cassirer, 2005, p.61-62). It is represented in Kant's definition of free beauty as a free expression of 'ornament' like the shapes in nature, but also as pure aimless manmade creations. A free beauty is a symbol in a perfectly pure system in which parts and wholes are not separated. The beauty is an intrinsic component of structure. Adherent beauty, on the other hand, can relate to beauty in the arts such as architecture, painting, sculpture, music, and poetry when a specific goal stands out. The integrity of part and total in order to produce pure artistic expression becomes an issue in this system. If the pieces are easily detachable from the structure, the danger of matching to a pure representation exists. However, when there is complete oneness of parts and total, an adhering beauty can also be a symbol.

ORNAMENT AS A "SYMBOL": JOHN RUSKIN

John Ruskin, a well-known art and social critic, reconceptualizses architecture's connection with function and beauty. Ruskin distinguishes 'architecture and construction' by qualities such as 'mental health, power, and pleasure. Only when architecture is constructed to appeal to these qualities can it be considered art (Ruskin, 1889, p. 8). According to Ruskin the value of artwork is initially related with 'thought and moral purpose' followed by 'technical skill' and 'bodily industry' (Ruskin, 2009a, p. 411). Ruskin strives to discover a means to combine spiritual and aesthetic ideas in a hybrid approach. In this manner, Ruskin conceptualizes ornament in a holistic perspective of art by focusing on human power and beauty via abstraction. In Seven Lamps of Architecture, he concentrates on various functions that bring artistic labour and craft to the maximum degree that makes architecture art; makes ornament art by focusing on Gothic. Ornament is a magical notion that unites all of these values. So, Ruskin's "ornament as art" argument creates a new hierarchy in which ornamentation appears as 'the principal part of architecture' (Ruskin, 2007, p.59).

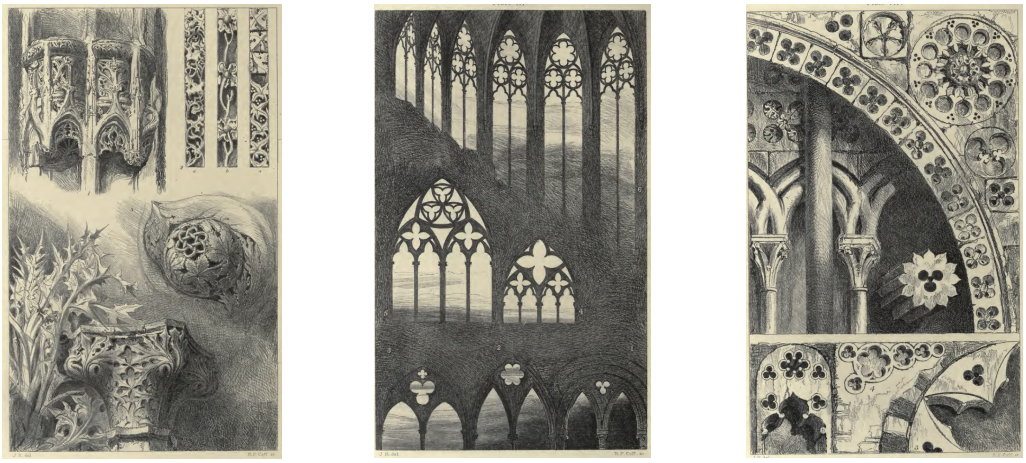

Figure 2. Pure abstract expressions of Gothic (Ruskin, 1889, p.27-58-94)

In respect to imitation, Ruskin does not specify the particular shape of the ornament. Based on his integrative theoretical approach, Ruskin clearly expresses 'what is not ornament' (Ruskin, 1889, p.117). According to Ruskin, additional representations; decorations, as 'curtains, pictures, and sculptures,' cannot be used to depict architecture (Ruskin,

2009a, p.405). In this sense, 'painting or sculptures', that can be easily isolated from the whole, will never match to the notion of 'architectural ornament' (Ruskin, 2009a, p.237). While sculpture portrays the risky form of imitation, the architect's major concern is the precision and purity of natural lines (Ruskin, 1889, p.135-136). In this sense, 'abstraction' is the crucial word, together with 'proportion', to discover a solution to the ornament's placement (Ruskin, 1889, p.117, 124). The main concepts that constitute the ornament are the beauty that arises from the perfection of abstract forms and the expression of the 'sense of human labor' (Ruskin, 1889, p. 53) (Figure 2). Therefore, he insisted that the ornament was never redundant, and 'ornament and beauty' linked to the same concepts to stress his holistic approach. This holistic perfection requires no additional representation; it refers to a purely closed system in which parts cannot be added or removed (Ruskin, 2009a, p.405). "Nobody wants ornaments in this world, but everybody wants integrity" (Ruskin, 1889, p.54-55), he says of this holistic system's strength.
While the notion of beauty inspired by natural laws produces architecture by human power in the Seven Lamps of Architecture, the God spirit is also power that arranges it (Ruskin, 1889, p.72). The part, according to Ruskin's spiritual viewpoint, links to a bigger total as a mirror of a transcendental notion; it is related with divine energy. Art, he says in Modern Painters, conveys a completeness that depicts the relationship between 'God and Man'(Ruskin, 2013, p.154). While Mallgrave explains Kant's purposefulness with the 'transcendental brain,' he deals with the object's reflection of this circumstance with several classifications (Mallgrave, 2010). Ruskin's brain creates the whole by reflecting it with a new concept of integrity. Through the free beauty of Gothic, Ruskin precisely concentrates the greatest perfection level of purposefulness. The spiritual relationship completely turns into 'sympathy' in building (Ruskin, 1889, p.72), which reflects Ruskin's holistic system argument; a symbol where no component can be added or removed from. As Lars Spuybroek also argues, the distinction between ornament and structure disappears in Gothic architecture that depicts a pure closed system (Spuybroek, 2011, p. 48). The ornament's free expression manifests itself in structural relations, and ornament transforms into whole structure, as Ruskin and Worringer demonstrate in Abstraction and Empathy (Spuybroek, 2011, p.11). Ruskin's concentration in Nature of Gothic is not on a single part, such as a pointed arch or a flying buttress, but on the wholeness of these members, which brings Gothic expression to life (Ruskin, 2009b, p.152).

Ruskin conceptualizes the integrity of abstract invention and body through the essential, common principles of the Gothic Spirit. Ruskin desires to find the greatest unity as a symbol; in the irregularity of free abstract Gothic expression instead of a rigid geometric and symmetrical order. He explains 'Gothicness', the uniqueness of Gothic character, in a way that is comparable to Worringer's idea of abstract expression, with six features as savageness, changefulness, naturalism, grotesqueness, rigidity, and redundance. The 'savageness' coupled with the approach of lawlessness generates the Gothic expression's profound religious character. The divine expressiveness is seen in the 'imperfection' of the parts in Gothic (Ruskin, 2009b, p.160). This imperfection, according to Ruskin, demonstrates the excellence of the thing made by the human hand. Worringer's remark of the Northern Gothic feeling that aiming to dominate the part forcefully (Worringer, 1920, p.123) definitely reflects Ruskin's principle of 'savageness' or 'rudeness.'

'Changefulness' or 'variety' is another keyword to conceptualize the holistic genesis of Gothic, as he points out with 'perpetual variety' and shows his antipathy to a classical order (Ruskin, 2009b, p.173, 176). Ruskin refers to a non-repeating irregularity, similar to the rhythm of poetry (Ruskin, 2009b, p.174). Ornament creates a whole system that is always changing, with no symmetry or recurrence, in opposition to a strict fragmented order. Based on the free expressional nature of Gothic, the craftsman expresses his own spirit in his creation without being constrained by any rules. This continual shift is about the 'perpetual novelty' that is the basic characteristic of the Gothic spirit (Ruskin, 2009b, p.176). Ruskin underlines the merging of the artist's imitation skill with a spirit in Naturalism by referring to the purity of forms in nature (Ruskin, 2009b, p.185).

Rigidity is an essential concept in Gothic that clearly expresses the holism, the fusion between ornament and structure. The term 'active rigidity' refers to the ' peculiar energy' of the entire system that produces Gothic free beauty and the excellence of structural relations (Ruskin, 2009b, p.203). Ruskin again highlights 'sympathy', which refers to the coherent relationship between part and whole (Ruskin, 2009b, p.205). The energy of Gothic ornament pervades the entire composition, activating it and dissolving the hard expression of Gothic stone elements. The same energy manifests itself in all bones (Ruskin, 2009b, p.203). In the Gothic hybrid formation, the sympathy generated by combining all elements highlights the symbol attitude. Ornament and purposefulness are intertwined in this system, as ornament **determines** the whole system's relationships (Figure 3). Mallgrave's (Mallgrave, 2010) 'animistic brain' categorisation for Gottfried Semper, which recognizes

the distinction between ornament and structure, emerges as a whole in Ruskin's overly animistic argument. He shows a symbol as the pinnacle of artistic perfection, revealing that the human brain constitutes the entirety of the architectural body.

Figure 3. Holistic expression of Gothic as a symbol, photo by Gary Ullah (URL-1)

ORNAMENT 'AS IF' A SYMBOL: HENRY LOUIS SULLIVAN AND GOTTFRIED SEMPER

Henry Louis Sullivan: Organic Way of Thinking

As indicated by Ruskin's argument that dissolves the distinction between ornament and structure, there is an inseparable relationship between aesthetics and general architectural concept that appears in the holistic symbol attitude of Gothic architecture. However, as Ameri points out, Ruskin's suggested hierarchy, by making ornament the primary concern of architecture, exacerbates the problematic position of ornament. By losing its limits, ornament is unable to locate a specific location (Ameri, 2005). Ruskin builds castles in the sky by elevating ornamentation to the greatest degree of the aesthetic hierarchy via abstraction. In this regard, determining how ornament might connect to the entire as an addition can help to resolve its confusing position. Louis Sullivan, a pioneer of modern architecture, deals with the attachment of the part to whole through creative expression, as opposed to Modernism, which lacks artistic soul and isolates the part. Sullivan's idea supports a new poetic and organic style of thinking, based solely on spontaneous artistic creation (Sullivan, 1979, p.50-51). Sullivan, like Ruskin, explores nature as a phenomenon in his search for a symbol. He argues that the differentiation of energy of all forms in nature can provide a reference to a creative artistic production (Sullivan, 1979, p.56-57). He aims to reveal his own unique artistic production by employing different ornamental forms in the form of organic thought he follows. Sullivan presents a vast ornamental treasure, ranging from stylized plant motifs to organic and geometric shapes (Figure 4). His idea of ornament, in which 'organic and geometric' hybridize (Sprague, 1969, p.178) in a poetic abstraction way of thinking, is the pinnacle of his artistic expression.

Figure 4. Sculptural motifs of Louis Sullivan, Union Trust Building (URL-2)

Sullivan expresses an original piece of art while rendering a fully emotionally animated whole. This emotional purposiveness pervades all parts of the structure. In this sense, his entire artistic endeavour, down to the smallest detail, reflects an emotional purposefulness. This creation process is based on ensuring the continuity of an 'organic' basic concept. According to Sullivan, '*decorative system*' and '*mass composition*' are manifestations of the same poetic purpose in architecture, which seeks poetic integrity in the same way that music does (Sullivan, 1979, p.188). Sullivan promotes his organic system, in which the

part and the whole are in 'sympathy' (Sullivan, 1979, p. 189). In his sculptural whole, which he defines as '*functionates in all of its parts*' (Sullivan, 1979, p.160), ornament emerges as an inseparable concept of this living system. In this sense, the continuity of function and form embodies Sullivan's idea of poetic purposefulness. Through articulating the part to the surface, the sympathy appears with permanence between the ornament and the body. In this sense, Sullivan conceptualizes ornament more with a transition function, mainly in transition to roofs and column capitals. The artistic desire manifests itself in the whole organic system, beginning with the joints where ornamentation is integrated into the structure. The Guaranty Building, built-in 1896, is one of the outstanding instances of the reflection of fusion of artistic beauty and structure (Figure 5).

Sullivan's strategy of pursuing his own artistic motif with hybrid figural forms and his endeavour to merge ornamentation and body, set him apart from his contemporaries. The animation of the ornament with the use of joints and its articulation to the surface was a reflection of his poetic and emotional brain. Gottfried Semper sheds light on a theoretical concept for another way of artistic thinking about ornament while conceiving artistic creation with a broader collection of events.

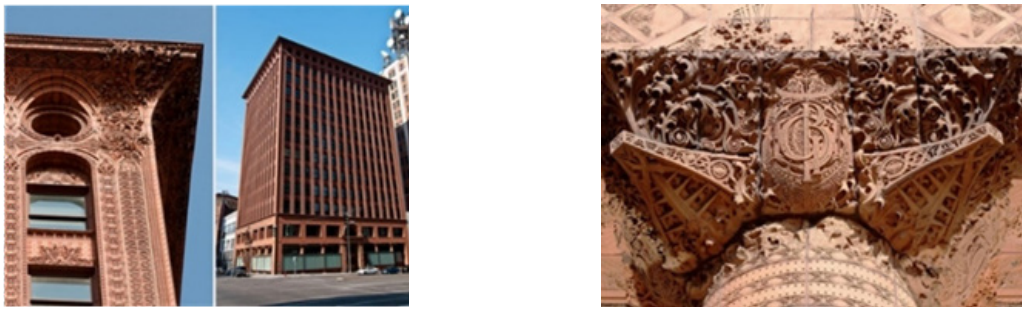

Figure 5. Structural integration of ornament and detail of Guaranty Building (URL-3)

Gottfried Semper: Textile Theory

Gottfried Semper explores an alternative theoretical approach to unify ornament and structure, to reach a symbol with artistic expression developed from the artform and core form concept that Karl Bötticher based on Greek tectonics. Although Bötticher and Semper are both associated with an 'animistic' way of thinking, Semper's debate takes on a distinct shape (Mallgrave, 2010, p. 68). In Bötticher's distinction, while the structural form is based on Gothic architecture, the art form expresses the Greek symbolic dress that emphasizes mechanics (Mallgrave, 2005, p. 112). Based on Greek tectonics and the law of nature, he reflects the purposiveness as the emergence of decorative act in "the organism of the whole as well as of the parts" (Mallgrave, 2010, p.66). The fact that Bötticher mentions only just added representations (Werner, 1993, p.379) and only focuses on a symbolic reading of the just structural lines causes him to leave Semper. Bötticher's approach cannot go beyond existing reality and refers to representation of materiality (Hvattum, 2004, p.63). In Semper's theory, his animation, based on Greek tectonic imitation to form the whole, took on a different form. Semper focuses on how art form 'comes into being' (Semper, 2004, p. 71) and seeks a new manner of forming: a new way of ornament.

According to Semper, while architecture follows the rules that constitute the unity in nature, achieving the harmonious wholeness is the result of the act of embellishing (Semper 1984, p.219). In this sense, architecture appears as a 'cosmic art', it is the ornamentation itself. Semper emphasizes this process of artistic way of thinking of a perfect composition which manifests itself in cosmic arts like as music, dance, and architecture. Semper focuses on these branches of fine arts as a reflection of cosmic order that is not 'imitative' (Semper, 1984, p.220). In this sense, his understanding of art actually corresponds to a specific form of imitation, namely 'mimesis of praxis'. It appears as an imitation of human 'actions' rather than nature in Aristotle's concept (Hvattum, 2004, p. 75). Therefore, in line with this artistic understanding, Semper focuses on the various human activities that shape the form rather than the just form (Semper, 2004, p.72). In this sense, forming a building stems from textile art as a concept of art in its broadest sense for Semper (Semper, 2004, p.247). He seeks Kantian purposiveness, which expresses the search for reflection of the human mind's integrity on an object for a symbol.

The variety of motifs belonging to textile art emerged as a reflection of Semper's holistic search. For instance, in his theory with dressing, the mask does not represent an 'added' representation. As Mallgrave also argues, Semper's dressing becomes different from just superficial covering (Semper, 2004, p.50). Dressing corresponds to a metaphorical understanding that refers to carrying the current form beyond reality in order to attain a

poetic spirit that emerged on the whole form (Semper, 2004, p.379). Semper emphasizes the poetic spirit of art formed by human acts with the 'destruction of reality,' which Semper employs for all arts to reveal the artistic spirit to reach a harmonious whole (Semper, 2004, p.439).

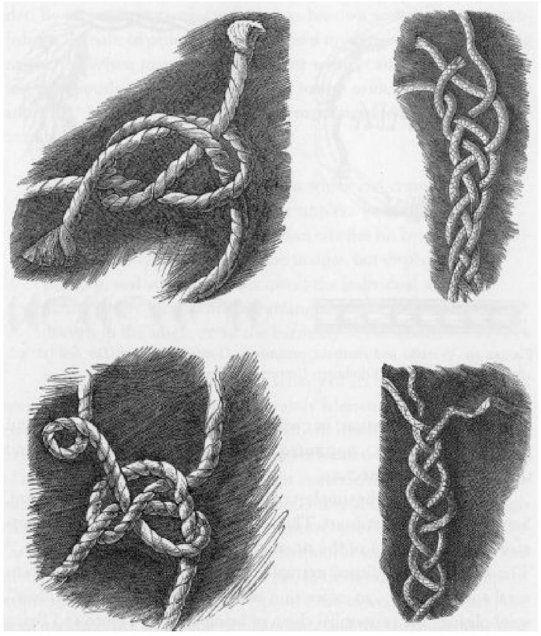

FIGURE 20. Knots and braids. Gottfried Semper, *De Stil* (2nd ed. 1878), vol. 1, pp. 169-72. Edinbrugh University Library.

Figure 6. Knot as a structural approach (Hvattum, 2004, p.68)

Semper's theory's comprehensive reflection of the mimetic approach has clearly manifested itself with the transformation of architectural elements into ornaments. In his 'animistic' approach, artistic expression captures the architectural element and transforms it into a living form. This can be seen in Semper's 'knot', which refers to the 'structurally active' concept, reflecting the connection between artistic expression and technical issues (Semper, 2004, p.156) (Figure 6). The structurally necessary elements 'become organisms' with artistic spirit. Semper defined even a column by exceeding its structural function with artistic conception (Semper, 2004, p.728). Thus, the ornament becomes an inseparable part of the structure with artistic expression. Also, Semper points out colour as an integrated significant element of the whole system (Semper, 1834, p.350) to get a symbol. This poetic inseparable link between ornament and structure may be found in Dresden Opera House, which was completed in 1842 (Figure 7). It clearly demonstrates Semper's ornamental thinking approach in which all parts relate to each other and reflects harmonious relationship, as Hermann also emphasises (Hermann, 1984, p.5).

As Gombrich emphasizes, while Semper is less impassioned than Ruskin's powerful expressionist approach (Gombrich, 1984, p.47), Semper has a secret desire to seek for a melodious composition. Semper sought poetic harmonic expression of all actions of human life. With the mimetic process based on textile theory, as Hvattum displays, Semper

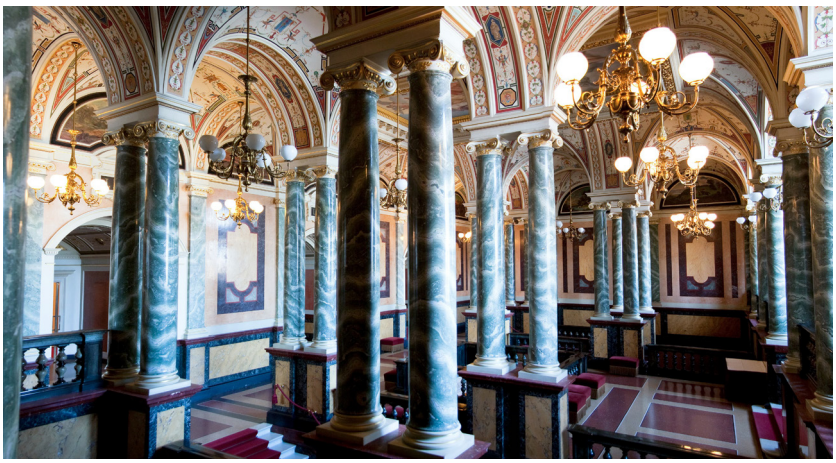

Figure 7. The holistic expression of ornament and structure, Dresden Opera of Semper, Photo by Maros Mraz (URL-4)

reveals "art as the poetic configuration of human world" (Hvattum, 2004, p.83). Semper's holistic search of mind in textile theory transforms artistic motifs from mere representations into a living organism; structural elements form an ornament. In his 'animistic' approach, the transcendence of reality and the focus on poetic tone in artistic creation formed his search for unique symbol. Semper's ambition is to construct Kantian purposefulness and its reflection as Cassirer's symbol.

CONCLUSION

As stated, Kant's free beauty that corresponds to pure system in which there is no extrinsic part refers to Cassirer's symbol. On the other hand, in adherent beauty, it also becomes possible to obtain inseparable relationship of part and whole that reflects a symbol despite the risk of external parts being pure representations detached from the structure. Ruskin, Sullivan and Semper revealed this relation of symbol and representation with free and adherent beauty while discussing the relationship between decorative arts and ornament with artistic creation and structure in diverse ways. Ruskin, as revealed, pushes for a connection with an artistic spirit, and explores an embodied holistic expression of ornament, a symbol, with abstraction. He rejects extrinsic component as a representation. The separation disappears in the relationship between ornament and structure based on nature's order of irregularity. In this sense, Ruskin's holistic attitude is based entirely on abstraction and he expresses a symbol of free beauty while associating ornament with different values through Gothic architecture. In its relationship to imitation, Ruskin completely separates the ornament from the notorious sculpture and therefore he sticks to the holistic expression of Gothic to highlight the problematic position of the ornament. However, Ruskin's 'animistic' approach has certain characteristics with Sullivan and Semper, who recognize the distinction between ornament and structure. In Sullivan and Semper's approach, the part does not remain just merely an artificial representation isolated from the structure; instead, it pretends to be a symbol by being integrated to the whole. In this sense, the artistic creation process, in which Sullivan and Semper integrated artistic motifs into the structure and the representational motifs turned into sculptural forms, is a key stage for obtaining a symbol that corresponds to adherent beauty. On the other hand, Sullivan's abstraction by using geometric and organic hybrid artistic forms at the joints of the structure and transforming artistic motifs into an organism, and Semper's poetic interpretations are simple indications of their efforts to reach a symbol. So, despite the lack of coherent narrative that provides the relationship between this part and the whole, the transformation of the ornament from a representational artistic motif into a sculptural form has assured a rethinking of the connection between figural arts and architecture.

The animation of ornament with a sculptural form, bring us back to the Renaissance and Alberti, a watershed moment in ornament's relationship with the metaphor of the human body. In Renaissance, the symbolic whole is achieved by incorporating figurative ornaments into the whole in various ways by using different surfaces and joints of the building parts (Figure 8). The way the representation motifs, which emerged with an artistic creation, turned into ornaments and their relationship with whole body reveals the relationship of ornament with the metaphor of the human body in Renaissance. In On The Art of Building in Ten Books as De Re Aedificatroia, Alberti seeks for an embodiment whole. The metaphor of the human body emerges as parts of a supporting skeleton that corresponds to all parts of the structure, and 'skin' can be defined as a concept that completes and connects this whole system (Alberti, 1991, p. 71, 81, 180) and brings it to life. Payne refers to this as 'anthropomorphism' which alludes to Alberti's human body concept (Payne, 2017, p.148) in order to reframe the strategy of ornament through figural arts. This artistic unification based on metaphorical approach also offers a reading of an intersection in the cultural journey of ornament (Payne, 2017, p.155). Payne shows a process that integrates ornament into structure emphasizing the intersection of this process with the decorative use of some superficial representations, a process in which materials and construction techniques and certain figural reliefs are integrated into the surface. Alberti's metaphorical understanding of the human body is emphasised by the links between figural ornamentation and bodily joints. The figural forms that refer to 'humanoid' and 'zoomorphic' used at the joints were also part of this metaphoric approach utilised to bring these forms to life. The hybridizing power of the bodily approach emerges here (Payne, 2017, p.151,) laying the groundwork for presenting a perfect geometric system in which art and science coexist.

Alberti's classification of painting, sculpture, and architecture in the same artistic category, as well as the bodily relationship he establishes on proportions suggest an approach that may lead to artistic fusion (Payne, 2017, p.149-150). He distinguishes between 'ornament' and 'beauty' by using Vitruvius's analogical approach to human

body measurements to provide a clear foundation for a geometrically holistic system comprised of the harmonious unity of parts (Mallgrave, 2010, p.13-14). According to Alberti, beauty is expressed by an 'inherent' concept derived from this holistic system, rather than by a 'something attached or additional' ornament (Alberti, 1991, p.156). He associates ornament with very different concepts such as 'stucco' or a 'mosaic work' and even statue (Alberti, 1991, p.164, 240). He also expresses the concept of 'concinnitas', which states that all elements generated in this sequence interact with one another (Alberti, 1991, p. 302). As a result of 'concinnitas', ornamentation and all the parts that make up the building's skeleton emerge as an expression of a spiritual forming concept that goes beyond just bodily analogy (Mallgrave, 2010, p. 17). The concept of 'concinnitas', which defines Kant's purposefulness, determines the relations in the whole and reflects in the whole artistic soul (Mallgrave, 2010, p.55), which also appeares in the approach of Semper 'skin' and thoughts of others. Semper's animated reading of 'dressing' theory, which completes the relations between the part and the whole, is reminiscent of Alberti's metaphor of 'skin' (Mallgrave, 2010, p.69). In this sense, Alberti's 'humanistic brain' is a holistic understanding of form-giving that allows for the manifestation of the links between the part and the whole. Therefore, only by integrating mimetic process and science in humanist thought, it is possible to define a perfect geometric system as a symbol.

Figure 8. The detail of figural ornament, pulpit from Renaissance, Photo by Matteo Vannacci (URL-5)

Overall, Alberti's harmonious geometric whole, which embodies the integrity of the human mind in the object, somehow corresponds to Kant's purposefulness based on his transcendental scheme (Mallgrave, 2010, p.55), despite the fact that his humanist approach, which reflects the geometrical metaphorical order of a divine understanding, differs from Ruskin's holistic approach. In this sense, as Sullivan and Semper reveal, a symbol reflecting the greatest artistic creation also necessitates a process including the figure's reinterpretation and abstraction. As Payne exemplifies through Gallacini's mathematical approach, the abstraction that follows the movement understanding of the joints of the human body in the construction of the structure enables the inseparable relationship of science and art (Payne, 2017, p.153-154). So, when the pursuit of artistic motif's perfection and perfect harmony between the part and the whole are merged, a mathematically perfect geometry, a symbol, can be achieved. This inseparable link provides a solution to ornament's problematic place among other arts, as well as its relationship with structure.

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Debates and Discourses on Ornament in Contemporary Architecture

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Abstract

This paper neither intends to construct a theoretical framework of the history of ornament nor focuses on its thresholds. Mainly, it aims to uncover the long-lost meanings of ornament by delving into the origins of the concept. It discusses the issue of "the function of ornament" today, mainly through The Function of Ornament (2006), edited by Farshid Moussavi and Michael Kubo. This book distinguishes itself from other current publications because it is one of the first works to discuss ornament from a new viewpoint by graphically analyzing a variety of twentieth and twenty-first-century buildings in terms of form, screen, structure, and surface. The book shows that ornament, as an integral element, is integrated to material, structure, and form, rather than being extrinsic and additional, which brings us to the etymology and the origins of the term. Thus, this paper explores what is considered as new in terms of ornament in contemporary architecture by analyzing case studies from the book.

Keywords: Contemporary Architecture, Envelope, Farshid Moussavi, Ornament, The Function of Ornament.

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INTRODUCTION

The rich and dense history of ornament can be analysed and categorized by a variety of ways. It has been, for example, classified chronologically, organized in terms of structural technology or production technique, and grouped according to created surface effects. This paper neither intends to construct a theoretical framework of the history of ornament nor focuses on its thresholds. Mainly, it aims to uncover the long-lost meanings of ornament by delving into the origins of the concept. By doing so, it comparatively discusses the issue of "the function of ornament" today from a new perspective.

Architectural exhibitions, themed journals, theoretical courses, seminars, and lectures of the last two decades are a part of the intention to redefine and discuss ornament. While trying to construct the theoretical framework of ornament, they prove that this framework is as broad and productive as being ambiguous. As these various architectural media show, ornament is still a current issue today.

Among these architectural media, The Function of Ornament, edited by Farshid Moussavi and Michael Kubo (2006), distinguishes itself from other publications as one of the first works to discuss ornament from a new viewpoint (Figure 1). The founder of Farshid Moussavi Architecture (FMA) and professor at Harvard University Department of Architecture, Moussavi has been experimenting with envelope and membrane using new technologies in her practice and teaching. The Function of Ornament was initially designed as a course at Harvard University Graduate School of Design. The book, as the outcome of the course, graphically analyses a variety of twentieth century buildings in terms of ornament. The main argument of the research is that ornament in contemporary architecture is closely related to effects and sensations. This effect does not necessarily indicate an interior atmosphere; it mostly refers to the effect of ornament in the urban fabric. As one of the book's findings, Moussavi and Kubo argue that symbolism as the postmodern function of ornament is synthetic and extrinsic, while architectural effects are intrinsic and essential. To prove their argument, they group a number of twentieth and twenty-first century buildings in terms of form, screen, structure, surface, and graphically analyse them to explore what technique is used to produce ornament and what kind of effect and sensation the ornamental envelope produces. Among these categorizations, most buildings are included under the title "screen," since it is the most recent concept. As a whole, the book shows that, ornament is integral to structure and form, rather than being extrinsic and additional.

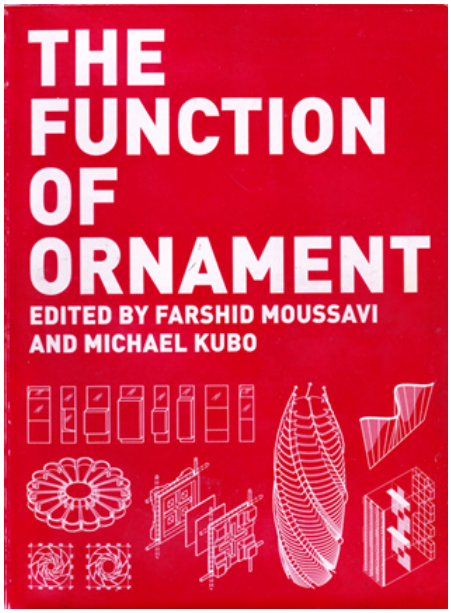

Figure 1. Farshid Moussavi & Michael Kubo, The function of ornament, Actar, Barcelona, 2006.

IS ORNAMENT TURNING INTO AN INTEGRAL ELEMENT THAT CONSTRUCTS THE DESIGN TODAY?

Throughout the history of architecture, ornament has been cited with different connotations, while various words have been used as synonyms (Table 1) (Balık, 2016). Similarly, equivalent words in Turkish, "bezeme," "takı," and "donate," can be handled in this category. The variety in the definitions of ornament is a major reason which makes its meaning ambiguous and unclear.

Connotations	*Synonyms*
Additional	Adornment
Attractive	Bezeme
Beautiful	Decoration
Decorative	Donatı
Degenerate	Embellishment
Delightful	Enhancement
Dirty	Enrichment
Elaborate	Flourish
Elegant	Furnishing
Enhanced	Garnishment
Excess	Garniture
Extravagant	Pattern
Fancy	Süsleme
Flamboyant	Takı
Graceful	
Harmonious	
Luxurious	
Order	
Superficial	
Superfluous	

Etymologically, in Latin, the root of the word "ornament," modified from "ornatus" is "ordo," and is associated with order and arrangement. Similarly, "adornment," which derives from "adornare" has "ornare" in its stem (Balık, 2015). In parallel with the etymology, the Ancient Greek orders of Dorian, Ionian, and Corynthian are related with the arrangements of specific elements. Yet the origin of "ornament" indicates an abstract and divine meaning rather than physical. Deriving from the Ancient Greek word "kosmos," it is associated with world order (Balık, 2015). In Ancient Greek philosophy, cosmos is defined as a harmonious and proportionate whole created out of chaos. The divine attributions of ornament prevailed in the Roman Empire in terms of "ornatus mundi," or "beautiful harmony." As the Ancient Roman philosopher Pliny the Elder (1855, Chapter 3, Section 4) argues, "For what the Greeks, from its being ornamented, have termed kosmos, we, from its perfect and complete elegance, have termed mundus." The Ancient Greek ornament's relationship with kosmos and order refers to the concept of cosmetics. Cosmetics is associated with the art of beautifying, dressing, and ornamenting, whereas in Ancient Rome, "Mundus" refers to ornament, in addition to elegance and sophistication. This past reference posits ornament as an element that gracefully constructs the design rather than being additional. Furthermore, Cicero (1875), the Roman philosopher and writer, defines orators as "the ornaments of the city." The sophisticated structure of speech and use of metaphor in oratorship can be easily compared to the structure of ornament. Similarly, kings were conceived as "the ornaments of the realm." During the Renaissance. The attribution of ornament to kings and orators supports the conception of ornament as an inherent element that highlights and brightens the significant parts of a design.

Within this context, this paper poses the question: After bearing numerous attributions and meanings throughout architectural history, has ornament today reconnected with its etymology by transforming into an intrinsic element that constructs the design?

Herzog & de Meuron may be used as a case to dwell on this critical question since their architecture interprets ornament through a variety of aspects. Moreover, The Function of Ornament contains 8 of their projects, including their Pritzker prize winner project, Signal Box. Yet, their most innovative approach is exposed in their use of structural ornament, as

in the case of the National Stadium in Beijing, also known as the Bird's Nest, built two years later than the publication of The Function of Ornament (Figure 2). Winy Maas, one of the founders of MVRDV, defines this building as "the culmination of new ornamentation" (Van Raaij, 2014), since space and surface are handled together as a whole for the ornament not to be additional, as emphasized earlier by Jacques Herzog (Chevrier & Herzog, 2006).

Within this context, Herzog & de Meuron's approach stands directly in contrast to the Renaissance architect Leon Battista Alberti (1988), who sees ornament as a symbolic element that highlights the beauty of a building. Alberti's education was Aristotelian, the dominant method in academies within the context of natural sciences in the Renaissance. Therefore, his attitude toward architecture was based on the Aristotelian perspectives. Aristotle defines the essence of objects through beauty, goodness, and truth. He sees these qualities as intrinsic properties of objects, and thus, ethical principles that evoke pleasure. This conception is similar to Alberti's understanding of ornament as a pleasing element that complements and highlights the beauty of architecture (Balık, 2015)

Figure 2. Herzog & de Meuron, National Stadium (Bird's Nest), Beijing, 2008 (Copyright: Author).

WHAT MAKES ORNAMENT "NEW" TODAY?

Ornament as an inherent component of buildings, such as in Herzog & de Meuron's practice and unlike Alberti's conception, works together with the climatisation, function, and context in various architectural scales. However, this new understanding makes this question relevant: What makes ornament "new" today? The claim that ornament has achieved a new feature due to new digital design and production tools is highly debatable since ornament today can be as symbolic (in a postmodern sense) as experimental.

At this point, we might refer to postmodernism to analyse ornament in the sense of Venturi and Scott Brown. In their postmodern theory and practice, ornament is not handled primarily as a functional and practical element, but an expressive, symbolic, and representational element. They indicate two architectural typologies; the duck and the decorated shed (Venturi, Scott Brown, and Izenour, 1996). Duck refers to a symbolic form perse, the plasticity of architecture as an aesthetic dimension, distorting space, structure, and program. On the other hand, decorated shed, which defines the architecture of Venturi and Scott Brown, refers to applied ornaments on the façade that communicate symbolically with the building program.

Considering the iconic contemporary buildings, this paper speculates that the duck and the decorated shed still prevail. Although these buildings are produced through novel technology, they do not propose a new approach to ornament at all times. For example, one of the common approaches today is to use ornament for expressing the building program, representing its identity or publicizing a brand, similar to the postmodern understanding of the duck and the decorated shed. The postmodern theorist and architect Charles Jencks (2011) asserts that iconic buildings as urban landmarks carry plural meanings and metaphors. Ornament becomes a means in this respect. In the case of the Christian Dior Ginza Store in Tokyo, designed by Kumiko Inui, when the building is seen by passers-by, it is clearly conceived as the building of the worldwide known brand (Figure 3). It can be classified as a decorated shed covered by a large version of Dior's

iconic interlaced pattern. On the other hand, the newness to ornament, in this case, can be considered as constructing semi-transparent façades by perforating the metal surface.

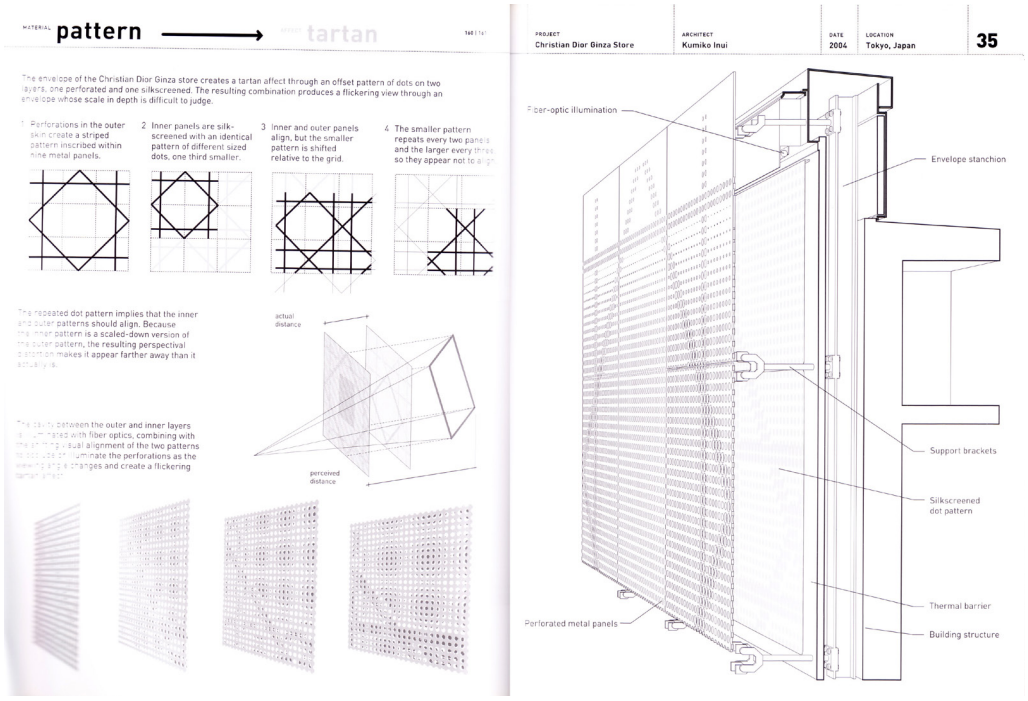

Figure 3. Kumiko Inui, Christian Dior Ginza Store, Tokyo, 2004.

Today, ornament has been justified in various aspects. As The Function of Ornament unfolds, these aspects can be roughly classified as the advancement of digital technology, experimentations on surface patterns, and explorations of different surface effects (Figure 4). Yet even the expression of newness in digital design and production technologies through ornament can be considered as a symbolic aspect, since its primary intention is to represent the newness of technology. On the other hand, with the impact of new technologies, concepts such as porosity, fractal, morphogenesis, pixellation, and parametricism are added to the repertoire of ornament. By means of contemporary architecture practices, such as UN Studio and NOX, new concepts like deformation, evolution, variation, and mutation within the scope of surface and form prevail. Going beyond referring merely as ornament, every architecture practice began

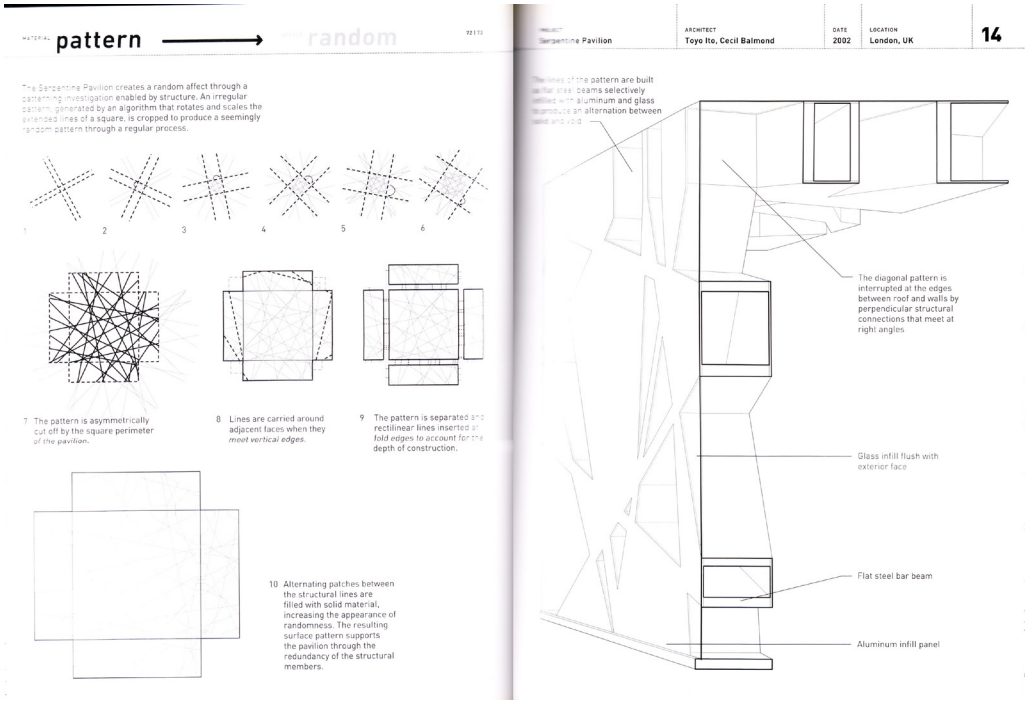

Figure 4. Toyo Ito & Cecil Balmond, Serpentine Gallery Pavilion, London, 2002.

inventing their own approach to ornament, using adjectives, such as coded, dynamic, and digital.

Another aspect that paves the way to justifying ornament is to experiment with surface by means of a large repertoire of new materials (Figure 5). While this experimentation composes new patterns, it can also create different visual effects from a distance and up close. Many architects also argue that ornament should represent the context, rather than the building program. As a case, the façades of the John Lewis Department Store in Leicester, designed by the Foreign Office Architects (FOA), gives reference to an old fabric pattern that was used to being produced by this department store. (Figure 6). This kind of approach to ornament connects the historical context and tradition with the urban fabric.

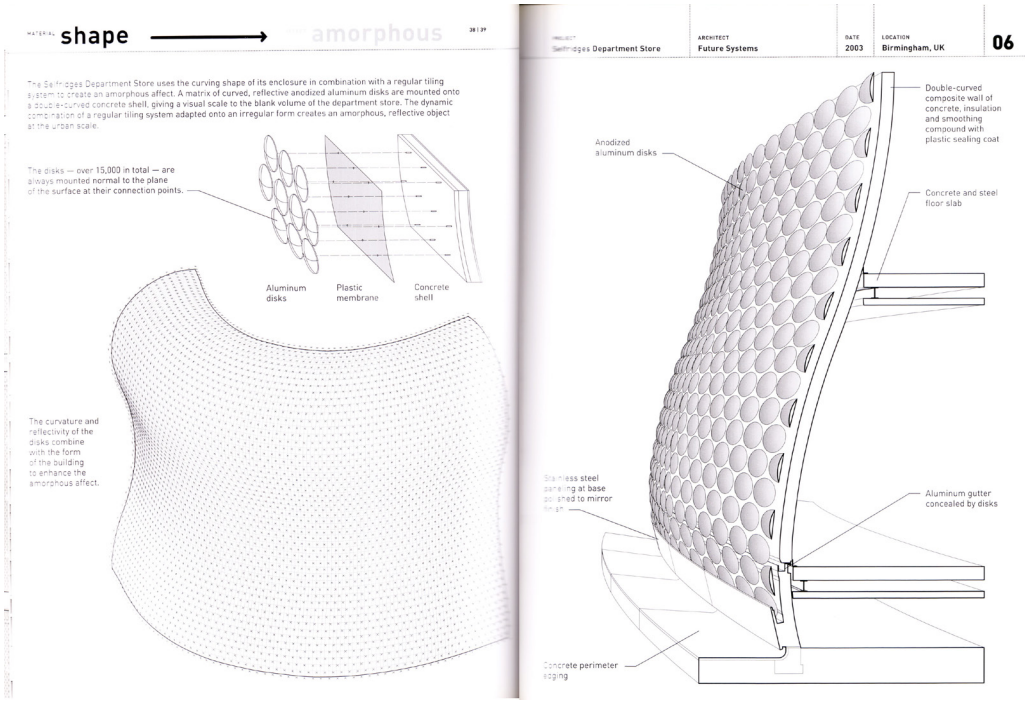

Figure 5. Future Systems, Selfridges Buildings, Birmingham, 2003.

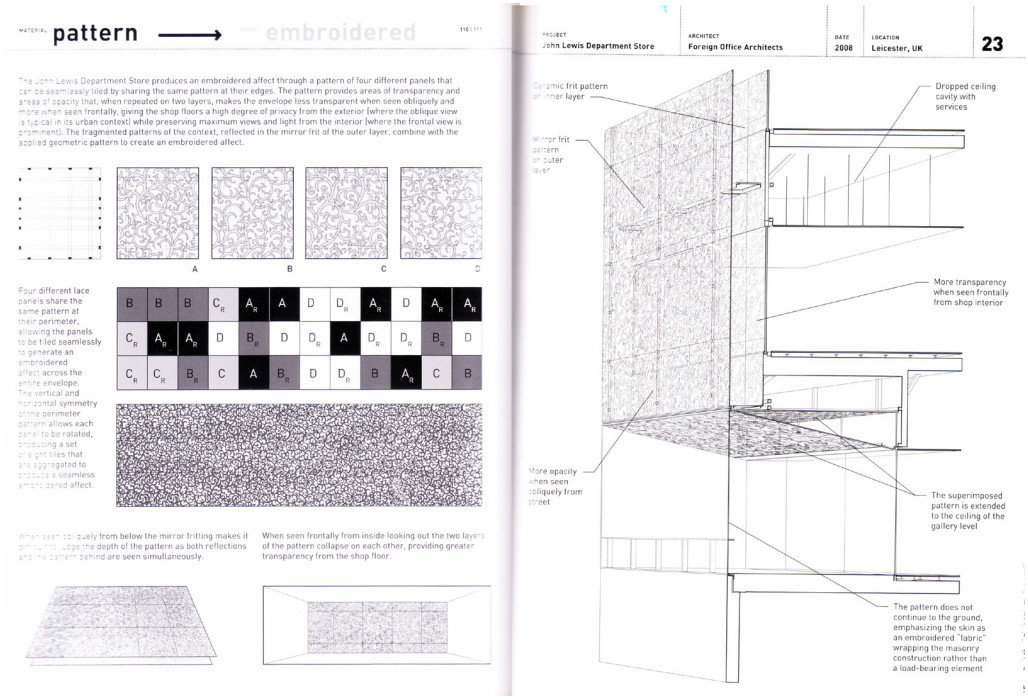

Figure 6. Foreign Office Architects, John Lewis Department Store, Leicester, 2008.

EPILOGUE: HOW CAN WE TACKLE WITH ORNAMENT TODAY, FROM WHICH PERSPECTIVE CAN WE DISCUSS THIS ISSUE?

While many contemporary publications highlight "the newness" of ornament today, much emphasis given to spectacle and surface effects turns ornament into a superficial product of our image driven culture. Ornament has become a means of a new architecture that has been reduced to visual image and has come forward with the symbolic exchange values of image, spectacle, and representation, much like a consumption product. This issue raises concerns over the relationship between ornament and capitalism: For whom are the ornamental surfaces produced; potential customer, user, or passer-by? In this respect, ornament acts as a tool for commercialization, marketing, and prestige of architecture and the architect.

Although the production of ornament today does not depend on traditional craftsmanship and is achieved by technologies, such as CNC, 3d printer, robotics, it still costs high. This issue revives discussions on whether ornament is really necessary or not, as in the latest case of the Birmingham Library. Designed by the Dutch architecture practice Mecanoo, the building is clad with ornaments, associating with metal filigrees that give reference to the industrial past of the city (Figure 7). Yet due to budget issues, the Commission for Architecture and the Built Environment, the government's advisory organization, intensely questioned the necessity of the ornamental design on the building façade (Pallister, 2009). As seen by this case, the long dispute between the decorative and the functional ornament since the early twentieth century, persists within today's conditions.

Today, ornament expands through various aspects, such as sensuality, representation, structure, sustainability, and digitisation. It demands a change in our perspective of architecture culture, as it has not been discussed over traditional Modernist values anymore, such as economy, labour, identity, and hygiene. Rather, a contemporary understanding of ornament is handled together with current cultural and social layers.

Figure 7. Mecanoo, Library of Birmingham, Birmingham, 2013 (Copyright: Martin Pettitt).

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Legal Public/Private Permissions
In this research, the necessary permissions were obtained from the relevant participants for using a photograph (Figure 7).

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Critique of Loos's Anti-Ornament Through Lucretius and Adorno

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Abstract

In this article, I will stop by an ancient source, *De Rerum Natura*, Lucretius' unaccomplished two-thousand-year-old masterpiece, and try to delve into the centuries-old roots of ornamentation much older than from Gottfried Semper's *Bekleidung* (dressing) principle of the nineteenth century. Lucretius's approach, grounded on Epicurus' atomism, discloses how nature embellishes and creates existences with this queer principle, starting from atoms, with deviation from end to end. (In the twentieth century, though, we are now aware of the divisibility of atoms and the existence of subatomic particles.) After including these passages, I will try to take a closer look at Adorno's text, in which he sarcastically states that, the effort to purify has turned into a style itself. After a micro-investigation on the representation of nature, I will conclude my article with a discussion in which I expressed my concerns that the anti-ornamentalism sometimes haunts academic writing under the guise of being scientific.

Keywords: Adolf Loos, Lucretius, Ornament and Crime, Swerve, Theodor Adorno.

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ANTIDOTE FOR ANTI-ORNAMENTALISM: LUCRETIUS AND THE SWERVE

In *De Rerum Natura*, in his passages on the motion, swerve, and emancipation of atoms, Lucretius disapproves the rhetoric which scorns, disparages and dismisses ornamentation. In my opinion, Lucretius is contemporary and critical enough and to advocate radically that deviation from the rule is crucial and to discern that linear monotony is fatal. With this aspect, he is the eternal antidote to the opposition to ornament.

Martin Ferguson Smith, translator of *De Rerum Natura*, mentions that Lucretius's argument on the swerve of atoms has finally regained credibility in the modern atomic age, after two thousand years of scornful comments from Cicero to Lord Macaulay (2001: xxvi). Smith prefers to translate the book in prose form. The highlight of the book is that it is the first translation that deliberately refrains from using the gendered pronoun "he". Could Lucretius have laid the groundwork for ornament theory when he said that atoms swerve only to an infinitesimal degree? It is not effortless to answer this question confidently, but it does not seem possible to negate it entirely. Since in *De Rerum Natura*, which is virtually two thousand years old and is dated to the first century, we read that atomic types generate peculiar sensations; Lucretius launches inseparable causal links between concrete sensory differences and the formal properties of atoms. Two examples that follow:

"*…substances capable of affecting our senses pleasantly are composed of smooth and round atoms…*" (Lucretius, 2001: 45, 2: 403-405)

"The truth is that the component atoms of every object that soothes our senses must have some degree of smoothness…" (Lucretius, 2001: 46, 2: 421-422)

Atoms create pleasing objects by their smoothness; hence it would not be surprising to see sharp and stinging atoms in beings that cause pain and discomfort. Despite his naive appearance, Lucretius leans on facts with abundant intuition. Like dust particles soaring in all directions under the stimulus of a beam of light, he rationally demonstrates the order to which the seemingly ceaseless and scattered motions of atoms must be bound. But before that, I would like to quote here those renowned episodes about the swerve of atoms:

"When the atoms are being drawn downward through the void by their property of weight, at absolutely unpredictable times and places they deflect slightly from their straight course to a degree that could be described as no more than a shift of movement. If they were not apt to swerve, all would fall downward through the unfathomable void like drops of rain; no collisions between primary elements would occur, and no blows would be affected, with the result that nature would never have created anything." (Lucretius, 2001: 40-41, 2: 210-220)

(…)
"So, I insist that the atoms must swerve slightly, but only to an infinitesimal degree, or we shall give the impression that we are imagining oblique movements"

(…)
"…but who could possibly perceive that they do not swerve at all from their vertical path?"

(…)
"Moreover, if all movements are invariably interlinked, if new movement arises from the old in unalterable succession, if there is no atomic swerve to initiate movement that can annul the decrees of destiny and prevent the existence of an endless chain of causation, what is the source of this free will possessed by living creatures all over the earth?" (Lucretius, 2001: 41, 2: 240-250)

If the parallelism Lucretius establishes between the swerve of atoms and the diversity in nature still impresses us, this influence lies in the privilege of free will that he grants to the atoms. Because, as described in *De Rerum Natura*, with minor deviations, detours and the manifestation of desire, all kinds of beings in the universe have been revealed in all their grandeur in sequences, and the basis of this is not divine but corporeal. Lucretius refuses to resort to dogmatic explanations to explicate existence and discovers all the power in the cosmos in the bravery to be unrestricted, exhibited by every separate atom. Furthermore, atoms, rather than an absolute definition, fabricate infinitely dissimilar derivatives in circulation that participate in more complex formations than themselves, and then break away from them and become free again.

Anti-ornamentalists assumed that they could dismiss ornamentation thanks to robust definitions that could bring universal, inclusive and universalistic explanations to distinct and abstract concepts. On the other hand, Baruch Spinoza removed the geometric axioms from being absolute and brought an explanation to the universe of shapes that equates action and result. Ulus Baker, in one of his video-recorded seminars, talks about "attributum" while explaining Spinozian geometry; this concept implicates "occupying space in active motion". (URL 6) Baruch Spinoza, in his 1662 *Treatise on the Emendation of the Intellec*t (Joachim, 1958: 96), deals with the prime geometrical forms from this equation of motion / being. That is, the point in this explanation is where movement and inactivity are identical. Line is when the point both stops and transfers itself along a linear path. Baker points out in his seminar that transference is met with the word "translatio" (or translation) in Spinoza. Baker also explains this condition: It is assumed that one end of the line is fixed and the other is mobile. In this case, the circle is the plane formed by the rotation of a fixed line at one end. That is, the circle exists only through action. The sphere, in this case, is the shape formed by rotating the semicircle fixed at one end of its diameter around its axis (Joachim, 1958: 96) (URL 7). Baker adds that these geometric definitions are not permanent, because for Spinoza definitions are generic rather than encompassing all aspects of a being: "Causa proxima" or proximate cause (the sincere cause, Baker adds) does not attempt to encompass being as a description intends to, but only one dimension of a being. This leads the thinker to the conclusion that, there can be no real definition of the sphere, according to Baker. The sphere is a mental, rational being that does not exist in nature, that is, it is not physical. The existence of the sphere is closely tied to action: There is a sphere to the extent that we spin the semicircle around the diametrical axis. The semicircle that we spin was not a fixed definition, it was revealed by the movement of a line connected to an axis, as it will be remembered. In that case, what is active in the sphere is only that the point, which both rests and transmits itself along a linear path, creates the line; and from there, the circle and from it the sphere derive. The multi-layered sequence of acts moves from dimensionlessness to the third dimension. The "causa proxima" of the sphere, the moving and translating point, exist through movement, action; through "attributum". As can be seen, Spinozian geometry is opposed to modernist discourse, which fixes and interrupts. According to Baker, Leibniz's approach based on proximity rather than distance inspired Nikolai Lobachevsky, a nineteenth-century mathematical scholar known for his contributions to hyperbolic geometry and Bernhard Riemann's surface theory. Spinozian definitions of geometry, the concepts like "attributum" and "causa proxima", liberate thought from the purifying domination of certainty by directing it to the field of desire. Now, after Lucretius's swerve being considered let me take a detailed look on Adorno's critiques of Loos as well as Le Corbusier. And while doing so, one has to keep in mind that there is a connection between Spinoza's theory on geometry and the assertions of Adorno on grounds that the former shows the unconscious and unintentional dimensions of anything that can be said to be ornamental.

LOOS IN ADORNO AND THE PROBLEM OF ORNAMENT

We cannot seek an origin for ornament; however, knowledge of origin, a genealogy is evermore compulsory to locate the essential features. It can be said that the originlessness of ornament is its essential feature. This rootlessness is similar to the onion having no seeds. As we peel the onion, we get closer to the middle, but it does not have a seed like a fruit; each layer is the onion itself. Having trouble imagining ornament as a sovereign entity, modernists favoured to perceive it as a parasite clinging to essential elements. Therefore, it appears unthinkable to them to establish a structure on ornamentation. A structure would be achieved by decreasing its ornaments, and as nothing would be left of an existence consisting only of ornaments, it would probably end up in nothingness. Perhaps this "nothing" clarifies well how the ornament turned into a symbol. Ornamentation can also be, in a Nietzschean interpretation: One is surprised to see in things what one has put into those things from the beginning. One thinks these are things themselves, true and essential; which Nietzsche calls the causality fallacy. There are not always rational causes; there are also unconscious causes (Nietzsche, 2017: 36) (URL 5) Ornamentation is part of this unconscious zone. It means that those who panic a person with their unexpectedness and are therefore sent to the field of secondariness / otherness share the same fate with ornamentation. Although they are constantly expelled by the conscious, ornamentation cannot be ultimately expelled, because the conscious and unconscious are dialectically interconnected. Let's turn to Adorno on this:

"There is barely a practical form which, along with its appropriateness for use, would not therefore also be a symbol. (…) [T]o Freud, symbolic intention quickly allies itself to technical forms, like the airplane. (…) What begins as symbol becomes ornament, and finally

appears superfluous. (…) [T]he state free of ornament would be a utopia of (…) [being] no longer in need of symbols." (Adorno, 2005: 9, 10)

Ornament is rootless, but in capitalism's innovation cycle, every innovation is threatened to turn one day into mere ornament:

"What was functional yesterday can therefore become the opposite tomorrow. (…) Criticism of ornament means no more than criticism of that which has lost its functional and symbolic signification. (…) [A]rticles for use lose meaning as soon as they are displaced or disengaged in such a way that their use is no longer required." (Adorno, 2005: 6)

According to Adorno, what seems awkward today may become indispensable tomorrow. I cannot presume how much Loos relied on the anti-ornamentation, which caused the short-circuiting of forms by the ease of production provided by technological innovation, but it is a fact that what constantly provokes and bourgeons ornament is the assembly line itself, which disqualifies the previous one and dooms it into mere ornament. Usefulness is a phenomenon that is being eroded day by day in our amnesic modern society; no commodity lasts long. The swerve shows itself here anew; for the social process progresses and despite all planning, aimlessness and irrationality re-emerge, according to Adorno (2005: 8). As a matter of fact, he draws attention to the ironic dimension of ornamentation inherent in commodity production:

"Thus a self-mocking contradiction emerges (...) If an advertisement were strictly functional, without ornamental surplus, it would no longer fulfill its purpose as advertisement." (Adorno, 2005: 8)

How could the consumer's desire be provoked without this tickling redundancy in an advertisement? Loos is also aware of the rhetorical dimension of this phenomenon. For Adorno, usefulness and concrete uselessness in commodities cannot be entirely allocated because this dichotomy is historical: Ornaments are remnants of mostly out-of-date modes of production; for this reason:

"(…) there is no chemically pure purposefulness set up as the opposite of the purpose-free aesthetic. Even the most pure forms of purpose are nourished by ideas. (…) No form can said to be determined exhaustively by its purpose." (Adorno 2005: 6-7)

"Hence our bitter suspicion is formulated: The absolute rejection of style becomes style. (…) In turn, his rigid rejection of ornamentation is coupled with his disgust with erotic symbolism." (Adorno 2005: 8)

The idea of purifying the structural created embellishment: an impossible project. These emphases of Adorno are about two different critical paths. The first is laid out extensively in the 1990s by Mark Wigley in *White Walls, Designer Dresses*: Whiteness is worn as an ideal, a stage and style. As a matter of fact, the thinker pierces the deep historical ties of whiteness with the eugenic project that reached its peak with Nazism and fascism (Wigley, 2001). The other goes hand in hand with the first and falls within the domain of feminist criticism in general. As a matter of fact, Loos's discourse on ornamentation was widely criticized and condemned. On this subject, you can refer to the parts of the article published in 2008, which deals with the critical studies on sexist, misogynic and homophobic emphases in Loos. (URL 1) Ornamentation is a deceptive concept: Ornament emphasizes something essential; similar to the rhetoric of masculine discourses in which the masculine is always regarded as primary over the feminine.

A supplementary comment to the impossibility of getting rid of ornamentation: According to Adorno, Loos has to refrain from expelling ornamentation from all arts to its end, just as the positivists could not go all the way in expelling poetry, and they acknowledged it on the condition of keeping the poetry neutral and unchallenged (2005: 7).

Adorno's lecture entitled "Functionalism Today" of 1965 predates Mark Wigley's book on the hypocrisy of whiteness in architecture. Adorno clearly sees the puritan, bourgeois style in Loos. He well finds and illustrates the point where Loos' un-ornamenting moralism and the capitalist business ethic coincide (2005: 8):

"Pleasure appears, according to the bourgeois work ethic, as wasted energy. Loos: (…)"Ornament is wasted work energy and thereby wasted health. It has always been so. But today it also means wasted material, and both mean wasted capital. (…) [According to the] norms of profitability (…) nothing should be wasted." (Adorno 2005: 9).

1965 is also the year Le Corbusier died. In addition to Adorno's commentary on Le Corbusier in the same text, I can say: Le Corbusier must have seen something unassuming, in need of refinement, in the complex and unequivocal, scattered measures of things. If these random measures were brought into order with the *Modulor*, it would be possible to get rid of these decorations, these random differences, which are nothing but a waste of time and energy, in one go. This immanent, mathematical mechanism that goes beyond the Loosian simplicity, which is not seen at first glance, and therefore impossible to read from the outside without an intermediary, is the mediator of the unity to be established. This false unity which is unacceptable for Nietzsche (Nietzsche, 2017), undoubtedly includes a deep and esoteric utopianism aiming to curb not only society but also the capitalist system, beyond being a deep puritanism. Capitalism, which restrains and regulates, *Modulor* will tend to establish a kind of meta-sovereignty by subjugating it in the first place. Indeed, it did not.

THE INEVITABILITY OF ORNAMENT:

A Micro Investigation on Nature and Representation

Let's look at the ornament from the theological aspect; from the window of divinity and subordination. Is the manifestation of God's will in humans direct or indirect? Human is a mortal, contingent being; can it be considered secondary, material, "ornate" in its ephemerality? In the face of the idea of an absolute god, it is impossible to find a being free from mediation; everything is – inevitably – secondary.

Today, absolute and pragmatist explanations of nature are out of date, and more grotesque scientific theories are replacing positivist ones. From popular documentaries about the unique properties of octopuses or about the uniqueness of the earth in the universe (*What if the Earth Were Really Unique?*), we are on the way to the sciences that are more playful. (URL 2, URL 3)

Is a pattern in nature completely non-ornamental, being necessary and functional (evolution-tested)? Patterns are constantly repeated in nature: "Li" textures in mathematics, the geometry of the sunflower's seed arrangement spiralling out from the centre, the shapes of snow crystals, etc. Can it be said that these are nothing but ornamentation?

If folding Architecture is a kind of absolute non-ornamental phenomenon, isn't it but extremely baroque and symbolic in Adorno's Freudian interpretation?

What is a pure phenomenon if ornamentation cannot be separated from the subject? Is it pure existence, free from ornamentation and expression? This is a paradox. Unornamented facts: Is this harmonography? (URL 4) Are Harmonograph drawings the direct manifestations of the sound phenomenon (Ashton, 2003)? Is it pure mathematics or pure diagram? Even if we assume for a moment that it is, putting the craft required to make this pure phenomenon visible aside (perfect balance of pendulum assemblies, refinements and sharpening to reduce friction and lengthen the swing, a special pen to register the subtlety of the swing with sufficient precision, arms and knuckles to balance the pen, etc.), what is the resulting "drawing" other than ornamentation in terms of its immeasurability, its non-functionality, its excessiveness?

At the end of the article, at a threshold where we have come to the end of the sectarian debates in the field of science on the issue of ornament, this time I will engage in a critique of the normativism that prevails in academic writing.

CONCLUSION

The Kingdom of Refraining from Scientific Writing or Ornamentation

The debate on whether ornamentation is permissible or not, is completely out-of-date today; however, the discourses about what counts as ornaments and what should be rejected, particularly in the academy, remains valid.

What counts as creativity and what doesn't, seems to be a discussion of form. What is peculiar, which is genuine production; which one is an ornament, which one should be considered redundant? All these questions have parallels with that form debate. These questions do not simply rise out of the blue but can be said to be outcomes of the former debated I have been putting forward throughout the article. These debates have concentrated around Loos's provocations around ornamentalism and the rejections that were brought by Theodor W. Adorno. I also took Spinoza's geometry as well as the

two-thousand-year-old *De Rerum Natura* as allies for my discussions.

Let's take the verb "to write" as it is understood in the academic world of writing, which prioritizes will and reason: I write, which means I know clearly what to write and that I direct my action (writing) with my will and my ideas through language. I write, so I knew from the beginning what I was going to write; with this information, I went to my computer and started to write down my thoughts word by word. Can one really expect the situation to be so straight, that is to say, artless, from the point of view of the writing body: At best it can be argued that we speak and act "smoothly" from this perspective (I have discussed this point in the context of Lucretius' atomism).

When writing is posited as one hundred per cent "unadorned" and "consisting only of essential elements", it is presumed that no deviations take place between words and letters, between spaces and punctuation, between rests and accelerations—to use a Lucretian expression. No spark of passion, no creative lightning, no sensual shudder could be heard in such writing, just as the straight strides of atoms in space cannot create diversity. In academia, however, this legalized, judgment-like style is internalized and accepted as the norm.

In the practice of academic writing, language is claimed to be transparent; neither the author nor the writing exists: Mere instrumentalization reigns. The text consists almost exclusively of the unfailing neutrality of the measured, impersonal coding scheme suitable for an academic career: It is the "scientific scientifness of science", the tautology of tautology. Academic chameleon: I do science with my scientific writings: That is, with my text, from which everything unnecessary and unscientific is thrown out, after throwing away everything unnecessary and unscientific in me, it is precisely the case that there is not a single unnecessary (that is, unscientific) thing in it. I am practicing itself, the science: "The science of all of us". However, this mute language is nothing but style that claims to be purified from form, as Theodor Adorno argues in response to Loos' polemic that ornament is crime: I have already said enough on this subject above.

As long as making sense and comprehension are in question, expressions and sentences will be present. Since the expression cannot be without assuming the subject that expresses it, ornament is also necessary and inevitable. As a matter of fact, the route drawn by the subject who says "I am writing" does not resemble the exact route of a person who knows from the beginning the destination when setting out to work: Writing is creating the conditions for writing until one reaches the inscription; to ensure that the act eventually leads to some concrete literary formations; if text blocks can be conditioned to turn into densities, the text begins to form. That is not the only thing. The blocks evolve into unexpected expressions by engaging in more and more intricate interactions. Writing is a state of complete indecision; the expression appears in the midst of spiralling indecisions. Writing is the sum of letters that deviate, just as the atoms of Lucretius swerve, words that escape, words that appear, disappear, and are then allowed to reappear elsewhere. If it were not for their escapism, perversions, and excesses, there would never have been such a thing as the universe of writing. Honestly, I can't think of anything that would make a substantial number of academics happier than this dryness, this disaster, this lack of passion; that is, lack of literature.

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The Digital Nature of Gothic - Lars Spuybroek & John Ruskin

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Abstract

Gothic architecture is a movement that has influenced world architecture, including today's architecture, since its active period. Although it is known for some of its features such as flying buttresses, pointed arches and vaults, John Ruskin examined the characteristics of Gothic architecture except from its physical features and examined it under 6 main headings. Lars Spuybroek, the founder of Nox Architects, one of the names that come to mind when talking about digital architecture today, described these characteristics of Ruskin as the "digital nature of Gothic". He examined 3 of these 6 characteristics and analyzed them in the chapter titled with "The Digital Nature of Gothic" in his book "The Sympathy of Things: Ruskin and the Ecology of Design". In this study, based on the work of Spuybroek, his work with Nox Architects, the debates on beauty and elegance he encountered in his journey to the nature of Gothic, and why he named gothic architecture digitally were examined and some discussions were made on this subject.

Keywords: Aesthetics, Design Theory, Digital Design, Gothic Architecture, John Ruskin, Lars Spuybroek.

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INTRODUCTION

Gothic architecture is an architectural style that was used from the middle to the end of the Middle Ages, especially in Europe. The Gothic architectural style characterized by arches, vaulted ceilings and small stained-glass windows evolved from Romanesque architecture which is a medieval aesthetic.

John Ruskin, an English writer, poet, art and society critic who lived in the 19th century, characterized Gothic architecture under 6 main headings with its "invisible" features in contrast to its known physical features.

The famous Dutch architect Lars Spuybroek, the founder of Nox Architects and an academic at various universities, is known for being an architect who creates his designs with an architectural style that has recently started to develop and adds computer support to his designs. Although he has an understanding of using the power of technology extremely well, he is also an architect deeply committed to the concepts of aesthetics and elegance.

Spuybroek is an architect who discusses today's modernism, mass production and how they affect beauty and aesthetic of today's buildings. Even in the beginning of his book "The sympathy of things: Ruskin and the ecology of design" he wrote this "We must find a way back to the concept of beauty that modernism took from us". Based on the articles he wrote and the designs he produced, this technology has the understanding of combining the concepts of aesthetics, beauty and elegance that today's technology has taken. Lars Spuybroek, on the other hand, examined these features of Gothic architecture in the "Digital Nature of Gothic" section in his book "The Sympathy of Things: Ruskin and the Ecology of Design", which he wrote based on these features of John Ruskin.

Within the scope of this study, Lars Spuybroek's works, his perception of beauty and grace, and his thoughts on the digital nature of Gothic were examined and inferences were made about why he made this judgement.

LARS SPUYBROEK

Spuybroek was born in 1959 in the Netherlands. He graduated from Delft University in 1989. He established his office called Nox Architects, which he directed from 1995 to 2010. He has been working as a professor at the University of Georgia since 2006. Since 2010, he has been working as more of a writer and theorist.

Nox has an understanding that is highly conceptual, inspired by art and theories, related to the environment (interactive) and combining them with today's digital technology. A company that is not eclectic, has a holistic understanding and aims to make symbolic structures.

Nox Architecture

NOX was founded in 1999 by Lars Spuybroek in Rotterdam and differs from other offices both by the unusualness of its approach, the extreme plasticity of its productions (models and constructions) and its multidisciplinary activities. NOX structures generally aim to create a thin space without right angles or flat surfaces on the one hand. On the other hand, these structures were built with an understanding that aims at the integrity between the structure-body-environment, or in other words, not to be eclectic, and is based on combining technology and digitality at the same time (Figure 1).

Spuybroek approaches this architectural understanding as "textile way of thinking" in his writings. In NOX's projects the textile concept appears at different levels, either at the purely aesthetic level of undulating surfaces, or at the structural level of weaving and braiding of steel members, or at the methodological level of using techniques 'instead of ideas' to generate architectural form (Spuybroek, 2004).

Beauty & Grace

In general, the concept of "aesthetics" mentioned when describing Nox architects is very important to Lars Spuybroek, because the concepts of "Beauty, Elegance and Radiance" have a significant impact on Lars Spuybroek and his relationship with Gothic, which forms the main idea of the article.

At this point, it is necessary to look at some beauty debates. To talk about the concepts of beauty; Spuybroek speaks of beauty as a perceived act. And he states that the concept

of beauty is a cyclical form that emerges from the whole in the form of radiation, and that it returns as a whole (Spuybroek, 2014). And he mentions that the concept of radiance describes the general form of beauty, the concept of grace or charis which known as "charisma" describes its social form, the concept of giving describes its operational form, and the concept of existence is related to its general form and concept (Figure 2).

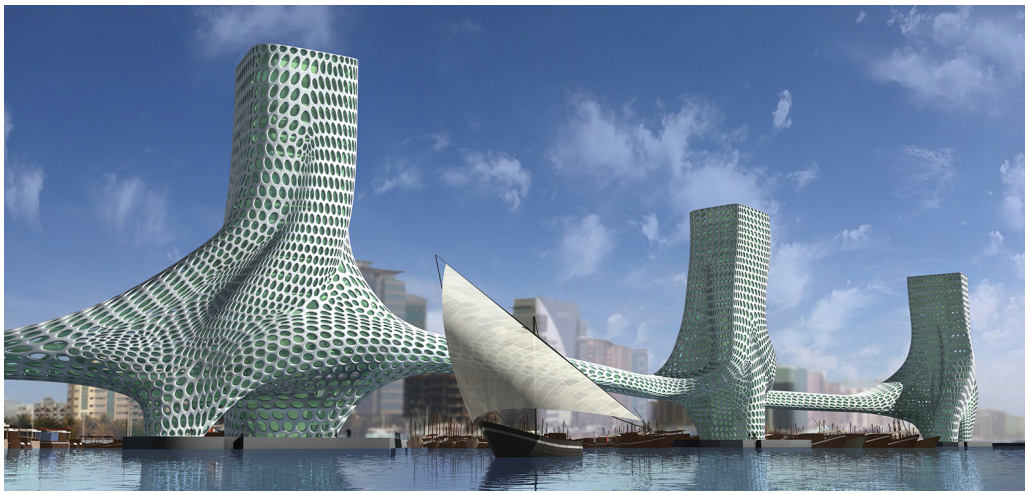

Figure 1. "Three Graces" design by Nox Architects (URL 1)

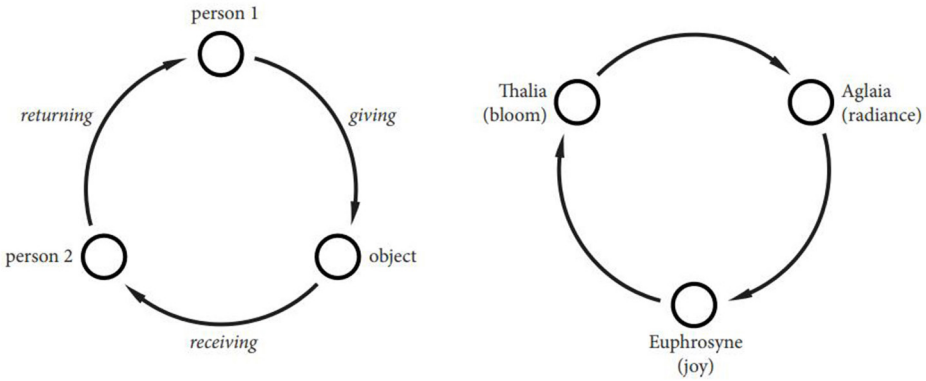

Figure 2. The three-step procedure of gift-giving (left) and its representation in the Three Graces (right) (Spubroek, 2014)

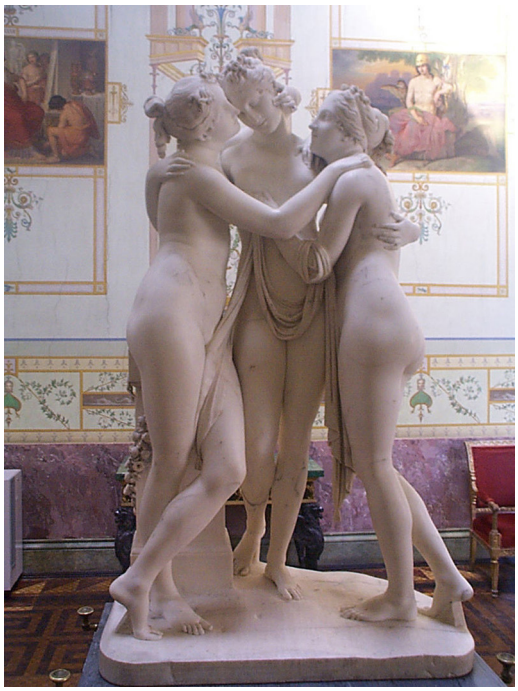

Figure 3. Three Graces sculpture by Antonio Canova (URL 2)

For the concept of grace, Spuybroek mentions that the concept of elegance is a form of action of beauty and argues that the concepts of elegance and beauty are inseparable. In explaining this concept of elegance, he often refers to the concept of charis in Greek mythology. And again, he tries to explain the charis in this Greek mythology with the three graces sculpture and gifting culture, which is the artistic representation of charis (Figure 3).

Radiance, Existence & Visibility

In this point, the concept of radiance needs to be mentioned. Spuybroek tries to explain the concepts in his works by using the Sun as an example. He supports his argument by saying that the sun is the pure representative of a radiance, the act of giving with infinite generosity and visibility (Spuybroek, 2014). And he suggests that radiation cannot exist without an interruption, but that this interruption should be perceived not as a pause, but as a change or development, a change in direction and magnitude, that is, a deviation. Which tries to support this concept of deviation with the concept of Lucretius' deviation (Figure 4).

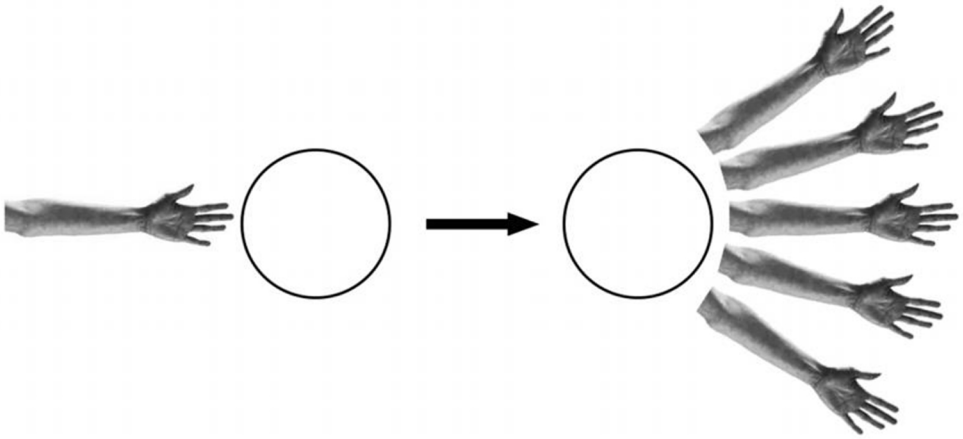

Figure 4. Beauty as a "Gift"; as a diagram of the gift's transformation into beauty(Charis), defining generosity (left) and radiance (right)(Spubroek, 2014)

The concept of existence was mentioned before; Spuybroek evaluates this concept as the existence of beauty can only be achieved by having the potential to exist together. In other words, he mentions that beauty in general is a wholeness, that is, a concept of movement that spreads from a whole and affects the other and returns to itself (Figure 5).

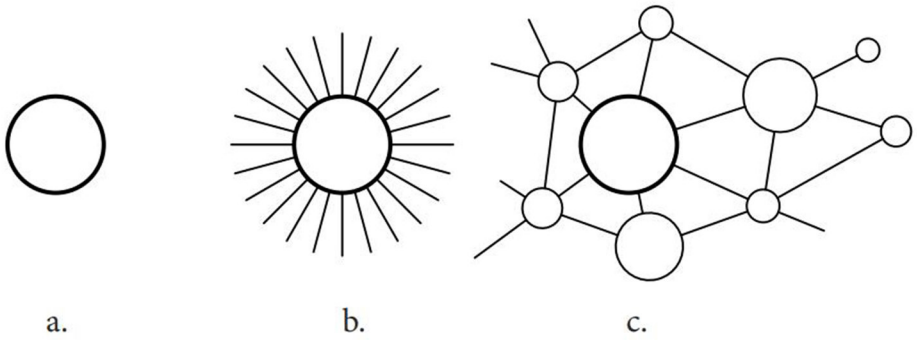

Figure 5. Three states of existence: a. things as cut off; b. things as radiant; c. things as related (Spuybroek, 2014)

JOHN RUSKIN

John Ruskin is a philosopher, writer, and art critic who lived in the 1800s. He is a person who has produced a wide range of works from geology to education, from art to architecture, from politics to botany. Ruskin grew up in a conservative and protective family. While he received a strict religious education from his mother in his childhood, literary works were taught by his father. In fact, in his works and perspectives, we can see the results of this two-headed education he received in his childhood. John Ruskin was also influenced and inspired by William Turner and his works, one of the pioneers of Romanticism and his work, because, while talking about him, he said that he painted light and especially the power of nature magnificently and that he awakened deeper feelings than looking at a painting (Figure 6).

In addition, Ruskin is a person who believes in nature, the natural and its beauty, and attaches great importance to concepts such as handicraft-labour-craft, against modernization and mass production. He has the idea that industrialization and mechanization alienate people. However, the alienation here should not be perceived as the alienation of humans from nature, which Karl Marx mentioned in the German ideology, but the second alienation mentioned in the book, that is, a mechanization, an alienation created by Capitalism and industrialization. His ideas deeply influenced William Morris, who is known as the initiator of the Arts and Crafts movement and contributed to the birth of this movement.

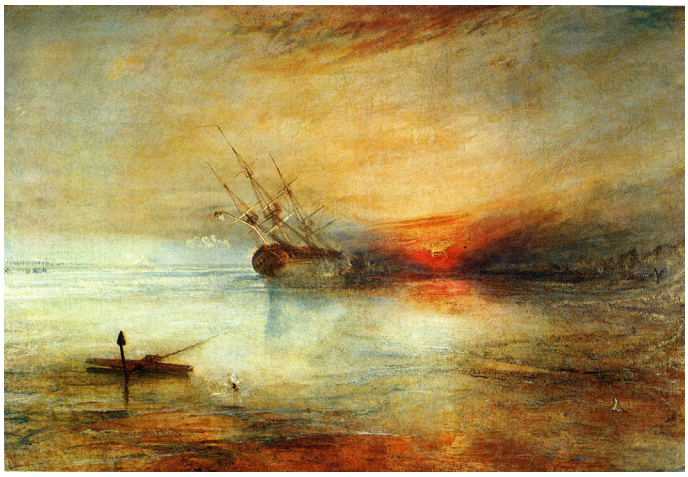

Figure 6. Fort Vimieux by William Turner – 1831 (URL 3)

Vital Beauty

On the other hand, it is important to continue with the vital beauty concept that belongs to John Ruskin, because this concept is an important concept for Spuybroek. And it's actually a concept that forms the basis of all this Gothic ontology work. Ruskin first mentioned this concept in his book Modern painters in 1843. Although the beauty accepted before is expressed in magnificent symmetry, measures, proportions. Ruskin speaks of beauty not as forms but as sympathy for emotions, feelings and living things, vitality, imperfect, naturalness, in short, divine feelings. And speaking of this, he explains that the two sides of our face do not have a magnificent symmetry, the mountains do not have perfect symmetry or measure, or the branches of a tree do not elongate in the same way, but we still feel sympathy for them or find them beautiful.

THE DIGITAL NATURE OF GOTHIC

Before investigating Ruskin's Gothic characteristics, Gothic should be understood shortly. Gothic is the name given to the architectural period between the 12th and 16th centuries, especially in Europe. An architectural trend that was born in France and then spread to Europe, overcoming the Romanesque style. And for the first time in the 16th century, the Italian artist Giorgio Vasari used Gothic to humiliate it, meaning "Barbarian", referring to the barbarian Goths who destroyed the Romans (Figure 7).

However, Ruskin studied Gothic architecture during his travels to Venice and wrote these works as "The Nature of Gothic" in a part of his book called Stones of Venice. In this section he talked about the Gothic characteristics. We know Gothic with its physical features such as pointed arches, rib vaults, pointed towers, and flying buttresses. However, the characteristics he mentioned here were not visible but rather felt ones. And these characteristics are examined under 6 headings (Ruskin, 1853). These are; Savageness, Changefulness, Rigidity, Naturalism, Grotesqueness and Redundancy. Since Spuybroek examines the first three characteristics in his book, in the present study, these characteristics were examined.

Gothic Architecture & Characteristics
Savageness

Spuybroek investigates firstly "savageness" from the Gothic characteristics of John Ruskin. When it is said savagery, of course, unpleasant concepts can be understood. But the savagery mentioned here is mostly in the sense of vital beauty, in the sense of the savageness of nature. The first reason of savagery was that the first examples of Gothic structures were made by Northern savages, because the conditions of production

were primitive, just like their characters, mistakes sometimes occurred during material production or construction. And most of the time, employees left them as they were. According to Ruskin, this was the concept that gave Gothic architecture its unique and vital beauty (Figure 8), because when Ruskin talks about the savageness in the nature of the Gothic, he says, "Being imperfect is directly related to being human, because in order to make a flawless production, gears must be attached to the hands of the craftsman and scales on his arms. Which makes it mechanical" (Spuybroek, 2016).

Figure 7. Strasbourg Cathedral (URL 4)

However, Spuybroek says the concept of savagery can't be explained simply as "something goes wrong during production and construction", because in Gothic architecture, we can talk about the freedom of craftsmen, masters and workers to do their work. He mentions that there is an architect concept as a manager, but that this is not an architect who draws a section-view-plan facade as known as today. He mentions that this division of labour, this freedom, and the decisions made during the implementation in this place lead to an improvisation, that is, asymmetries in the buildings. In other words, we can say that this situation leads to the concept of vital beauty of John Ruskin. Spuybroek summarizes this situation as follows; "We should perceive this situation in Gothic structures not as a body without organs, on the contrary, as a body in which organs come together and are free in their own parts" (Spuybroek, 2016).

Figure 8. Asymmetry in Rouen Cathedral (URL 5)

Changefulness

The second characteristic is changefulness. Changefulness is of course a concept related to the concept of savageness, because the mentioned asymmetry in structures in savageness subject, was directly an example of changefulness. However, the changefulness mentioned in this characteristic is a softer and more internally related change. In other words, the variability of the parts is reflected in the whole. When explaining this concept, Spuybroek mentions that the typology of the columns seen in classicism is the same. He says it could be elongated - shortened or narrowed in diameter - but still its typology would remain the same. However, as we can understand when we look at Ruskin's column plan scheme, each of the plans in Gothic is variable in itself and has different variations when combined. Spuybroek calls this variability "like a snow crystal" (Spuybroek, 2016) (Figure 9).

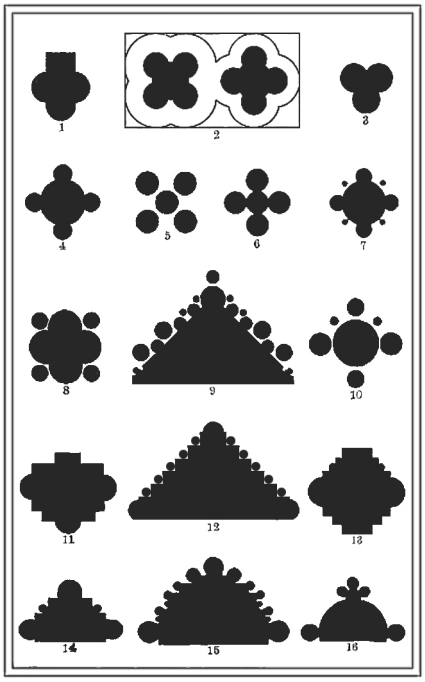

Figure 9. John Ruskin's "Plans of Piers" drawings in "The Stones of Venice" (Ruskin, 1851)

While talking about changefulness, it should be mentioned the concept of rib used by Spuybroek. He calls them as the heart and most important members of the Gothic, due to their ability to bend and twist the ribs, to evolve straight-curved or thin or thick forms. He says that thanks to the ribs, the windows, walls and vaults are all together, and that these ribs differ in each encounter, that is, in forming a form or structure. And that's why he defines the concept of rib as the most basic member of Gothic because of its feature that allows changefulness and even provides changefulness (Figure 10).

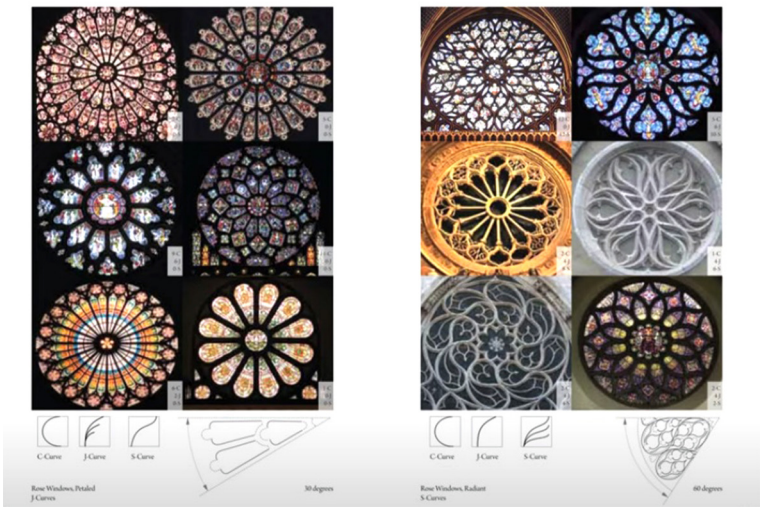

Figure 10. Variety in rose windows (URL 6)

Rigidity

The third characteristic is Rigidity. Ruskin describes the rigidity character as "Active Rigidity". Spuybroek defines this active rigidity as "The joint movement and activity of elements, forms or structures on a structure".

And in order to explain the subject better, he makes a comparison between Classicism and Baroque architecture and Gothic in this sense, because a structure was produced in classicism and baroque and the decoration was done afterwards. However, he says that in Gothic, the decoration constitutes a structure and the structure constitutes an ornament. In other words, the elements are active in themselves, but the combination does not have an eclectic style, they come together in a fluent and natural way. That's why he says that in Gothic architecture, structure and ornamentation are indistinguishable from each other (Spuybroek, 2016) (Figure 11).

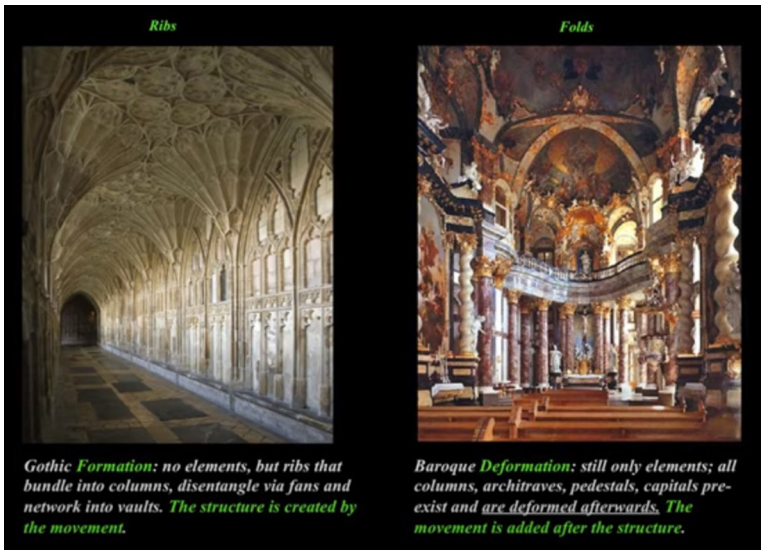

Figure 11. Gothic architecture, where ornament and structure cannot be separated from each other and Baroque architecture with an eclectic style (URL 7)

Digital

Why does Lars Spuybroek name Gothic as digital? As can be seen in all the Gothic characteristics that were mentioned in this study, the common point of the characteristics is that they differ, have variations, have a fluency and are holistic while doing this. When comparing the Gothic and today's digital, Spuybroek thinks that; every figure in today's digital is "variable" in its own way. The figures consist of points that can be moved in different directions and the lines coming from these points. However, such movements - motifs - are limited to the definition of the figure. In short, this variation of variability is parametrically controlled by a continuous function. However, in Gothic architecture, this variability is not controlled by a function. A rib can naturally bend or lengthen to form a vault or a nave (Spuybroek, 2017).

Also, as examined in the stiffness section, there is the concept of "active rigidity" in Gothic architecture. In other words, structure and decoration are together and inseparable from each other. In fact, rigidity, which is also very related to the concept of variability, is manifested in today's digital designs in an inseparable manner. However, as mentioned in the previous paragraph, a function controls the coexistence of this structure and ornament. If there is an operation that went wrong, it is corrected, and there is active rigidity only to the extent that digital allows.

Spuybroek perceives the features of them digitally. When we hear the word "digital", the first thing that comes to our mind is electronic calculations. However, here, it has the meaning of a soul and a beauty created manually. And he talks about what he actually wants to be digital. He criticizes that this is the point that today's digital design misses - it is a soulless digital (Spuybroek, 2017).

That is the reason why Hansmeyer's works were put here. Even the works are designed with variability and these designs are produced using digital design tools. It is impossible to talk about an asymmetry, or variability resulting from the improvisation decisions of the craftsman, which we see in Gothic in these productions and designs. What exactly that Spuybroek criticizes is the digital that the craftsmen do not add to their souls. (Figure 12).

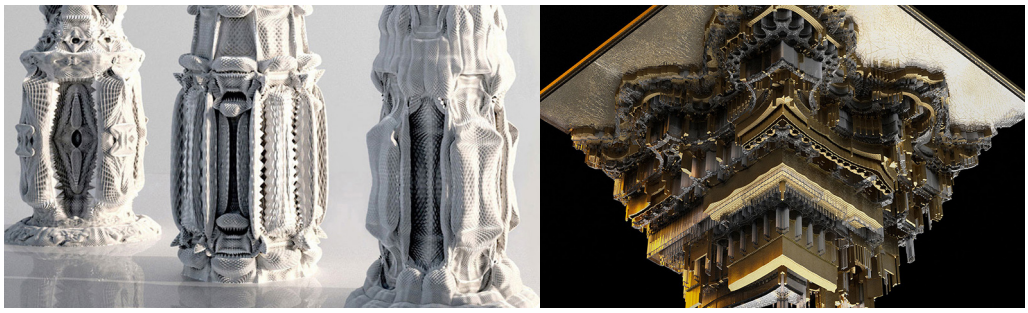

Figure 12. Subdivided Columns (Left) and Muqarnas (Right) works of Michael Hansmeyer (URL 8)

RESULTS & DISCUSSIONS

Gothic architecture has always been an architectural style that has influenced architecture and architects since its reign. It is an architectural trend that always attracts the attention of researchers because of its physical features, namely flying buttresses, pointed arches, vaults and generally creating religious structures. However, the English philosopher and critic John Ruskin, who lived in the 1800s, examined quite different characteristics of Gothic architecture. These characteristics, beyond the physical characteristics just mentioned, manifested as "invisible characteristics" in Lars Spuybroek's words.

On the other hand, Lars Spuybroek, who stands out among today's parametric designers, has signed many parametric or, in his own words, "digital designs" with the "Nox Architects" architectural office, of which he is the founder. He researched the philosophical principles of architecture such as beauty, grace, radiance or vital beauty and produced works in this direction.

In his book "The Sympathy of Things: Ruskin and the Ecology of Design", which he wrote in 2016, Spuybroek included 3 of these characteristics of John Ruskin in his book and discussed why Gothic architecture is "digital". He discussed the savageness, changefulness and rigidity characteristics mentioned throughout the study and compared them with today's digital and discussed why the original digital is Gothic architecture.

Since, as can be seen in other works by Spuybroek, he completely rejects the brutality and monotony brought by modernism. However, there is a phenomenon that gives Gothic architecture its variability, rigidity and brutality. This phenomenon is the creator of Gothic art, that is, the imperfection of man, because Ruskin says this; "The second reason is, that imperfection is in some sort essential to all that we know of life. It is the sign of life in a mortal body, that is to say, of a state of progress and change. There is no living thing that is or can be rigidly perfect and to banish imperfection is to destroy expression, to check exertion, to paralyse vitality."

In other words, being perfect means moving away from being human. However, as the "savageness" characteristic shows, the masters who created the Gothic works made mistakes. However, these mistakes, imperfections, distanced them from perfection and turned them into a work of art. Each structure, that is, each ornament (stiffness characteristic) was different from each other. So it had an imperfect variability. They had variations within themselves, and together they had other variations. So in a way, this is what today's digital promises us. Infinite freedom of variation. However, Gothic architecture did not use detailed analysis by creating flawless calculations or flawless algorithms while doing this.

This is what Spuybroek was proposing throughout the entire piece. As mentioned in the digital part, "digital" can be created with today's technology. Artifacts or structures with endless variations can be created. However, the human-made "beauty of imperfection", that is, "vital beauty" that Gothic architecture has, will never be captured with today's digital.

Conflict of Interest
No conflict of interest was declared by the authors.

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Ethics Committee Approval
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Legal Public/Private Permissions
In this research, the necessary permissions were obtained from the relevant participants (individuals, institutions, and organizations) during the survey and in-depth interviews.

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URL 7- https://youtu.be/CfAgI4dhuFs?t=2720

URL 8- https://www.michael-hansmeyer.com/projects

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Adolf Loos and Ornament

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Abstract

In this study, architectural style and "Ornament is Crime" motto of Adolf Loos, being against of the nineteenth century Vienna's architectural style, especially after the Industrial Revolution, will be examined. It is revealed that Adolf Loos's most known motto "Ornament is Crime" has deeper meanings and Loos designed various buildings throughout his career according to his evolution. When his designs analyzed chronologically it is understood that Loos had a great change that is Loos reflects his true thoughts more and more in his designs as time goes on.

When Adolf Loos said his famous motto, "Ornament is Crime" in Vienna's nineteenth century, Vienna was changing, urbanizing and developing very intensely with the effect of the industrial revolution. Loos and many architects, painters, artists opposed the mass production and devaluation of handmade materials brought by the industrial revolution, but Loos has always been in a different position than others.

Although Adolf Loos seems to advocate simplicity, he did not avoid the use of expensive materials in the interiors of the spaces he designed. In other words, Loos has supported the mask metaphor by simplifying its design that is visible to the outside world.

Keywords: Adolf Loos, Ornament, Otto Wagner, Raumplan, Vienna.

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INTRODUCTION

With the invention of steam-powered trains in the eighteenth century, rapid development occurred in European societies. Vienna is one of the cities that has experienced such a development to a great extent. Another factor that played a role in the rapid development and urbanization of Vienna is the industrial revolution. Mechanization and mass production led to development in Vienna, as in most cities. The bourgeois class, which is engaged in active trade with the development of the industry and the construction of railways, has become economically very strong in Vienna (Değirmenci & Pilehvarian, 2018). The eclecticism and historical revivalism that dominated the period are also present in Vienna, and the structures of the period were created with reference to the past.

However, towards the end of the nineteenth century, reactions against the changes and developments began in various parts of Europe. The handicrafts gave way to mass production and the reactions first emerged in England. On the other hand, the Arts and Crafts movement, founded by John Ruskin, attracted the attention of artists from different countries. In this way, different movements that were basically the same but changed in theory began to emerge. One of these movements emerged in Vienna as the Vienna Secession. At Vienna, the Vienna Secession group, led by Gustav Klimt, known as a painter, and consisting of Otto Wagner's students, supported the craft and handmade materials. This group of various architects and painters argued that it was correct to reflect the spirit of the period instead of past styles.

ADOLF LOOS

Adolf Loos was an architect, craftsman and critic who lived from 1870-1933. He was born in Czechoslovakia when the Austro-Hungarian empire still existed. Most of his projects are in Vienna. His passion for the use of materials in the interior comes to the fore, and this passion can perhaps be attributed to his father being a stonemason.

Figure 1.Adolf Loos, (URL 1)

Loos's early education was fraught with difficulties. It began in 1884 when he entered the Obergymnasium of the Benedictines of Melk; he left after only one semester and then entered the National School of Arts and Crafts in Reichenburg, in the hopes of becoming a mechanic. Finally, he found himself at the National School of Arts and Crafts in Brunn where he studied mechanical construction. In 1889 he turned to architecture and enrolled in the technical university in Dresden. During the next year Loos began a career in the military reserve. Within a year he had completed his training and was an Officer of the Reserve. In 1892 Loos returned to Dresden to finish his studies (Andrews, 2010).

Known with the motto "Ornament is a Crime", Loos' trip to America in 1893 greatly influenced his perspective on architecture and decoration. On this trip, he attended the Chicago World's Fair and met Luis Sullivan. Loos, who was highly influenced by Sullivan's ideas, began to see the changing face of Vienna from a different perspective when he returned to Vienna and reacted to these changes (Leatherbarrow, 1987).

As a misunderstanding, Loos, in the essay "Ornament and Crime" not rejected general use of the ornament, but non-cultural and past repetitions. It can be seen in his designs Looshaus and Villa Karma. According to Loos, since his architectural style did not appeal to the customer much and came up with his controversial words, he did not have the chance to build as much as other architects of the period.

VIENNA IN 19TH CENTURY

Urbanization and rapid development experienced throughout Europe in the 19th century are also experienced in Vienna, and the artists react to the instant development and due to mass production products. A movement that closely affected Adolf Loos and the prominent one among these reactions is the Vienna Secession.

As a result of the developments that took place in the nineteenth century, the prominent movements mentioned earlier were Arts and Crafts in England under the leadership of John Ruskin; supports crafts and handmade products. It appears as Judgenstil with Henry van der Velde in Germany, as Art Nouveau under the leadership of Victor Horta in France, and as the Vienna Secession with Gustav Klimt and his students in Vienna.

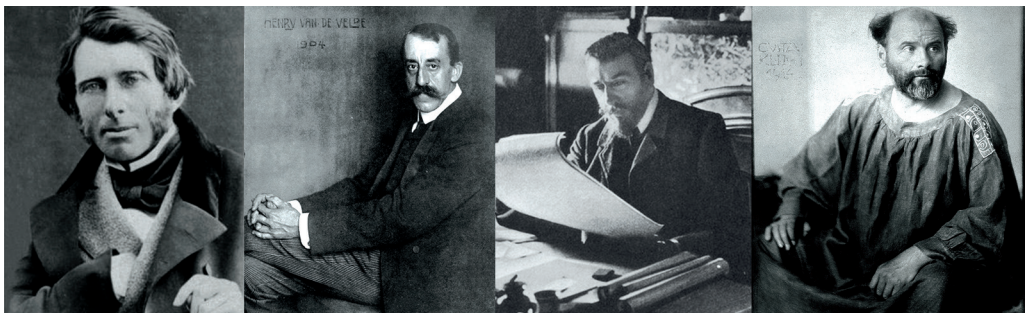

Figure 2.John Ruskin, H.V. de Velde, Victor Horta, Gustav Klimt, (URL 2,3,4,5)

Figure 3. Vienna Secession Group, (Değirmenci & Pilehvarian, 2018)

ADOLF LOOS AND OTTO WAGNER

Adolf Loos had an incredible admiration for Otto Wagner. According to him; Wagner was one of the best architects of the world. He even compares Wagner to Michelangelo and believes that when he reaches his age, he will do much bigger things. Adolf Loos mentions the ornamented façades of Otto Wagner and claimes that he did not believe that these ornamented façades were designed by Wagner, and that they were out of the hands of Wagner's design office. Otto Wagner who was born in 1841 in Vienna's Penzing region, was an architect, academic and pioneer of new architecture in Vienna. Although he applied the common architectural styles of the period when he started his career, he thought that designs that refer to the past should be abandoned. (Değirmenci & Pilehvarian, 2018). Otto Wagner, who is a part of the Vienna Secession movement, has always produced modern and functional designs, although he has been influenced by different movements and styles from time to time. Known as the father of modern architecture in Vienna, Wagner did not avoid ornamentation in his designs, but applied decoration in a modern and appropriate way to the period. He used new materials in

his designs and reduced the decoration to two dimensions. Initially seemed to be on the side of Adolf Loos, but in the later stages of his profession, he took an anti-Loos position.

According to Adolf Loos, Wagner had a tradition, a style of his own, and he never strayed from that style. This is why Loos had a great admiration for Wagner.

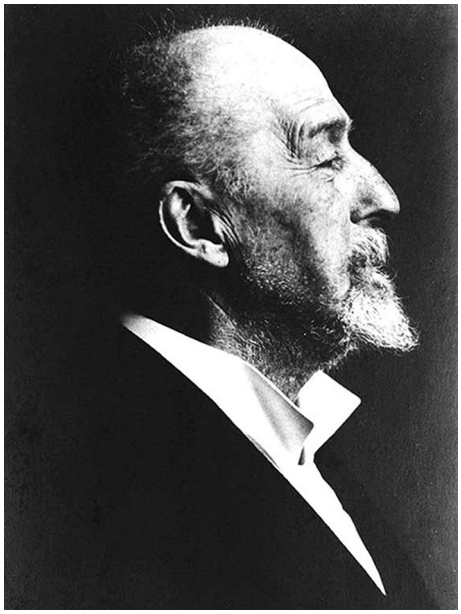

Figure 4. Otto K. Wagner, (URL 6)

ADOLF LOOS AND ARCHITECTURE

The discourses and designs of Adolf Loos are often harmonious and sometimes contradictory. By examining his designs periodically, it is possible to observe the development of Loos' ideas and his success in reflecting them on architecture. One of Loos' first designs is Kartner Bar, which he designed in 1908. This project is notable for the ornament used on the exterior. The reason for this remarkable attraction may be that it is a commercial venue.

The next building is Adolf Loos' most famous and influential building, Looshaus. This building, which was started in 1909 and finished in 1911, has been subjected to a lot of criticism in Vienna of the period for its simplicity. Today, this building is shown as a proof of the contradiction between Loos' discourses and his architecture. The reason for this is

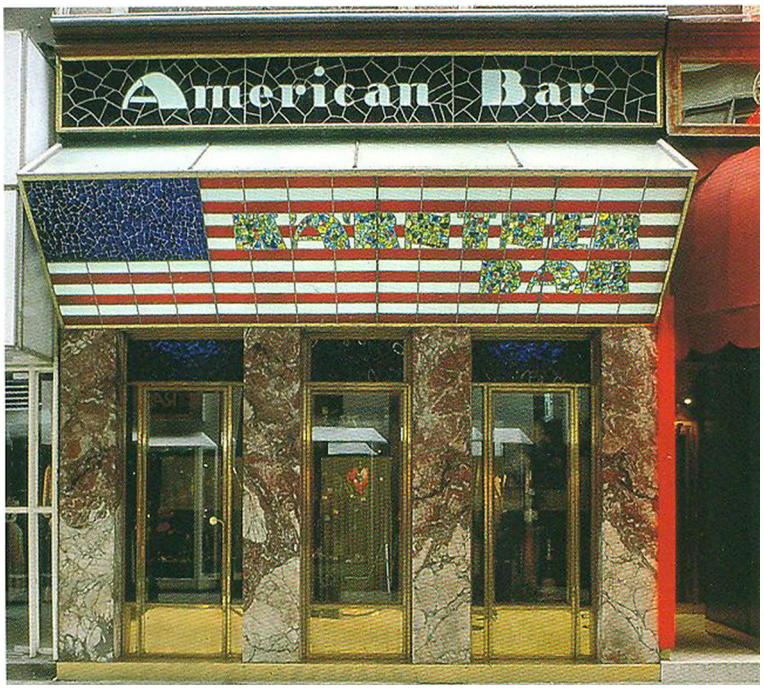

Figure 5. Kartner Bar,1908, (URL 7)

the columns used on the front of the building, which are not known to be carriers and are perceived as ornaments. However, Loos explained about these columns in his book on Architecture. He said that these columns are not ornamental; they are really necessary columns in the carrier system, so they are used. At the same time, it can be observed that marble is used expertly in this building. There is a palace directly opposite the building, and this unadorned rise of this building opposite this palace was interpreted as an insult by the critics of the period. Therefore, the construction of the building was stopped. After a while, the construction was completed with the support of Otto Wagner to Loos.

Figure 6. Haus am Michaelerplatz, 1909-11, (URL 14)

About ten years after the construction of the Bellariastrasse building, between 1882 and 1883, Loos commented that for another building of Wagner located on Stadiongasse Street, "hard as a caged lion killing a butterfly", he admitted that the design was beautiful, but the style was harsh.

Figure 7. Stadiongasse, 1882/1883, (URL 15)

It is possible to observe how much the architectural style has changed in the Karlzplatz pavilion, which was designed by Wagner in an average of 20 years, in 1900. Loos did not admit that this building was originally designed by Otto Wagner, claimed that it was out of the hands of the design team and that Wagner was not involved, but Otto Wagner was proud of this structure and announced that he designed this structure himself.

Figure 8.Karlzplatz Otto Wagner Pavillion, 1900, (URL 16)

Most of the projects that Adolf Loos made after 1910 were residences. In these houses, we observe that vaults are frequently used on the exterior as a complementary element of the building in the early periods. Built in 1910, the building that is thought to form the basis of Bauhaus architecture, Steiner Haus is also an example of being the first reinforced concrete structure of its kind.

DESIGN PRINCIPLES OF ADOLF LOOS

In this process, while Loos' designs were simplified on the exterior, the rate of material usage in the interior never changed. On the exterior, Loos largely reflected the plan of the building, and on the interior, Raumplan never compromised on the materiality, spatial details, and features that make the house a home. He had a sensitivity towards human needs in all the details he designed in the interior. Loos refers to the story of Little Rich Man, a story he adopted as his way of thinking in his writings during these periods. If this story is;

"Once upon a time, there lived a man who was very rich and had a perfect family, and was envied by everyone. He agreed with an architect, experts from dozens of different professions came to his house, and a major change was made from top to bottom. From the chair he sits on to the fork with which he eats, everything is now an art. The architect designed everything for this man, even a pen he used had a special place on the table. The man was very pleased with himself, I was proud of himself, but as time passed, it started to tire him. The architect did not allow the man to take anything into the house and said that he designed everything he needed. The man no longer needed anything, because he had everything." (Loos, 1982)

With this story, Loos once again emphasizes that architecture is not a branch of art and emphasizes the relationship between architecture and art; Architecture is to offer people a comfortable life, art is to disturb people. A work of art has no responsibility to anyone, but a building is responsible to everyone, he explains.

Figure 9. Steiner House 1910, (URL 8)

It is very important to experience the space he designed for Adolf Loos. The purpose of his designs is to increase the sense of curiosity and not to guess the interior from the outside of the building, and to appeal to the five different senses of the visitor in the interior. For this reason, he uses the material skilfully in his designs. Almost all of Loos' buildings have a very intense use of materials in the interior, and Loos has never compromised from this attitude throughout his architectural adventure.

Figure 10. Horner House, 1912 (URL 9)

One of the materials Loos uses most in interiors is marble. He mentions that he went to Africa to find the marbles he used on the exterior of the Looshaus building. Marble is a noble material for Loos and uses this material extensively as a covering element not only horizontally but also vertically.

Figure 11. Left- Duschnitz Villa, 1915-16 (URL 10), Right- Brummel House, 1929, (URL 13)

Another material that Loos uses extensively in the interiors is wood. He frequently used wooden elements on both horizontal and vertical surfaces, and this element can be observed in almost every structure. It defines and separates the spaces by making changes with the colour tones of the wood material according to the frequency of use of the spaces, whether they are general or private spaces.

Figure 12. Left- Bauer Chateau, 1925 (URL 17), Right- Villa Karma, 1903, (URL 18)

Figure 13. Left- Kärntner Bar, 1908, (URL 7), Right- Lina Loos's Bedroom, 1903, (URL 19)

Two other materials that we often observe in his interiors are mirror and textile. Loos uses these materials skilfully and intensely. Just as people dress for different events, Loos dresses the rooms according to their different functions. Loos defends that the concept of "material honesty" is important when using materials in a building and that every material should be used in accordance with its purpose.

Duschnitz Villa designed by Adolf Loos between 1915-16 and Spanner Country House designed in 1924 differ from other buildings with their pointed roofs and towers. These two buildings are in nature, away from the city centre. Loos' article titled Building in the Mountains, written in 1913, gives clues about the formation of the design ideas of these buildings. In this article, Loos explains his design thoughts with the words "Nature is always sides the truth, don't fear of criticism for being old fashion and think about snow and rain in the buildings you design, not the beauty of the roof (Loos, 2014)."

Figure 14. Left- Duschnitz Villa, 1915-16, (URL 10), Right- Spanner Country House, 1924, (URL 12)

As time goes by, the increase in the effort for simplification on the exterior, but the fact that the use of materials in the interior has not changed in any way can be seen with the Rufer House in 1922. It is the first building where Loos implemented Raumplan. The evolution of culture is achieved by removing ornaments from the items we use daily.

Figure 15. Rufer House, 1922, (URL 11, 20)

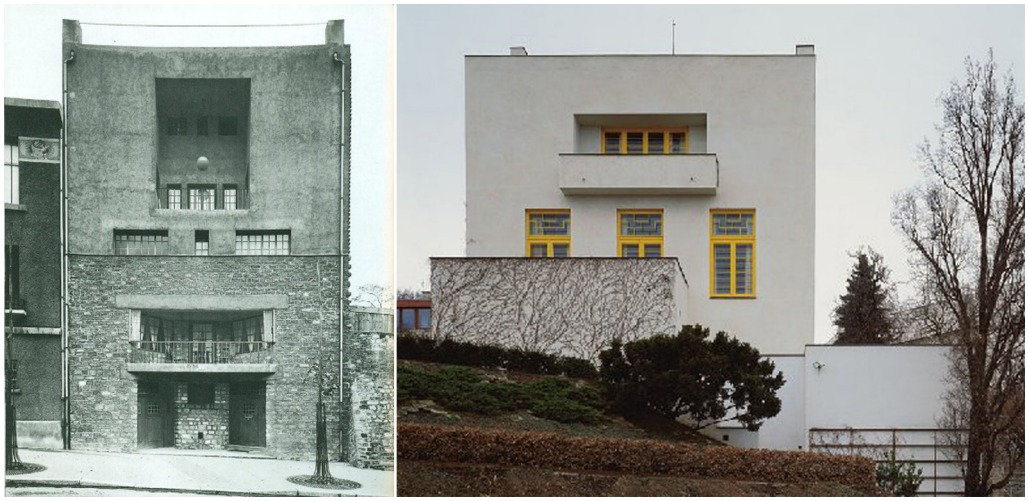

Figure 16. Left- Tristan Tzara House, 1925-26, (URL 21), Right- Müller Villa, 1928-30, (URL 22)

Raumplan, which is often compared to Le Corbusier's Plan Libre, is the design of space in three dimensions, not two. So, Loos plans design volumes, not sections. Loos argues that the height requirement of each space is different and raises spaces at various levels with Raumplan. With these elevation differences, it separates private areas and public areas from each other. At the same time, according to Loos, these elevation differences add a theatrical atmosphere to the spaces.

While designing the volumes, Loos does not care about the effects that will occur on the exterior of the building by designing it from the inside out, and in this way, the plan of the building is reflected on the facade. The clearly observable Loos structure is the Müller Villa, where Raumplan has been masterfully implemented. As seen in the graphic, the spaces are expressed as cubes and each cube is at a different level, with different heights and widths.

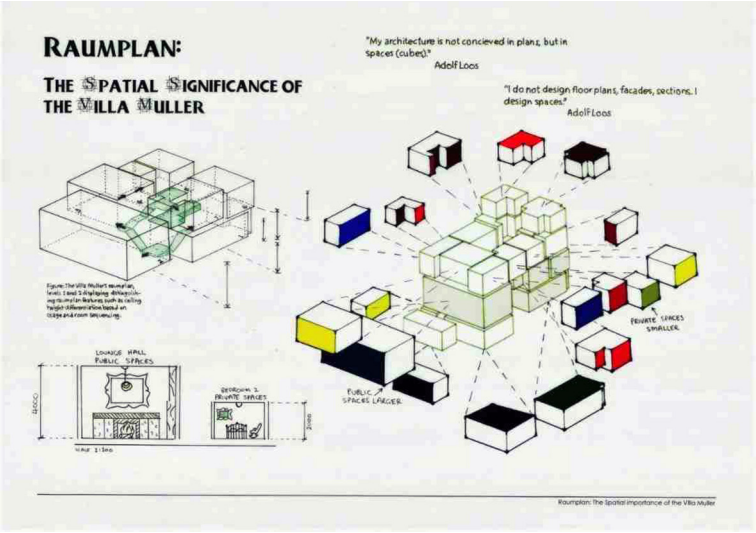

Figure 17. Raumplan Chart, (URL 23)

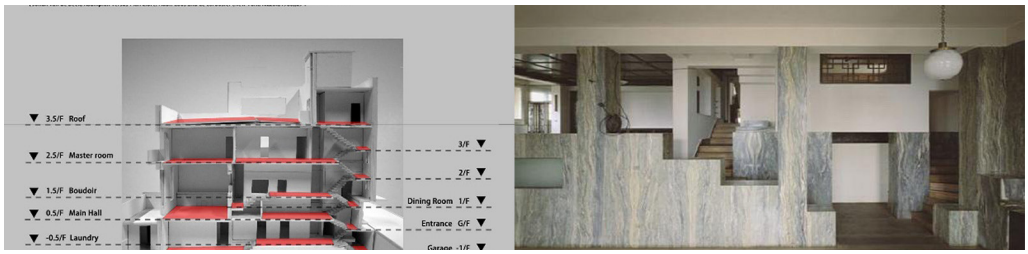

Figure 18. Müller Villa, 1928-30, (URL 24, 25)

The continuation of this simplification is observed in the Tristan Tzara House in 1925-26 and in the Müller House in 1928-30. These structures have a different attitude from the buildings built in previous periods. Loos avoided symmetry in all his designs until these two structures. Tristan Tzara House was built in Paris for Tristan Tzara, the founder of Dadaism. During this period of Loos, the House does not need to tell everything to the outside; instead, he says, all his wealth must be expressed within. At Tristan House, the windows are not meant to view outside, but simply to bring light into the interior.

CONCLUSION

In the last period of Adolf Loos's 38-year architectural adventure, it is seen that Loos uses the exterior only as a tool to cover the interior, and these designs support the mask metaphor described in the Ornament and Crime article. With the metaphor of the **mask**, Loos likens the façades of buildings to the masks that people wear against the outside world. The exterior belongs to the society, and the interior belongs to the user. In the concept of **tattoo**, human and structure analogy is used. Loos has a very harsh and critical attitude towards tattoos and says:

"If someone who is tattooed dies in freedom, then he does so a few years before he would have committed murder." (Loos, 1931)

Loos argues that societies with a low cultural level use ornamentation abundantly, and societies with a high level of culture prefer simplification. He says that the decorations made in the buildings should not be outside the building but with the use of materials inside.

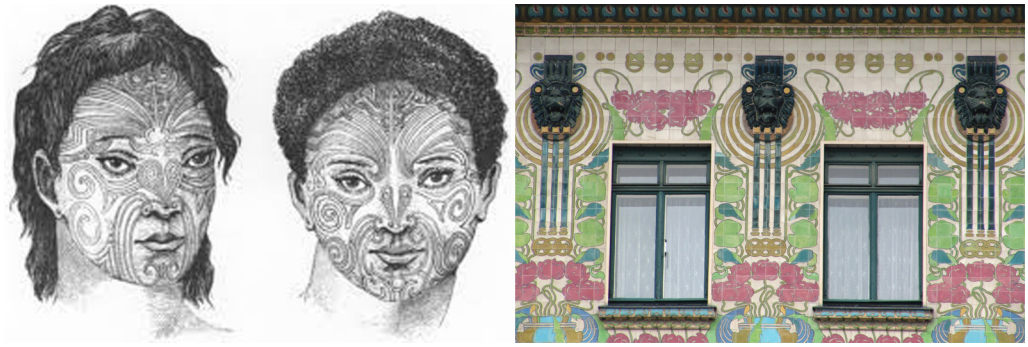

Figure 19. Left Tattooed faces, (Canales, J., & Herscher, A. 2005) Right- Tattoed facades, (URL 26)

So, what lies behind the word Ornament is Crime, what is the basis of these controversial ideas? As demonstrated by this article, Loos' phrase "ornament is crime" turns out to be misinterpreted but to have deeper meanings.

Loos says that ornamentation is murder and defines ornamentation not as a direct crime, but as an element that encourages crime. He says that embellishment is showing something more than it should be, and trying for it causes unnecessary effort, time and money to be spent. Therefore, he argues that all these indirectly cause people to commit crimes by damaging the country's economy. He defines ornaments as a symbol of intellectual power and that there is no room for decoration in today's conditions.

Adolf Loos, who lived in Vienna in the 19th century, when ornamentation was used most intensively, developed a different perspective by opposing the architectural style of the period. With this point of view, he received a reaction in many environments, but he did not give up on his idea and on the contrary developed it more. By following the development of Loos' architectural style over the periods, we can see that he has completely succeeded in applying his ideas in his latest designs.

According to the buildings designed by Loos, we can say that Loos does not like symmetry on the façades of his designes. Loos designs interiors almost perfectly and the interiors he designs can be called quite "ornamental". The interiors are designed too much, appealing to all five senses of the user, while the exterior is used only as a "mask", its sole purpose is to invite the visitor inside. Loos, who uses so much ornaments in the interior, has designed the exterior as if it were careless and haphazard, especially in his recent buildings, contradicting each other and this is an interesting contrast.

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