

43 PERCEIVING AND CONCEIVING

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Perceiving is the ability to extricate certain aspects from within their context so as to be able to place them in a new context. You see things differently, or you see different things, depending on your intentions in perceiving. Each new idea begins with seeing things differently. New signals bombard you, persuading you that things are not the way you thought, making inevitable the need or demand for a new response. To observe and so understand your situation, your surroundings, the world, differently, you have to be capable of seeing things in another light, seeing those same things differently. For that you need another sensibility, resulting from a different perspective on things, your surroundings, the world.

The architect's most important attributes are not the traditional emblems of professional skill, the ruler and pair of compasses, but his eyes and ears.

At a certain moment in the nineteenth century, painters began painting the patches of light in the shadow of trees, where sunlight falling between the leaves perforated so to speak the areas of shadow. You could say that those patches of light must have always been there, and they undoubtedly were as long as there were people to look at them, yet those painters saw them for the first time. At least they only then became consciously aware of them as an essential aspect of the configuration we call tree. Their attention focused on the exceptional quality of trees as providers of shade and shelter, and on the fact that people tend to linger there rather than elsewhere. Searching for other things, with the shift in attention that brings, they became conscious of aspects they had in fact always seen without being aware of it.

Often it takes painters and their interpretations to make you aware of how things hang together. For instance we see the landscape of Provence influenced by the way Cézanne experienced it; we are in fact looking through the painter's eyes. You become aware of what you are actually seeing only when that perception occurs in the right context at the right time. Pre-historic caves with paintings on the walls, now regarded as pinnacles of artistic endeavour, were discovered at a second viewing, long after they had been closed up because no-one had then seen anything in them.

People began perceiving things that, until then, had simply had no part in the general frame of reference. There was no interest in them because the focus was on other aspects that were more relevant to them then. So other glasses were needed, so to speak, 'to see what had not been seen to be seen'.

43.1 SELECTIVE PERCEPTION

The same tree observed by an ecologist, a biologist, a forest ranger, a painter and a transportation planner is seen by each through different eyes and therefore regarded and valued quite differently.

Whereas the biologist probably assesses its health above all, the forest ranger calculates roughly how many cubic metres of timber it would give him, and the painter appreciates its colour, form and maybe the form its shadow throws. For the transportation planner it is bound to be in the wrong place. All look at things through their own glasses and consequently assess things quite differently, each within their specific context.

We can regard such specific contexts of assessment as a system of significations, and this system is accessible to the focused eye of the practised observer. Eyes that are experienced in a particular area see the smallest difference that would be missed by those skilled in other areas and remain hidden to them. So, for instance, it seems that Eskimos can see from the type of snowflake whether it comes from the mountains, the sea or from any other direction, something that is of vital importance to them to be able to find their bearings in an endless expanse of snow that otherwise has nothing recognisable to offer.^a Indians are able to distinguish the presence of hundreds of plant species, and from several hundred metres away

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404 Max Liebermann *Restaurant 'De Oude Vink'* (Leiden, 1905)

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a Hall, E.T. (1966) *The hidden dimension*.

too. If this is inexplicable to us, it is equally inexplicable to them how, for example, we can distinguish and identify so many kinds of red lights and other signals on the roads at night, lights that cause us to slow down hundreds of metres away because they tell us that something may be wrong farther along the road.^a

Everyone has an eye for a particular system of meanings because it is of special and relevant importance to them. They hardly see the other things if at all, such as the jungle-dweller who leaves his native forest for the first time and pays a visit to Manhattan. When asked what struck him the most he replies that the bananas were bigger than those back home.

Thus throughout the history of painting, and in that of architecture, we see different aspects coming to light that, each as a coherent system of meanings, made claims on the attention, evidently because at a certain time they were important or simply regarded as particularly attractive. Focusing on certain related aspects infinitely increases your powers of discernment *vis-à-vis* that relationship, yet it seems as though you can only focus on one area of it at a time.

Fixated on that one area, you are blind to everything else which, though potentially perceivable, fails to get through to you. It is as though you need all your attention for that one aspect on which you are concentrating and to which you are clearly receptive.

When holidaying as a family in France, our children were dragged from one cathedral to the other without their interest being aroused in the slightest. They only had eyes for coffee-makers, scooters and most of all a new phenomenon in those days: parking meters. Until one day they suddenly made their way to the cathedral in Auxerre. Had we finally managed to kindle their enthusiasm for the richness of this form-world that occupied and inspired us so? It took us only a short time before, having scrupulously scanned the surroundings, we succeeded in isolating from its exuberant backdrop a type of parking meter they evidently had not seen before!

43.2 PERCEPTION FROM EXPECTATION

Travelling through a remote desert area in India en route for Rajasthan, in all the stations you are served tea in fragile earthenware bowls that most resemble off-yellow flower pots without the hole at the bottom. Once empty they are thrown out of the train window where, with a dull plop, they smash to smithereens on the pebbles between the rails. The reverse of this phenomenon is that of our throw-away plastic cups; considered worthless in the West, there they are so exceptional that anyone succeeding in acquiring an intact example places it as a source of admiration among the other treasures set in a special place in the house. Isolated as a unique exemplar in a culture of mainly handcrafted artefacts it can only be regarded as a creation of unattainable refinement. It is only with the greatest care that we managed to bring back undamaged one or two of those supremely fragile bowls as an elementary example of primitive production to our industrialised world, where they occupy a special place in our home as relics of a world lost to us long ago.

We only perceive what we more or less expect to find, confirming our suspicions as it were, in other words there is an element of recognition. Thus discoveries are in fact always re-discoveries and, invariably, the missing pieces from an already conceived totality.

The researcher can do little with phenomena he encounters that are impossible to fit into his research, based as it is on a known theory. Should he not wish to ignore those new phenomena, all he can do is accommodate them in a new theory using inductive reasoning. It is not merely that we can only see things as part of a context (system of significations, field, paradigm). For a thing only has meaning and value when placed in the context of the relationship in which it performs, the situation, the environment it occupies. To be able to perceive something it has to hold your interest, you have to have been searching for it to some extent, even if unconsciously. It seems as though certain fascinations, perhaps borne with us since

5 Lévi-Strauss, C. (1962) *La pensée sauvage*.

our childhood, persist in guiding or at all events influencing our preferences and decisions as well as our powers of discernment. You could call this secret force intuition.

Schliemann, the man who discovered Troy, was apparently able without prior knowledge to point out the right hill to start digging which indeed was to reveal the city, covered by nature as it had been and quite invisible. It cannot have been anything other than co-incidence, but why did he decide to start digging there as opposed to anywhere else? Psycho-analysts explain the accuracy of his actions through the resemblance of the Trojan landscape to that of Schliemann's childhood in the Rhineland.^a His intuition - what else can you call it? - arguably was guided by an unconscious experience that had stayed with him from his childhood.

There has to be an impulse to excite the interest; curiosity comes before perception.

When Le Corbusier came across that marble table on two solid legs in the dissecting room of that hospital he must have recognised the form as an answer to one of the questions that had been haunting him: the dining table he had still to design that would not be the usual four-legged affair. Or had he long borne it in mind as an 'interesting solution' for possible use at a later date?

43.3 PROCESSING PERCEPTION

Even today Le Corbusier is still the greatest purveyor of ideas, concepts and images which, stored in his schemes, are still being adopted by the latest generations of architects, whether consciously or unconsciously. So what he himself accumulated from the past gets imperceptibly passed on as inspiration and converted into fuel for modernity.

A great many, mainly young architects see little in the past with its forms, materials and working methods which they regard as no longer applicable because these belong to another brief, with other labour relations and for other social contexts. Might knowledge of past forms guided by nostalgia not encourage an eclecticism of old stylistic traits?

Yet the occasions when Le Corbusier adopted historical forms almost literally, as in the Ronchamp chapel - call them direct influences - are few and far between. Come to that, everything he borrowed, or stole if you prefer, became profoundly modern through his intervention, such as the use of coloured glass, admired by all and sundry in Chartres Cathedral without it occurring to them that it could be applied in a modern setting.

Influencing is in the main an indirect and usually unconscious process of transformation, but you can also perceive in such a way that, looking through the expression of the form, you can, as it were, single out what of it may be of use to you. You are then interpreting what you see in a new rôle that is apposite and applicable to you. This is how characteristics come to be selected with a more universal value than their original stylistic manifestations.

Unlike historians, who tend to foreground traits that adhere typewise to a particular period, architects are more keen on those elements that do not. Because these have not lost their validity they could well be of use to us. We visually extract what we can use, indifferent to what the original intentions may have been, and label it timeless. It is the timeless that we seek, and, these days timeless means of all time. Elements unhitched from a particular time frame are those with a more general significance and ever present in different guises, evidently because they can be traced back to basic human values which persist, if with varying emphasis, in the way that different languages share an underlying generative grammar. You need history not just to see what happened when and where and how different or unique it was and if there are breaks in the thinking, but also to establish what it is that is unchanging, to recognise the underlying structure of similarities that we can merely piece together, like a pot unearthed shard by shard.

History keeps unearthing different aspects of an unchanging structure under changing conditions.

a Niederland, W.G. and H.F. Stein (1989) *Maps from the mind: readings in psychogeography*.

43.4 COLLECTIVE ARCH-FORMS

“The only available escape from the fundamental limitations of our imaginative faculty lies in directing our attention more to the experiences we all have in common, the collective memory, some of it innate (!) some of it transmitted and acquired, which in one way or another must be at the base of our common experiential world. (...) We assume an underlying ‘objective’ structure of forms - which we will call arch-forms - a derivative of which is what we get to see in a given situation.

The whole ‘Musée Imaginaire’ of forms in situations whatever their time and place can be conceived of as an infinite variety out of which people help themselves, in constantly changing variety, to forms which in the end refer back to the fundamentally unchangeable and underlying reservoir of arch-forms. ... By referring each one back to its fundamentally unchangeable ingredients, we then try to discover what the images have in common, and find thus the ‘cross section of the collection’ the unchangeable, underlying element of all the examples, which in its plurality can be an evocative form-starting-point.

The richer our collection of images, the more precise we can be in indicating the most plural and most evocative solution, and the more objective our solution becomes, in the sense that it will hold a meaning for, and be given a meaning by, a greater variety of people.

We cannot make anything new, but only reevaluate already existing images, in order to make them more suitable for our circumstances. What we need to draw on is the great ‘Musée Imaginaire’ of images wherein the process of change of signification is displayed as an effort of human imagination, always finding a way to break through the established order, so as to find a more appropriate solution for (the) situation.

It is only when we view things from the perspective of the enormous collage, that, with the aid of analogies, we can resolve the unknown and, by a process of extrapolation arrive at solutions which can improve the circumstances.

Design cannot do other than convert the underlying and the idea of ever being able to start off with a clean slate is absurd, and moreover, disastrous when, under the pretext of its being necessary to start completely from the beginning, what already exists is destroyed so that the naked space can be filled up with impracticable and sterile constructions. The various significations of everything that has taken place, and is still taking place now, are like old layers of paint lying one on top of another, and they form for us, in their entirety, the undercoat on which a new layer can be placed; a new signification which will slightly alter the whole thing.

This transformation process, whereby the outmoded significations fade into the background, and new ones are added, must be ever-present in our working methods. Only by such a dialectical process, will there be a continual thread between past and future, and the maintenance of historical continuity.”^a

43.5 COLLECTION OF REFERENCES

In the above quote dating from 1973 the emphasis is mainly on forms, conceived as time-dependent interpretations of more universal ‘arch-forms’. What we are concerned with is the kind of space those forms generate and for this we must expand the idea of a ‘Musée Imaginaire’ of images to include the space forms that they result in. Whereas forms always more or less bear the stamp of their time or place, space - even if their counterform - steps outside that time and place, conceptually at least, and is therefore less time-bound.

When considering architecture of other times or places, we need to turn our eyes from the things to the space these give shape to, and look beyond what is too specifically formed to distil the essence of that space, thus shifting the emphasis from the architecture to what it is that it manages to generate in the way of views and protection and what can happen as a result.

a Hertzberger, H. (1973) *Homework for more hospitable form.*

The more you have seen or the more impressions you have experienced in whatever other way, the bigger your frame of reference. We cannot be greedy enough in our cravings as 'receiver' of images wherever, whenever, whatever. Everything can produce useful associations: butterfly wings, feathers and fighter planes, pebbles and rock formations, images that enlarge the space at the architect's disposal.

And then there are all the imaginable situations people can find themselves in; you have to recognise and identify these to bring those people to the centre of attention.

Your ability to generate ideas that lead to new concepts is contingent on the wealth of your frame of reference. And the wider the horizon of your interests, the sooner you can break free of the snare of architectural inbreeding of forms that are doomed to keep reproducing while their substance diminishes; and the greater your chances of avoiding the backwash of tricks and trends everywhere about. It is precisely by not thinking of architecture that you come to see analogies with other situations that incite new ideas (by seeing it more as X you discover its potential fitness for Y).

Your frame of reference, as it happens, also works in reverse: in the design process, it is by establishing which potential possibilities are unsuitable as a response to a particular task, the negative selection if you like, that you become aware of the direction you must then follow. Not only do you become more aware while working of what you are, in fact, looking for, criteria of quality also suggest themselves. These set themselves up as touchstones that inform you whether you have 'arrived' or need to keep on searching: designing is rejecting.

More important than being sure of what you want is knowing at least what you do not want, and so to design is most of all to keep looking and not be too easily satisfied with what you find.

The richer and more universal the influences you concede, the more mental elbow room you create for yourself. It is a question of exploring of everything there is, everywhere and of all time to discover how old mechanisms can be transformed into new ones by eradicating the old meanings and rebuilding them for new ends. It is, then, a question of making your frame of reference as large as possible.

43.6 EXPERIMENT-EXPERIENCE

The more experience you acquire, the clearer the bigger picture becomes, but regrettably it is also the case that the closer your experiments bring you to knowing what works, what is fit and what is not, the more your open-mindedness disappears and experience slowly, but surely strikes home. This process shows a certain analogy with the way space seems pre-destined to make the transformation to place.

Accumulated practical acquaintance leads eventually to experience, habituation and finally routine, as a result of repeating formulas that have proved to be successful. In spite of yourself, you measure every new experience against the quality of all foregoing experiences of a like nature, so that your chances of finding something new that is better than what you already know keep diminishing, and so for most people the need to continue searching will diminish too.

So we see everyone doomed by a natural process of selection, so to speak, due to the tendency to follow self-made paths, thus with a minimum of risk.

When this preference for previously trod paths goes hand in hand with a decrease in curiosity, it means that we are adapting more and more as time goes by to the possibilities, instead of seizing and exploiting these possibilities by adapting them to us.

The more you experience, the more experience you gain. All garnered experience remains in place and works with you in establishing values, and so influences your thinking and irrevocably restricts your freedom. Experience is what you know of the world and because of it you adapt to the world, whether you want to or not.

“Our brains persistently urge us to change our surroundings in such a way that we fit there, but when the limit is reached the reverse happens: our expectations and needs are modified until they fit the surroundings. The first happens in childhood, the second after that. Only artists manage to persist in the first stage.”^a

First, we make the world, later the world makes us. The architect’s thinking, which guides his creative process and production, is controlled by the tendency to deepen and perfect his earlier discoveries on the one hand and to keep doing it differently with the hope of making new discoveries on the other. That is how we move constantly between experiment and experience. That is to say, risks and danger (*periculum*) obtain when we embark upon experiment, whereas experience safeguards us against them.^b

The more experience takes over, the more earlier weaknesses will be eliminated and in time what we experience as quality will gain strength. Experience finds its own way and every teacher helps it in this by being naturally inclined to want to administer knowledge. Experience rests upon knowledge and insight, whereas experiment by contrast is out for discovery, finding the unknown. Experience assumes that the aims are clear. This is not the case with experiment. Yet, all too often we see ideas launched like unguided missiles with an excess of energy and enthusiasm, yet the targets are vague or simply not there. It would be fine if experience and experiment were to act as complementary categories, but unfortunately they oppose one another instead and that is the dilemma of the creative process.

If only we could escape our experience.

43.7 THE GUIDING CONTEXT

You have to step outside the context of your profession and be in a position to draw your ideas from a wider context than that of architecture which although itself revolving keeps taking its arguments from other arguments within its own system. Ideas relating to form or space can never derive from architecture alone. This raises the crucial discussion of whether there is any real point to such ideas. What are the things you can and cannot say with architectural means, and do they lead anywhere?

As an architect you must be attuned to what goes on around you; open yourself to the shifts of attention in thinking that bring certain values into view and exclude others. The extent to which you allow yourself to be influenced by these shifts is a question of vitality. That architecture changes is not just a hedonist, narcissistic, unconditional hankering, as in fashion, for the spectacularly original in the design of the exterior, but over and above that its ability to capitalise on what it is that shifts in society and in the thinking on society, and the new concepts that are discovered as a result.

Architects must react to the world, not to each other.

Architecture must be about something other than just architecture. Just as the painter needs a subject, so too the architect needs to have something to say that rises above the obscure jargon that architects share with one another. But it must also rise above obediently following and implementing some brief. Many of our colleagues are happy to have managed to cram everything in, within the budget and within the site boundaries. Though this may be an achievement in itself, you cannot call it architecture yet. Moreover, it is debatable whether anyone stands to benefit from it at this stage.

Often it seems to be something new, but is in fact an age-old formula that appears new when looked at differently; the proverbial old wine in new bottles.

Actually, every new design should by rights bring new spatial discoveries: exhilarating spatial ideas not encountered in that form before, in response to newly diagnosed conditions. You should be asking yourself each time what it is you really want, what idea - limited or expansive - you are trying to express. If this is a formal fabrication only, however interesting theoretically, is it of any good to anyone, and if so, in what way? Again, though, what is to be

a Hillenius, D. and N. Tinbergen (1986) *De hersens een eierzeef, open lectures at the University of Groningen.*

b Tuan, Yi-Fu (1977) *Space and place.*

given up, sacrificed, what is to be gained and what lost and for whom? Inevitably, these questions imply what it is you in fact expect of architecture, except perhaps instant fame.

On completing each design, you should once again ask yourself whether the result, despite all its efforts to look interesting, is indeed more than merely built output expressible in so many square (or cubic) metres of building; while there is nothing wrong with that, neither is it a reason to call it architecture, let alone art. This makes the self-satisfaction of architects about the import of their offerings more than a little disconcerting.

43.8 IDEA AND CONCEPT

Every new step in architecture is premised on disarming and outspoken ideas that engender spatial discoveries: call them spatial concepts. A spatial concept is the way of articulating an idea in three-dimensional terms. It is only as clear as the idea that produced it. The more explicitly it is expressed, the more convincingly the architect's overall vision comes across. A concept can be defined as the more enduring structure for a more changeable 'infill'. It encapsulates all the essential features for conveying the idea, arranged in layers as it were and distinguished from all future elaborations as, say, an urbanistic idea, set down in a masterplan and interpreted at some later date by sundry architects each in their own way. To concentrate the essence into a concept means summarising in elementary form all the conditions of a particular task on a particular site as assessed and formulated by the architect. Trusting on the insight, sensibility and attention he accords the subject, the concept will be more layered, richer and abiding and not only admit to more interpretations but incite them too.

It is the conditions as they obtain for that particular task that foster the idea for a design and the concept distilled from it. Those conditions dictate that the end-product satisfies that idea and that its special qualities get expressed as 'hallmarks'; this way the idea encapsulates the DNA, so to speak, containing the essence of the project and guiding the design process from start to finish. The concept, then, is the idea translated into space - the space of the idea, and bearer of the character traits of the product as these will emerge upon its development.

Designing, basically, is a question of finding the right (read appropriate) concept for the task at hand. But, all too often concepts, however dazzling they may be in their own right, are dragged into the proceedings and pitched at the world with no thought given to whether the task in question has anything to gain from it.

Our work needs placing in the context of society, whether we like it or not, venturing beyond the safe haven of architecture where we designers together attach meaning and weight to formal inventions. Admittedly, things always look good in the country of the blind, but beyond its borders the takers are usually few and far between. Genuine spatial discoveries never ensue from the mental cross-breeding in the small world of architecture. They have always been inspired by the wider horizon of society as a whole with its attendant cultural changes, whether or not incited by social and/or economic forces.

With each new task - and this implies components of a building, each and every one of which can be regarded as a distinct task - you should always ask yourself what purpose it serves in society, what idea it represents and what, finally, is the issue it seeks to resolve.

43.9 CONCEPT REACTING TO TASK CONTEXTS

You have to fathom out what is, and is not, required of a particular task; which conditions are germane to it and which are not. You need the right species of animal, so to speak, that fits, or meets, those conditions that apply specifically to the task in question. Whether we are designing for savannahs with tall trees or for more swampy terrain will determine whether a giraffe or a crocodile is the most appropriate choice of beast. But, architects are usually all for designing a giraffe for a wetland region and a crocodile to keep the tall trees company.

What conditions, we should be asking, form the immediate cause and the departure-point for the direction a design will take?

The assumption that an idea underlying a design needs to fit the task does not mean that the concept can be deduced from it. It all depends how you interpret the conditions. For spatial discoveries you have to move beyond the bounds of the task, in other words beyond the surveyable area, to be able to see this in a wider context and then interpret it through inductive reasoning in its enlarged context.

The idea that points the design in a particular direction needs to be strong enough to free the task from the confines of its conditions and overcome the clichés entrenched in it.

It is important that the concept guides the elaboration of each distinct component if there is to be cohesion between the idea of the whole and that of the components. Every design of consequence presents a coherent narrative, built up as it is from components that have something to say individually and in concert rather than contradicting and counteracting each other.

Only by thinking through the project consistently and sensitively can the architect safeguard overall quality and prevent the design from being no more than a gimmick. Just think of the number of prize-winning competition designs, chosen for their sterling underlying concept, that come a cropper when fleshed out. What marks out a good architect is that his schemes only improve by being worked out in detail.

The eventual design is always an interpretation of the concept. Another designer would probably have made something else, as everyone has their own individual world of associations to throw at it.

A concept has to be challenging, must incite responses. It must leave room for multiple interpretations and say as little as possible about solutions in a formal sense, or about form, and concentrate all the more on the space.

Thinking in such proto-forms pre-supposes an abstraction towards the syntactic, such as pictograms which encapsulate the essence of a message. Concepts, then, are ideas expressed as three-dimensional ideograms.

In the practice of design, a guiding idea is seldom forthcoming right away. First it is noses to the grindstone on the strength of a few vague suspicions and only after persistent kneading of your material, and with a better overview of the field of conflict, do your objectives begin to assume shape. The biggest danger is that of the rash solution which you find yourself stuck with before you know it, a groove that is all too difficult to escape from. By contrast anything seems possible when drifting without a fixed course but it will not lead you anywhere.

The concept may be a compass, but it is hardly the final destination of the design process. The end-product can be nothing other than a development and interpretation of that concept, the way one might apply or render an overall vision. Thinking in terms of concepts, models, strategies etc - deriving as this does from seeking out the essence of what you are occupied with - does mean that there is a danger of that abstraction all too quickly leading to simplification. The issue is how to couch complexity in simple formulas. Who has never been lured by the bait of simplicity and who would not be inclined to reduce or rather distil until only the essence, the basic idea, remains?

43.10 THE COMPLEXITY OF SIMPLICITY (OR THE PITFALLS OF REDUCTION)

Simplicity is more easily associated with true, pure and serene than with barren, dull and poor. Every architect strives after simplicity, even if only because 'truth' would seem to equal simplicity. Saying 'I want to make something very simple' is construed as an expression of extreme modesty. Unfortunately not everything that is simple is also true, pure and serene.

Many architects think that leaving things out is a surefire way of getting to heaven. The seduction of 'less is more' often leads all too easily to 'all skin and bone' - at excessive cost. Once you have acquired a taste for omitting things you are in real danger of succumb-

ing to *anorexia architectura*. The ‘art of omission’ consists of leaving out only those things that are irrelevant, in the way that a sculptor (Michelangelo, by all accounts) was once asked by an admirer how he could possibly know that a beautiful woman was to be found inside the unhewn stone. Of course, the answer is that he must have had the form of the finished figure in his mind to begin with. You can only reduce a thing when you know what and what not to leave out; you have to know exactly where you are headed: you have to have a concept.

Omission is a dangerous business and whether less is indeed more depends entirely on the concept you had to begin with; this is what decides what can go and what must stay, not some assumed will to simplicity. Simplicity is not an end in itself, you arrive at it during the design process while searching for what is essential to your concept. Leaving things out is less a question of reduction and far more a process of concentration.

It all depends on what you want to express - not with the absolute minimum of means, but as clearly as possible without being thrown off course. It is obvious that you can say more with more words, but what the poet does is to arrange just those words in just that order so as to express what he wants to say as clearly and as precisely as possible.

“Where economy of means is concerned, architects could learn much not only from engineers but also from the poet: the way in which he selects his words and structures them into sentences to achieve maximum power of expression and beauty of sound: ‘la poésie est une chose aussi précise que la géométrie’ (Poetry is as precise as geometry, Flaubert). What we term poetry is particularly that utmost precision of thought, which while reducing its means can actually increase the layers of meaning.”^a

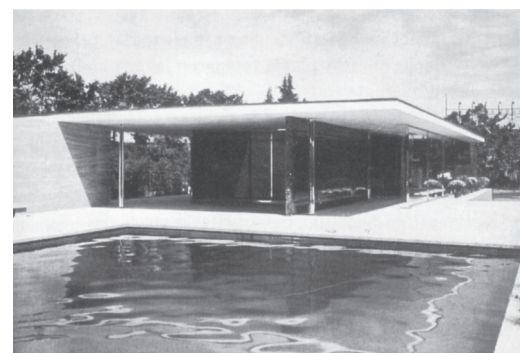
Each time for the form-giving architect there is the tightrope to be trod between too much and too little, between ‘under-designed’ and ‘over-designed’.

In that respect the engineer can serve as an example to the architect; after all, his aims are simpler and fixed firmly in advance. His task is easier, say organising a certain span with a minimum of material, or with the least structural height. For that matter, you usually need complex constructions and measures to achieve outward simplicity. Here, too, simplicity can fool you. For instance when rebuilding Mies van der Rohe’s Barcelona Pavilion it proved a supremely complicated business to reconstruct the slender slab of cantilevering roof and uphold the appearance of simplicity. Again, the expressive roof of Jean Nouvel’s concert hall in Luzerne must have required moving heaven and more especially earth. The structural tour de force rids the building of its objectness. With its seemingly wafer-thin roof and the way it spreads out across the surroundings, the building conjures up visions of a gigantic bird that has just landed, having chosen this monumental waterfront site between the mountains as its territory.

43.11 CONSTRUCTIVISM

Showing how a building is constructed is a spectacular invitation to all-embracing form. Although this does express the essence of constructivism it does not necessarily result in space. Form expressed along constructivist lines is a demonstrative show of the pride its makers had in making and achieving structures that were unattainable (and less necessary) before then. They were, therefore, the symbol of a new era of new and unprecedented possibilities. And of its space, though the sense of space was ultimately due to the elegance of ease rather than the heaviness of effort. Which is why we prefer the poised quiescence of the ballet dancer to the tensed muscles of the weightlifter.

Attractive as it is to show how things fit together, and legitimate too, if only to keep then from getting too abstract and therefore unnecessarily obscure, there comes a moment when the aspect you wish to express begins to dominate all the others.



405 Mies van der Rohe *Barcelona-pavilion*



406 Jean Nouvel *Concert hall*, Luzern

a Hertzberger, H. (1992) *Introductory statement* in ‘The Berlage Cahiers 1’.

In addition, structures and constructions have the tendency to visually become increasingly complex and more and more difficult to understand, so that their expression imposes rather than informs. This holds not only for expressing how a structure is made, but also as to its purpose, which is more likely to be concealed in such instances than revealed.

Just as modern technology is no longer self-explanatory in a visual sense, so functions and allocations, volatile as they are, are suffering a marked decrease in identity as time goes by. We will have to accept that buildings, like household and other appliances, are showing less and less of their contents and their workings, and starting to behave increasingly like urban containers.

Architects are continually competing to make the most beautiful box. With control over the contents looking likely to disappear, the form of the packaging has become more important than the form of the contents. *'l Esthétique du miracle'*, as Jean Nouvel puts it.^a

With the expression of how a thing fits together and what its specific purpose is pushed into the background, the concern for objectness cedes to an expression of the spatial idea - activating, enfolding and unfolding both construction and function - and the spatial characteristic this brings to bear. The more we are able to make, the more pressing the question of what our intentions are. First you have to have an idea of where you want to go before setting up a strategy to achieve that aim.

43.12 HEAD AND HAND

Do we think while we draw or draw while we think? Does the hand guide the head or the head the hand? Was there an idea before we began designing or did the idea arise during the design process?

At first sight this would appear to be a non-issue. Of course, you draw as you search and search as you draw and this way you immerse yourself in the task. The longer you work on a task, the more clearly focused its essence becomes. While proceeding you subject all manner of references to scrutiny and so ultimately arrive at an idea and an approach. 'Begin, and the results will follow'.

The artist, unlike the architect, can count perhaps on one of the themes he has been nursing for some time to yield results in the end. In the films of Picasso painting, he gives the impression that his ideas emerged spontaneously to be just as easily erased and replaced by new ones. Later, when his endless series of sketchbooks was published, it transpired that each motif in his paintings was carefully prepared beforehand and often even practised, as a performing artiste would do.

The architect's tasks, other than those of the artist, are more specific in the sense that each task makes its own conditions that require an appropriate answer. Unlike the artist, he is not in a position to throw random ideas about. The architect's ideas concern less autonomous concepts which can only be applied, in general, to the most specific circumstances, that is, if those circumstances did not produce them in the first place.

The danger of 'just beginning' to draw and design in the hope and expectation that something will come of it, is that before you know it you are resorting to well-trod paths or clichés. This is virtually unavoidable, as it happens, for it is impossible to envisage something that was not there to begin with. You are borne on by what you already knew, because you yourself, but more particularly others you admire, have already left a trail. The composer Hector Berlioz relates that, as possibly the only composer unable to play the piano, he was at an advantage compared with his colleagues who were in the habit of composing at the keyboard, so that like it or not they were drawn by their hands to already familiar sequences of already familiar chords.^b

"The tyranny of keyboard habits, so dangerous to thought, and from the lure of conventional sonorities, to which all composers are to a greater or lesser extent prone."^c

a Jean Nouvel, lecture at the Berlage Institute, Amsterdam, 1996.

b Cairns, D. (1987) *A life of love and music. The memoirs of Hector Berlioz 1803-1865*, p. 13. 'My father would not let me take up the piano; otherwise I should no doubt have turned into a formidable pianist in company with forty thousand others. He had no intention of making me an artist, and he probably feared that the piano would take too strong a hold of me and that I would become more deeply involved in music than he wished. I have often felt the lack of this ability. On many occasions I would have found it useful. But when I think of the appalling quantity of platitudes for which the piano is daily responsible - flagrant platitudes which in most cases would never be written if their authors had only pen and paper to rely on and could not resort to their magic box - I can only offer up my gratitude to chance which taught me perforce to compose freely and in silence and thus saved me from the tyranny of keyboard habits, so dangerous to thought, and from the lure of conventional sonorities, to which all composers are to a greater or lesser extent prone. It is true that the numerous people who fancy such things are always lamenting their absence in me; but I cannot say it worries me.'

c Idem.

We know that Mozart heard entire works in his head before committing them to paper. This enabled him to turn those endless journeys in bumpy carriages to his advantage. Why should not architects design buildings ‘in their head’? Are plans and sections really more complex than the voices of, say, twelve musical instruments, each with its own timbre, such as need weaving together in a symphony?

First you must have something in mind (heard or seen), call it an idea; only then can you note it down - although of course it is never quite as simple as that. Drawing can bring out an idea, give it a clearer outline if you like, but it must have been in your subconscious to start with. It should proceed more like research. The researcher does not start anywhere, at random, he does not begin without an idea, a hypothesis, about what he expects to find, and where. That he may well ultimately end up with something other than he sought is another matter.

43.13 DESIGN PROCESS

“The architect’s design process, as such, should be viewed more as a method of research. It should then be possible to make explicit the steps of the process, so that the designer is better able to realise what he is actually doing and what reasons are guiding him. Of course, sometimes you may discover something seemingly out of the blue, but those moments, for the architect at least, unlike the artist, are rare. Mostly, when you muster up enough courage and take the trouble to be conscious of it, the underlying thought process will prove to be less mysterious than that of the pure artist. We work according to strategies to achieve specific aims, preferably with as limited means as possible. We make use of practically all the resources and techniques which the researcher uses in, for example, operational research.”^a

But, for those who flinch at the usually strict rules that scholars wield with such gravity, we can look closer to home.

The working method in the design phase in many ways resembles cooking. Even when the cook works without a recipe, he has a fairly clear idea about what his aims are, and before he can start he must gather together the necessary ingredients. If certain spices turn out to be missing from his kitchen cupboard, then the outcome will be a different dish from what he had in mind. In the same way the architect, bearing in mind the requirements his design will have to meet, can draw up a shopping list of ingredients, as it were, with which he intends to set to work.

“Cooking consists of a fairly complex set of actions, undertaken in an order that is apparently without logic, at least without any logic that might correspond with the logic of the end-product. For instance, some ingredients have to be soaked beforehand, or dried, cooled, heated, thickened, or liquified, be kept for a long time on a low heat, or stirred vigorously for a short time on a hot burner, and all these actions are undertaken in an order that bears no resemblance whatsoever to the order in which the final product is eventually served on the table. Similarly, the design phase proceeds in an ostensibly chaotic fashion, and we must not try to impose an artificial order onto the different stages, because it does not work like that.”^b

43.14 PART AND WHOLE SIMULTANEOUSLY

“What we can do, is to keep in mind, throughout the design process, the final product as we envisage it in its totality, and thus ensure that the initially fragmentary image slowly but surely comes into sharp and complete focus.

That is why you should, ideally, concern yourself with all aspects of a design at the same time, and of course not only with how everything is going to look, but especially with how it is to be made and how it is to be used.

While absolute simultaneity in the work on all aspects of a design is impossible, it is at least possible to spread our attention evenly and alternate our focus of interest with due deliberation, so that all the screws, as it were, can be tightened in turn - a little, not too much at a

a Hertzberger, H. (1995) *Designing as research*.
b From Hertzberger, H. (1992) *Do architects have any idea of what they draw*.

time - until the correct all-over balance is achieved in the work as a whole. The greatest danger constantly threatening us is that, fixated as we often are on a small problem whose solution eludes us, we spend too much time on that one problem, more because of a psychologically felt necessity than because of a demand inherent in the design. And paradoxically, when an excellent solution eventually presents itself, it often has a disastrous effect on the design as a whole. After all, the more convincing that (partial) solution is, the more strongly the temptation becomes to adapt the rest of the design accordingly, which inevitably results in lopsided development.

There was once a painter, who spent an inordinate amount of time on a portrait that he was finding impossible to get right. Everyone agreed with him about that, and incidentally also about the fact that one feature, the nose, was outstandingly good, unlike the rest of the face. This nose met all the demands that could possibly be made on it, it was indeed the sole component that was truly finished. So it was not surprising that the painter, falling into his self-made trap, kept on altering the mouth, ears and eyes, erasing them time and again from the canvas and starting all over again, in the hope of portraying the right mouth, ears and eyes to go with the already perfect nose. Until another artist came along and saw his predicament. He offered to help, and asked for the palette knife. In one fell swoop he dealt with the problem - to the horror of our painter. He had slashed the only successful feature of the face. Once the handsome nose had gone, the only obstruction to the painter's ability to see things in their proper proportions had gone, too. In the wake of this destructive deed came the possibility of a fresh beginning.

The complexity of the architect's design process and the underlying thought pattern is in a sense also comparable to that of the chess player, who also has to deal with a great variety of possibilities and choices and mutually influential factors. The chess player who becomes too preoccupied with the possibilities offered by one particular piece is punished with disasters that will inevitably occur elsewhere on the board. And just as the chess player (like the cook with his efficacious but apparently random sequence of actions) keeps track of all the possibilities of the game, the architect too must develop a manner of thinking that enables him to monitor the range of his attention so as to take in as fully and as simultaneously as possible all the inter-related fields of interest. Only then can he arrive at a design in which the different aspects are properly and fully integrated in the whole. Both chess player and cook succeed in developing new strategies to deal with ever-changing situations, and also the architect must be capable of undertaking his design process according to such strategies, so that the form does not evolve without consideration for construction and material, the organisation of a floor plan not without consideration for accompanying sections and the building as a whole not without consideration for its environment.”^a

43.15 THE FLOORPLAN IS NOT A DESIGN

“A particular difficulty is faced by the architect ... he cannot represent his ideas in reality, but has to resort to representing them by means of symbols, just as the composer only has his score with which to render what he hears. While the composer can still more or less envisage what he has created by checking to hear what his composition sounds like on the piano, the architect depends entirely on the elusive world of drawings, which can never represent the space he envisages in its entirety but can only represent separate aspects thereof (and even so the drawings are difficult to read).

That is why the average architect usually starts by getting his floor plan technically right, whereupon he may think up an interesting section to go with it, after which he must finally complete the structure with façades that remain within the framework of the possibilities of floor plans and elevations. This unsatisfactory state of affairs is maintained and even aggravated by the fact that the drawing, irrespective of the meanings it seeks to communicate, evokes an independent aesthetic image, which threatens to overshadow the architect's original intentions

a From Hertzberger, H. (1992) *Do architects have any idea of what they draw.*

and which may even be interpreted by the maker himself in a different sense than initially foreseen. A complicating factor is that, due to the sheer superabundance of this type of image and our constant comparisons with antecedents, which has given rise to a sort of meta-language full of such things as lucid concepts, well-positioned staircases, interesting spatial effects - in short an insider's jargon of extensive qualifications which do not refer so much to the actual building as to its abstract graphic representation on paper, i.e. to an expectation.

However absurd this may sound, we must in all seriousness ask ourselves how many architects are actually capable of reading their own drawings, that is of interpreting them with an eye to the spatiality of the structure that they are supposed to represent, as well as to the social and utilitarian objectives. Most architects read their drawings as an autonomous graphic image, thereby involuntarily placing them on a par with the graphic work of an artist.

'Thus the architect can be said to be the prisoner of his own drawings, which seduce and mislead him by their own imagery and which do not transcend the confines of the drawing board.'^a

The space we visualise relates to our drawings as a landscape does to an ordnance survey map. Exactly perhaps, but two-dimensional and most particularly incomplete.

43.16 DESIGNING IS THINKING

Designing is in the first place thinking, and then drawing as you think. It is not just visualising something that goes with what you are drawing, but much rather rendering by drawing what you visualise. Other than that, it is a question of organising your imaginative powers as best you can. Designing is a quest that you want to have proceed with maximum efficiency, purposefully if possible.

Therefore you should not fritter away too much time chasing fly-by-night 'solutions' that shortly after have to be dropped - there was something you overlooked after all - for the next rising impulse. All this leads to is depressing piles of sketching paper. It is better to leave the paper and certain the computer screen alone and begin by thoroughly exploring the field. Just as detectives in popular TV series needs to first grasp the plot before they take off after the villain, so the design process consists in principle of a like period of looking, listening and fixing the conditions.

Prior to resolving the task, the designer must develop ideas proceeding from his insight into the full complexity of the task, that lead to a concept, just as the doctor diagnoses the problem before embarking on a therapy. The concept contains the conditions you wish to fulfil, it is a summary of your intentions; of what needs saying; it is hypothesis, and premonition. There can be no quest without premonition; it is question of finding and only then seeking.

"D'abort trouver, chercher après."

Jean Cocteau

a From Hertzberger, H. (1992) *Do architects have any idea of what they draw.*