

otl aicher  
analogous and  
digital

WILEY

 **Ernst & Sohn**  
A Wiley Brand

# CONTENTS

[Cover](#)

[Title Page](#)

[Copyright](#)

[preface by sir norman foster](#)

[introduction](#)

[Authenticity and a questionable analogy.](#)

[Knowing and making](#)

[Thinking and making](#)

[Critique of rationalism](#)

[Aicher today.](#)

[grasping with the hand and mind](#)

[extensions of the ego](#)

[the eye, visual thinking](#)

[analogous and digital](#)

[afterword](#)

[universals and capitals](#)

[1](#)

[2](#)

[3](#)

[4](#)

[buridan and peirce](#)

[reading scores](#)

[honourable burial for descartes](#)

[design and philosophy.](#)

[1](#)

2

3

4

architecture and epistemology.

use as philosophy.

1 wittgenstein as an architect

2 haus wittgenstein

3 we in the world

4 use

5 school of making

6 looking

appendix

planning and control

development, a concept

an apple

something quite ordinary.

1

2

3

life form and ideology.

what is truth?

cultures of thinking

afterword

sources

eula

# **otl aicher analogous and digital**

with an introduction  
by wilhelm vossenkuhl



published in co-operation with the otl aicher archives

**library of congress card no.:**

applied for

**british library cataloguing-in-publication data**

a catalogue record for this book is available from the british library.

**bibliographic information published by the deutsche nationalbibliothek**

the deutsche nationalbibliothek lists this publication in the deutsche nationalbibliografie; detailed bibliographic data are available on the internet at <<http://dnb.d-nb.de>>.

© 2015 wilhelm ernst & sohn, verlag für architektur und technische wissenschaften gmbH & co. kg, rotherstraße 21, 10245 berlin, germany

© 1994 by inge aicher-scholl, 2014 by florian aicher

first published as *analog und digital* german edition

© 1991 by otl aicher, 1992 by inge aicher-scholl, 2014 by florian aicher

all rights reserved (including those of translation into other languages). no part of this book may be reproduced in any form – by photoprinting, microfilm, or any other means – nor transmitted or translated into a machine language without written permission from the publishers. registered names, trademarks, etc. used in this book, even when not specifically marked as such, are not to be considered unprotected by law.

translation: michael robinson

translation of the amended preface: übersetzungen hanns schiefefe, bad reichenhall, germany

2. edition

**print isbn:** 978-3-433-03119-3

**epdf isbn:** 978-3-433-60594-3

**epub isbn:** 978-3-433-60593-6

**emobi isbn:** 978-3-433-60590-5

**obook isbn:** 978-3-433-60596-7

Otl Aicher was a good friend, mentor and working colleague. There was never a division between conversations on our work or any other subject - the topics ranged far and wide. Often as he was talking, Otl would pick up a piece of paper and illustrate his point with careful strokes of a ball-point. The combination was uniquely personal - witty, incisive and often thought-provoking.

During his summer retreats in August at Rotis, Otl would commit his thoughts to paper and these later became the subject of two books. Before then some of them had appeared randomly as articles in magazines or in editions. I remember being frustrated because I could not read German, even though I might guess at their content from the many hours spent with Otl hearing their story lines. I was also upset because I so much wanted to share Otl's insights with others around me; he seemed to be able to say with clarity and eloquence many of the things I felt needed to be said - as well as some of the things which we did not agree about. In his last years Otl was, I felt, at the height of his creativity in many fields, which ranged from visual communication and new typefaces to political and philosophical comment.

Following the tragedy of Otl's death I felt compelled to help make it possible for all of his writings to be translated and published in English. Otl saw through the stupidities of fashion and vanity. His opinions were so relevant to the issues of today that I believed it was important for them to be shared with a wider English-speaking audience - relevant to my own generation as well as students, professionals and the lay public.

Otl wrote rather in the way that he spoke and after some debate with those who were closer to him and who were also German speakers it was decided to leave the

translation in its conversational form. We also felt that it was important to respect Otl's passionate objection to capital letters for starting sentences or marking traditionally important words. Perhaps it underlined his scorn for the pompous.

There was an integrity about the way that Otl lived, practised and preached. He would probably have been uncomfortable with the word preach, but I use it here in its most honourable and inspiring sense.

Norman Foster  
London, January 1994

# INTRODUCTION

by Wilhelm Vossenkuhl

## Authenticity and a questionable analogy

“How is it”, asks Edward Young, “that we are born as originals and die as copies?” The 18th-century English poet is concerned that as individuals in society we lose our distinctive qualities. We conform to other people, the taste of the times, but also to law and political order. Ultimately we do not know who we are and what makes us different from all the rest.

This concern about our authenticity has not got any less today. Authenticity is one of the great themes of Modernism. Young's contemporary Rousseau believes that it is only meaningful for us to exist in “unity of life with itself”, in unity with nature. He suggests a new legal system to rescue authenticity, intended to create a community of life instead of abstract legal conditions.

It is hard for us to imagine today how we can do justice to the ideal of unity with nature in a bourgeois life community. And yet this ideal still seems fascinating. We have not stopped striving for it. But in our ecological epoch it means something different from what it did at the time of Rousseau.

Today we want to achieve unity with ourselves by the shortest possible route, and find our authentic selves without a detour via society. We strive for a direct, concrete relationship with our own nature and our natural environment. Society and its order seem to depend on the

right relationship of the individual with nature, and not vice versa. A wareness of ecological dangers puts the natural before the social environment. The long-accepted precedence of society over the individual, at least from a political and legal point of view, has been questioned for quite some time. A new individualism with many pros and cons has prevailed for quite a while, at least in Western society.

Rousseau's suggestion appeared to be highly abstract to Lionel Trilling half a century ago. Trilling thought that our feeling for authenticity had become rougher, more concrete and more extreme (*Das Ende der Aufrichtigkeit*, Frankfurt/Main 1983, S. 92). When Trilling put forward this thesis in his lectures at Harvard University it was easy to understand. However, his scepticism towards Rousseau at the time is now difficult to comprehend. On the other hand, the joy that Rousseau described as philosophical life in his "Rêveries" is accessible again (Heinrich Meier, *Über das Glück des philosophischen Lebens. Reflexionen zu Rousseaus Rêveries*, Munich 2011).

Striving to achieve unity with nature and an authentic self that is happy at the same time has come under pressure of time because of ecological dangers. It is no wonder that this pressure of time is making us increasingly impatient. This impatience increases our intolerance of the actual or presumed - agents of these dangers. But this impatience is a symptom in itself, not just a crisis of understanding ourselves and our unity with nature.

This crisis is not merely older than the ecological one. People like Rousseau, who were asking about our authenticity at the time of the Enlightenment, were already aware of it. But the attempt to solve this crisis leads in the wrong direction. In the late 18th century -after a long period of preparation through anatomy and early biological

research - the thought that what was organic was natural became accepted.

It is not obvious at first how erroneous this thought is in terms of our self-perception and our relationship with nature. This is perhaps why it has lost none of its influence, even today. We come across it in criticism of modern technology and of literature. What makes this thought so plausible?

An organ is a complete entity, even if it is part of a greater whole, along with other organs; it plays a distinctive and irreplaceable role. It is difficult to find a more vivid image of authenticity than that of the organ. It conveys the thought that something authentic must have grown, it cannot be manufactured artificially.

The first critics of the age of the machine in the early 19th century, Carlyle and Ruskin, draw an analogy between the authentic and the organic. They see man's authenticity endangered by the mechanical principle of the machine. In their eyes everything that man creates for himself with technical aids is manufactured artificially, and therefore not authentic. Art, they think, along with 19th and 20th century Romantics, must also look to the organic if it wants to create something authentic. By the way, anyone who thinks that Carlyles and Riskins scepticism about the machine world was a long time ago and is long since obsolete is mistaken. Just recently we witnessed criticism of the machine and science era that was no less vehement in Michael Oakeshotts diaries (Michael Oakeshott, *Notebooks 1922-1986*, ed. by Luke O'Sullivan, Exeter 2014). Oakeshott also indirectly dealt with the analogy between the authentic and the organic in the form of what constitutes our integral nature as people, which is concealed from nothing and nobody. He spoke of the "terrorism of science" and turned against the superficial progress thinking that changes our

nature. Like Ruskin, he believed that the commercialisation of life, industrialisation and money is the curse of our age. He claimed that this all deflects us from our actual selves. The question about the analogy between the authentic and the organic has obviously not gone away. But what is questionable about this analogy?

The thing that is questionable about the analogy is that it leads us astray due to a little metamorphosis. Because the organic inadvertently loses its meaning. The analogy, the image of the authentic, suddenly becomes a model, a kind of ideal. It appears as abstract as Rousseau's ideal of unity with nature in Trillings eyes. However, Rousseau's ideal is anything but abstract, because it is associated with the idea of freedom. Rousseau's message is that man can determine himself. Freedom is an active principle that guides the search for unity with nature in society. Man shapes his own identity.

The organic is not a model for active self-determination. It is more likely to condemn people to passivity and determination from outside. We do not even know what we are supposed to do when we orientate ourselves towards that which is organic, apart from shopping in health food shops, of course. The analogy between authentic and organic is questionable because it suggests that we can discover our own authenticity in the organic structure of the natural environment. However, our nature and our unity with the natural environment are determined and designed by ourselves, if at all. For this reason we are also responsible for our own nature and the environment.

## Knowing and making

Self-determination and shaping nature remain abstract goals for as long as we do not know how we can realize them. What kind of knowledge do we need to determine

ourselves? There are two kinds of knowledge to be dealt with here. One is knowledge of a plan that prescribes how the goal of self-determination can be reached. The other is knowledge that only develops in the course of concrete self-determination. We call the former theoretical and the latter practical knowledge. In one case the goal is fixed, in the other the goal only becomes concrete on the way to it.

Aristotle was already aware of both these kinds of knowledge. But two things were alien to him, the idea of self-determination and the idea that man can manufacture, can make himself. For this reason it does not make sense to transfer his views of theoretical and practical knowledge to the specifically modern idea of self-determination. We have to see how theoretical and practical knowledge were understood at the time of early Modernism, when the idea of self-determination came into being.

Modern understanding of theoretical knowledge was forged by Descartes in particular, and that of practical knowledge by Vico. For Descartes, determination of one's own self needed no experience. For him the ego has no history. It is a substance outside time and space, that we cannot doubt. Whenever I am in doubt about something I know that it is I who am in doubt. Descartes argues that this ego must be beyond doubt. Its theoretical features, like mathematical laws, simply have to be recognized, not newly discovered. For this reason there can be no problem of self-determination for Descartes. The ego is always the indubitable basis of all knowledge.

Vico, the counterpart of Descartes, believes that self-knowledge is historical. He sees in the "modifications of our own human mind" the principles by which we make history. Knowledge of history, and this is his fundamental thought, is formed in and through the making of history. We acquire

practical knowledge by our own making, the manufacture of history.

Descartes' view of theoretical knowledge shaped the development of modern science, whose knowledge requires mathematics. With the aid of mathematics it has been able to and still can successfully formulate natural laws on the basis of experiment and hypothesis. Descartes formulated modern criteria of truth and the certainty of knowledge.

Vico's view of practical knowledge acquired through human making was denied this kind of success. This is partly because his view of making is inconsistent. It is true that we make history, but we, as God's creatures, follow the natural laws that he lays down. The idea of human self-determination is still alien to Vico.

Now which view of knowledge tells us that we are capable of selfdetermination? Apparently neither. Descartes sees no problem in self-determination, because in his understanding it is the basis of theoretical knowledge. Vico certainly introduces the thought of historical making, but he does not apply it to human self-determination because it was not yet a problem for him.

It is hardly surprising that these early modern concepts of knowing and making do not show which kind of knowledge we require to determine ourselves. The idea of self-determination, which is the basis of the search for authenticity and unity with nature, is unknown to early Modernism. And yet the two concepts identify the alternative types of knowledge that come into question as far as self-determination is concerned.

But a characteristic feature of Modernism is the fact that theoretical knowledge is considered superior to practical knowledge. The practical knowledge that is learned in historical making attracts little attention. Marx certainly

takes up Vico's idea in *Das Kapital*, but does not apply it to man's relationship with nature. He believes in the emancipating power of technology. Marx, as Habermas critically points out, is thus involved in an ideology, that of belief in technology. This ideology is no better than its counterpart, hostility to technology.

However, in his early writings, the *Pariser Manuskripte* dating from 1844, Marx does develop a new concept of practical knowledge, that of self-manufacture through work. He sees work as a process of naturalization for man and humanization of nature. But this process founders if man sells his work for an abstract financial value. In doing this he alienates himself from his products, from work, and finally from himself.

Marx recognizes the mutual dependence between self-determination and making, between self-manufacture and work. He does not pursue this insight any more deeply than to provide a sketch of the stages of alienation. But his concept of alienation draws to our attention that we cannot determine ourselves if we disregard that mutual dependence. We can either determine ourselves, or fail in the manufacture of things, in making.

Alienation is the opposite of authenticity. We can either determine ourselves in making, or we fail, and put ourselves in danger. Making is clearly ambiguous, just as ambiguous as technology. Today we no longer speak of alienation, but of the way we are endangering and destroying ourselves, the natural environment and our culture. What kind of making would not put us in danger, but allow us to determine ourselves?

## Thinking and making

In this collection of essays, Otl Aicher attempts to answer this question. He develops a philosophy of making that works from the basic thought that thinking and making are so interdependent that one can be understood only in terms of the other. Aicher demonstrates that up to now we have misunderstood the making and therefore have a one-sided opinion of thinking.

He reproaches us to neglect the practical side of things compared to their theoretical side. For this reason we overestimate the importance of what Otl Aicher calls “digital”: abstract conceptuality and logical precision. But we underestimate the visual, things that are learned from practical experience and sensual perception, which Aicher calls “analogous”. But Aicher is convinced that the abstract and digital can no more be separated from the concrete and analogous than conceptual thinking from our sensuality. Mental and physical making are related to each other and dependent upon each other. If we disregard this mutual relationship we endanger ourselves and our world.

Without any obligation towards philosophical tradition and without taking any particular model, Aicher adopts the concept of practical knowledge that is touched upon by Vico and Marx. He gives a new meaning to this concept. It is intended to overcome the split in modern consciousness, the division between abstract and concrete thinking, between digital and analogous. He does not try to find a counter-concept to theoretical knowledge, but criticizes its one-sidedness. He wants to show that this one-sidedness is partially responsible for the crisis of rationality and our self-perception in Modernism.

Aicher is convinced that the concrete comes before the abstract, *anschauung* before reason, truth before knowledge. He finds sufficient justification for this in Ockham, Kant and Wittgenstein. He does not use dialogue

with these philosophers for superficial confirmation of his own convictions. Aicher does not exploit his interlocutors. But he does not want merely to interpret them. Each of his dialogues opens up a new view of the philosopher addressed.

Aicher is not bound by historical exposition in his interpretation of philosophers like Ockham, Buridan, Descartes, Kant and Wittgenstein. But he does not disregard hermeneutic obligations. He is not concerned to imply that Ockham, Kant or Wittgenstein had intentions identical with his own. He simply takes up thoughts that convince him, independently of their historical context. This is particularly legitimate when we learn to understand something better, or for the first time.

Aicher and Wittgenstein share a common interest in architecture. Aicher sees the house that Wittgenstein built for his sister Gretl as a “school of making”. He says that Wittgenstein, who built the house on the basis of the digital, logical severity of the *tractatus*, detected the flaws in this early philosophy as a result. Aicher sees the philosophy of use, of language games and life forms as being derived from Wittgenstein's experience as an architect.

There is no better example as this for Aicher's conviction that knowledge is the “reverse of making” and that making is “work on oneself”. In Aicher's eyes Wittgenstein learned from his work as an architect that analogous thinking is superior to digital thinking.

Aicher's philosophical reflections are an introduction to design, creativity and developing. For him there is nothing that should not be designed, created and developed. This is true of one's own self, of life with others and with nature, the objects of everyday life, living and thinking. We acquire the ability to design and create by doing it. What we do and in what profession is secondary. We should simply not allow

ourselves to be guided by pre-formed designs and previously devised plans.

Of course freedom to move free from prescriptions requires independence of judgement. Aicher sees his “visual thinking” as an element of the power of judgement, as Kant did imagination. We acquire the ability to judge correctly by learning to see and perceive correctly. This is not just true of designers, it is true of all of us.

In this context Aicher turns critically to designers and architects, and recommends that what they design should not be directed simply at function, but at materials and their organization. Form should do justice first of all to material and then to function. If this imperative is disregarded, then design degenerates into sales promotion and architecture becomes ornamental. Creation and design lose their autonomy and are determined and abused by economic and political purposes. Aicher does not see this kind of “aesthetic consumption” as an isolated phenomenon. It is an expression of the crisis in our self-perception that has parallel phenomena in all spheres of life.

Design, architecture and philosophy hardly relate to each other at all as academic disciplines. This is appropriate to their different tasks. But as Aicher shows, they have in common the problem of how thinking and making relate to each other. This is the problem of all kinds of design and creation. Aicher does not leave it at that insight. He recognizes that designing and creation have to satisfy a fundamental demand, that of human self-determination.

## Critique of rationalism

Aicher's thinking is not limited to a philosophy of making. He does not only confront philosophical problems of cognition, sensual perception, language and thinking from a different

point of view. If he prefers the analogous and concrete to the digital and abstract he does it with a philosophical intention. He relativizes the role of pure reason. He criticizes the rationality of Modernism as a result of the dominance of purely abstract thinking.

This critique has a political slant. Aicher sees the cultural and political consequences of the absolute claim of abstract reason. They have an effect on the institutions of our culture and the state. In his view the dominance of abstract thinking has been copied in the cultural and political circumstances of our age.

In criticizing rationalism, Aicher intends to criticize the claims of the institutions which consider themselves to be the agents of absolute values and truths. He considers the very claim that there are such values and truths to be absurd. Like Ockham's critique of universals, Aicher's critique of abstract thought is politically coherent.

Anyone who prefers the abstract to the concrete does not only misunderstand the mutual dependence of concept and view. In Aicher's judgement he is also creating a false hierarchy, a rank order that is culturally fatal. Things that are digital and abstract are not greater, higher and more important than things that are analogous and concrete.

Aicher is opposed to false hierarchies. His thinking is republican. He is concerned about the correct relationship between analogous and digital, the correct distribution of weight, priority in the right place, and in the right context. What is ordinary is not ordinary for him in a derogatory sense.

But the ordinary is also not extraordinary. It is the thing that is appropriate to the purposes of our daily lives. Ordinary things are determined by our use of things and not by aesthetic ideals. Design should take account of the ordinary,

of the purposes of our lives. Design should serve practice, human life forms, and not dominate the use of things aesthetically.

For Aicher aestheticization of life appears particularly clearly in design that is directed not at use but at fine art. He compares this disregard of use and concrete practice with disregard of what is particular and empirical in certain traditions of metaphysics. If design takes fine art as a model it puts itself in the service of “aesthetic metaphysics”. Aicher uses this name like a curse, similarly to the way in which Wittgenstein and the Vienna circle spoke about “metaphysics” and its apparent problems.

For Aicher the beautiful appearance of artistic design is not just an irritation. Design of this kind ignores human purposes and use, and thus also the demands of human life. It is a *bürden* on our lives in the same way that the rubbish we create is a burden on nature. Artistic design frivolously gives away the opportunity to shape the living world humanely.

Aicher's imperative is that we should redesign the world. In his thinking the world as design is the theme that connects design and philosophy directly. Design requires concrete developments, not abstract planning. We should not just be designing material objects such as houses and cities for living and working in, but developing and changing ourselves.

The changes in thinking and making demanded by Aicher have philosophical precedents. These are to be found above all in Ockham, Kant and Wittgenstein. Some of their basic insights have become central themes for Aicher. Ockham anchored true perception in the sensually concrete particular and not in the general. Kant identified the significance of imagination for our understanding of natural

things. And finally Wittgenstein saw the meaning of what we say in the use of words and sentences.

All three philosophers in their particular ways redesigned the world and altered thinking. Aicher repeatedly takes up their basic insights, varies them and combines them with his own reflections on the reason of the concrete when doing things.

## Aicher today

Otl Aicher died after an accident in the late summer of 1991, much too soon, as they say. In the same year, two volumes containing many of his essays were published (*analog und digital, die welt als entwurf*). Another volume containing essays about current political topics was published posthumously (*schreiben und widersprechen*, Berlin 1993). If you take the three volumes that have been mentioned together with the books that he wrote and designed (e.g. with regard to typography, the subject of “light” and the many exhibitions and exhibition catalogues), the large bandwidth and tremendous variety of Aichers work becomes evident, ultimately that which he meant by “designing” and “doing”. He was also a designer in his work as an author, photographer and philosopher. Much of his work is well documented and easy to understand in a readworthy biography (Eva Moser: *Otl Aicher: Gestalter. Eine Biografie*, Ostfildern 2011).

Aicher’s actions and thoughts have left traces behind which are evident in the work of many designers and architects in many countries, not just in Germany. The history of his influence cannot be portrayed in individual examples here, but one example of his influence that I remember was his collaboration with Norman Foster, which is documented in three large volumes and exemplary to a certain degree. The special nature of the work and design of the three volumes

is described in a separate small volume (*Otl Aicher an der Arbeit für Norman Foster*, Ernst und Sohn 1989). On the one hand, the three volumes are a monograph of Fosters architecture (Vol. 1: 1964–1973, Vol.2: 1971–1978, Vol.3: 1978–1985) which was originally intended to encompass five volumes, but remained incomplete due to Aicher's early demise. On the other hand, these volumes are a perfect example of how Aicher designed books, and the manifestation of that which the books were intended to show. They show what they say in the best way possible. Of course, this is expected from any well-designed book. In the case of architecture it is about something that appears easy to show, because architecture has to be seen, depends on pictures and can be brought to life with illustrations. Many illustrated books about architecture visualise that which appears to be easy to show but in a superficial way, as though they were advertising brochures. They show pictures of building projects and buildings and also name them, but otherwise they say very little. They do not end up in the awkward situation of also showing what they are saying. The three volumes about Fosters architecture are quite different. The projects and buildings are described in detail by many authors, many of whom who collaborated on the projects. We are not talking about superficiality, instead the genealogies and structures of Foster's architecture are shown, described and explained. You can see and read how drawings are turned into structures, how they blend into landscapes and ensembles and turn them into something remarkable.

Aicher explained his approach of the three volumes as follows: "It was not the structures that I saw first, but the way in which they were created. Here you could see what architecture is in which thinking is not just allowed (...), but is created by thinking..." (*Otl Aicher on the work for Norman Foster*, 8). Aichers critical but also architectural spirit is

between the lines. In the monograph about Foster's architecture he objects to portrayals in which the architecture comes along "as though it came off a catwalk" (loc. cit.). He criticises architecture that follows fashions and ideas. Instead he demands buildings that are justified and can be justified, like those of Foster.

There is another reason for remembering the design of the Foster monograph. It shows how Aicher designed books. He defines an exact line break matrix, an organisation principle of design. The typography and layout are precisely organised. All of this together makes that which Aicher called the syntax of design. Like the use of a language, the syntax must not be in the spotlight, and must not stand out. And it does not stand out. It is merely noticeable how clear and understandable the process descriptions of the construction projects are, and how clear the connections between the pictures and the texts are. The principles of design upon which the three-volume monograph are based are unsurpassed in the design that was used by Aicher.

Wilhelm Vossenkuhl  
Munich 1991/2014

## GRASPING WITH THE HAND AND MIND

the relationship between thinking and body is so close that what happens in the mind is often described in the language of the hands. mind is often seated less in transcendence than in the hand. because the hand can grasp, thought can also grasp. because our hand can take hold of something our heads can take hold of it as well. because the hand can present, thinking can represent. because the hand can lay things down, thinking can lay things down as well. and we do not just lay things down, we overlay, lay things on top of each other. we do not just set things firmly in mind, we set things up, a new theory for example. we do not just grasp, do not just take hold, we take a view of things, twist them and turn them and finally arrive at a point of view.

having grasped something mentally is not just a pictorial analogy with physical grasping. the culture of thinking requires a culture of the hand as a subtle, sensitive organ. if the hand can open up, if it doesn't just work, but plays as well, if it perceives, then the mind will open up more freely as well. the hand's plasticity is the plasticity of thought. the concept is what is conceived.

only with the eye, with seeing, do we associate a similar abundance of words and concepts to describe thought processes. we look through and survey, we develop views of the world, perspectives and points of view.

our natural languages can be evaluated archaeologically, under their words lie the ruins of earlier relationships, earlier developments. words conceal their own ruins.

if one understands language in this way as evidence for the way in which the evolution of thought might have

developed, then mind will be seen only as a station on the closed loop that makes thinking, along with the hand and the eye the station of control and comparison, in other words evaluation. understanding, eye and hand are to be seen in a linked circle of effectiveness.

thinking emerged from the control function in the closed loop of making. anyone threading a needle with his hand takes the thread to the eye of the needle with his fingers. if you miss, the eye signals the result to the brain, this passes a control order to the hand and the closed loop can start again. action, control and conclusion are a linked process so characteristic of everything that lives that it can be considered defined by that process.

modern thinking has started to concern itself with the laws of thinking, of counting, of systematization and drawing conclusions in a new way, one that is detached from the real world, abstract. this led to the fact that we have as good as disconnected seeing and acting as prerequisites of thinking. the algebrization of the world made us take formulae, thought processes and logical operations for granted and established them as a way of thinking about thinking. the mind woke up as a mind. we can even understand mathematical laws if we understand nothing else. the closed loop has largely been reduced to the inner world of reason.

but is the inner world of reason the whole world? today, when we are stuck in the thousand culs-de-sac of this immanent reason, we are rediscovering the eye, rediscovering the hand. we are rediscovering the domain of making as a prerequisite of thought.

we are discovering that thinking was liberated because the human hand was liberated. when human beings, at a certain stage of their development, came out of the forests, their hands became superfluous as catching organs. they were free, and man learned to use them for other tasks,