

THE REDISCOVERY OF ART IN HEALING

Current Issues in University Hospital Design

I would like to take a number of seemingly unrelated threads and weave them together to show their relation in the overall texture of a changing trend in hospital architecture, particularly the architecture of the university hospital. To our amazement we will discover that these threads, apparently totally divergent, seem to mesh in a strange way in Cormier's University of Montreal buildings. They have a new meaning for us today, a meaning that in the past we had overlooked and, as so often occurs in history, we do not see these connections until quite later. We witnessed Modern architecture emerging like Aphrodite out of a sea of confusion, as if unconnected to the past other than through the accident of its birth. We confined architecture to the International Modern style, sanctified by its historians such as Siegfried Gideon. It is only today that we have again recognized its connection with the past. We suddenly see the threads of this Modern movement reaching beyond this confinement and we rediscover such architects as Hugo Häring and the Russian Constructivists whose works connect to earlier strains and continue a historic relation in architecture that seems to have been discontinued in Modern architecture. In this way we rediscover Cormier's work and see in it these connections to the past but also a direction into the future, a different one than that sanctified by the International Modern.

It may be difficult today for a younger generation to imagine that in the 1950's and 1960's, Cormier's work was considered outdated, the work of someone who had missed the shores of a sanctified new era, someone who was still dogged by the past and could not shed it as quickly as Aphrodite shed her shell. His buildings show an evolutionary struggle from a type of eclectic classicism to a minimalization of that style's complexity without totally abandoning it. While in the eyes of the Modernists this was an unforgivable sin, it is something we can recognize and enjoy once more, realizing its relation to a past history which is not just bunk.

However, Cormier's move to place the University Hospital within the confines of the University was very much in accord with the tenets of a Positivist philosophy and therefore of Modern architecture, subordinating the art of healing to science. We realize today that such subordination not only happened in the field of medicine but also in the field of architecture. This was a full embrace of Positivism, particularly of Logical Positivism, as defined by Bertrand Russell and Wittgenstein.¹ Things were only true if they could be proven on a

scientific basis outside their particular discipline. Mies van der Rohe's formula, "construction and function equals architecture," clearly indicated a logical and linear scientific thought process. There was nothing else to be found in architecture; this was a Positivist scientific approach. If we go through the architectural writings of the time, we will find this formula described in different ways over and over again. In the same way that medicine ceased to be an art and had to be scientifically proven, so also should architecture. The art of medicine, and art in general, were seen as categories of science, subordinate to logic's superior knowledge.

We must admit that under this aegis, medicine was racing ahead and making unbelievable progress. Medicine, clinical research and the university (harbouring the basic sciences) became intrinsically involved with each other to create a healing machine. We began to believe in a future in which health, happiness and longevity were givens, controllable by science. The shattering of that dream was yet to come. Architecture joined in this euphoria and announced that such a magnificent scientific medical machine needed an equally scientific architectural expression that was true to the formula: function — namely medical science — and construction — namely the latest technology equalled the new architecture.

Cormier, while following these tenets in part by suggesting the hospital move within the confines of the scientific teaching and research of the university, did not follow the second part of the formula, namely to formally express the latest technology. He seemed to be unable to divest himself of the past. The move of the university hospital into the perimeter of the university, however, never happened. But his memory of the past remains in the building and it is this thread that we can take up again today. We can connect it back to our past and find a different understanding from here.

Many years after Cormier's University of Montreal was built, a change took place in our perception of architecture and we have seen in the last decades a demise of Modern architecture. In quick succession several Post-Modern expressions appeared and vanished. Later, there seemed to be a rebirth of Modern architecture again. But we have to be careful calling this a rebirth because it is based on a different understanding of Modern tenets. The Greek column, in itself a derivative of Egyptian architecture, has been reused over and over again in various styles up to this very day. In the same way, we must not confuse the reuse of architectural elements from Modern architecture with the philosophical concept of Modern architecture as a style. The key to Modern architecture was the belief in Logical Positivism in which architectural form could only be created if it were fully explained within a structural-scientific and functional-logical basis.² It was a linear movement in which one move explained the next. Today the field of positivistic philosophy and many of its cornerstones

are being challenged, such as Bertrand Russell's *Principia Mathematica* by Goedel's *Incompleteness Theorem*.³

Scientists themselves, the further they advanced to find explanations to the few questions that seemed to remain unanswered, found only an ever-growing unknown. Popper, Gadamer, Lyotard and Derrida are just a few who brought about this change, rescuing art and philosophy, culture and history (even economy had been subordinated to a Marxist scientific dialectic method) from a role as not-yet-sufficiently-advanced subcategories of science to one of independence again. It was not the master role that Post-Modernists, during the short period of their rule, tried to claim, but one in which philosophy and art were recognized again as an equal force to logic and science. In philosophy as in life, we have to accept this duality of poles influencing our actions: logic, science and technology on one side; emotion, culture, etc. on the other. Even in pure scientific pursuit we seem not to follow logical sequence. Many of our discoveries are based on psychological premonitions in which dream and reality become interfaced, where, to our amazement, we seem to understand something that at times can only be later proven scientifically, or perhaps never. The reality and existence of such understanding outside the realm of logic cannot be discarded as pure mysticism as the Moderns delighted in doing. We have suddenly realized that function and construction alone cannot explain all the elements that seem to be part of architecture. Often some elements are born out of an emotional condition that is unrelated to a logical one. Jean-François Lyotard coined the phrase of cognitive versus narrative knowledge to describe these two sides.⁴ Perhaps again the word *narrative* has been too narrowly interpreted and must be seen in a broader scope including all those elements that are outside the realm of science. The border line between these two, of course, is one of constant change. Certain elements may be reallocated to one side or the other; for example, that science may find an explanation to a *prior-to-that-unknown* issue.

The difference is the abandonment of the belief that permeated Positivism, that everything could be explained through logic and science. What could not be explained would be in a matter of time or the matter was of no consequence and could be relegated to the cupboard where fairy tales and mysteries are stored. The Hermeneuticists on the other hand believe that there are certain matters which just cannot be penetrated by science, regardless of how far science advances and that there are two poles controlling our endeavours — logic and science being one (the cognitive knowledge), and emotions, culture, etc., the other (the narrative knowledge). We should, however, not confuse this suggested dualism of our thought processes with Descartes's *Dualism of Mind and Body*.



fig. 1 McMaster Health Sciences Centre, Hamilton, interstitial space, Toronto, Zeidler Roberts Partnership / Architects. (Photo: Zeidler Roberts Partnership / Architects)

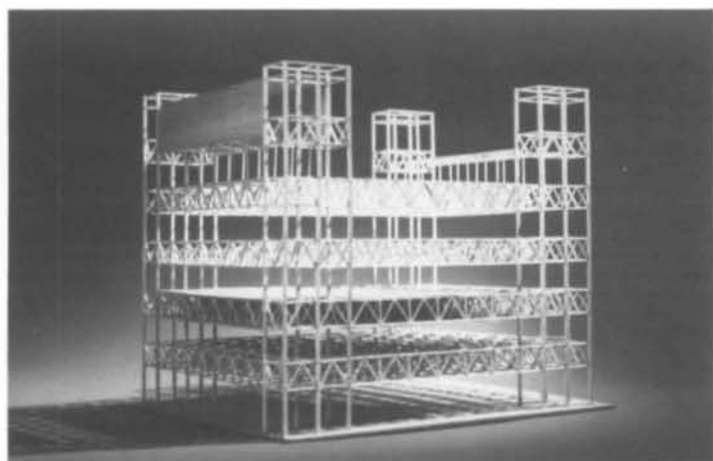


fig. 2 McMaster Health Sciences Centre, Hamilton, model of typical structural bay, Toronto, Zeidler Roberts Partnership / Architects. (Photo: Zeidler Roberts Partnership / Architects)



fig. 3 The Hospital for Sick Children, Toronto, exterior (model), Toronto, Zeidler Roberts Partnership / Architects and Karlsberger & Associates, Hospital Consultants. (Photo: Lenscape Inc., Toronto)



fig. 4 Princess Margaret Hospital / Ontario Cancer Institute, exterior (model), Toronto, Zeidler Roberts Partnership / Architects. (Photo: Lenscape Inc., Toronto)



fig. 5 Walter C. Mackenzie Health Sciences Centre, Edmonton, atrium interior, Toronto,
U.H.S.C. Architects Group Ltd. (Photo: Balthazar Korab, Troy, Michigan)

I believe that the Hermeneutic approach is a more realistic one for it allows us to work more readily within the world we live, while the Positivistic propositions lead to some quite impossible tenets. The more complex an issue is, the less we are capable of dealing with it on a scientific, logical basis at the same time that our emotions seem to be capable of feeling towards a solution in these cases.

Approaching the present status of the university hospital with such an attitude, we will discover that the solutions arrived at with such an approach will be much richer than before. To accept the existence of an emotional influence does not mean that we have to neglect the logical scientific one. We do not have to believe the words of Oswald Mattheas Ungers that "function and construction are merely slaves to the architectural idea."⁵ To me, that is nonsense. I think we must achieve a transformation of these two forces into one concept —to resolve both into one unity. We will not reach an answer if we just resolve the technical, functional and medical problems; nor will we succeed if we address the emotional ones alone. In a good building, both are so intrinsically interfaced that it will be difficult to explain a particular element or environment by one or the other. The further we advance scientifically, the more we realize that even the healing process is part of this dichotomy. The scientific evidence that environmental psychology has provided is still amazingly scant; nevertheless, it indicates clearly that the environment plays such an important factor in our lives, to a degree that it would be foolish to neglect it. In a fascinating study it has been shown that environmental issues created a 30% less use of analgesic drugs and a 30% faster recovery rate in a Pennsylvania Hospital during an investigation made over a period of ten years.⁶ The difference was merely windows with a view towards some trees versus a view towards a dull brick wall.

It is with such Hermeneutic, or perhaps quantum, understanding that we must search for the threads that indicate the future trends of the university hospital. It is an understanding that does not see a conflict in comprehending the work simultaneously through a scientific and an *emotional* approach. Hermeneutics believes that the emotional approach lies outside the scientific one. However, this may be true within a classical understanding of science and different if we reconsider it under the latest theories of quantum mechanics.

The development of building technology has shown important advances. For example, we built the first interstitial hospital in the world at McMaster University in Hamilton (figs. 1, 2) with an integrated mechanical and structural system. We realized, however, as we perfected this technology, that it could be used without transforming the hospital visually into a mechanical healing machine.⁷ More and more we realize that the pursuit of technological scientific issues cannot be abandoned, but neither can it be continued in isolation. It must

also be considered within the more *human* needs that have to do with the way we *feel* about things, with values that relate to our inner being like beauty or even spirituality. We are learning that these things are not unrelated entities but strongly form part of our well-being and the healing process. "Perhaps the coming together of our insights about the world around us and the world inside us is a satisfying feature of the recent evolution in Science," remarked Ilya Prigogine in his book *Order out of Chaos*.⁸

The modern university health sciences centre is not only a machine that has to respond to its complex ecological, scientific and functional demands. It must also accommodate the changing advances of this technology and science that will take place in cycles of decades to come, with demands that are difficult to forecast in terms of their environmental responses. Furthermore, it has to deal with the functional organization that faces large institutions in order to create the medical thrust they must deliver. *And*, it must also respond to the reaction of the individual patient — not as a faceless number, but as a person. We must create an emotional and visual environment that responds to the wide scope of needs by patients, staff and visitors in order to make the use of the building enjoyable.

Finally, since these buildings do not happen in rural isolation, it is also essential that they respond to the urban texture and that they evoke the spirit of the place. We have to reinvestigate the physical environment of the hospital and see how it influences our emotional reaction to its spaces. But this cannot stop at the patient room or the nursing unit. We must look at the impersonal endless corridors that can only be deciphered through a complex signage system. We need a sense of orientation that can be easily understood, similar to a city with main streets, side streets and buildings. An institution of this size with a population from 5,000 to 8,000 really is a city in itself.

In McMaster we created a major ring street that linked the four elevator cores and departments into a conceivable interrelated cityscape. Sculptured concrete block walls and the visual interrelation of various levels make it obvious that one is moving along a major street that connects all parts of the complex. At The Hospital for Sick Children (fig. 3) and the Princess Margaret Hospital (fig. 4) in Toronto we used central atria to fulfill similar functions of orientation. At Edmonton we interspersed two atria between three wings and displayed the public glass elevators so as to be easily visible from all points. On the other hand, the material encasing in-patient elevators is hidden from view and therefore only used by the staff. The open atria space here was used on the first level like a street with retail stores: the entrances into the various clinics, cafeteria, coffee shops, as well as patient waiting areas, all creating the life of an urban street overlooked from the balconies and in-patient's bedrooms.

It is not only the interior which must respond to our emotional needs, but also the building itself. We wish to see within it the reflection of its urban texture, an expression of the *spiritus loci*. At McMaster, for example, the initial concept (not prepared by our firm) suggested an 18-storey building which we felt was a stranger in a campus consisting of four- and five-storey buildings. The new Health Sciences building added a complex that was equal in height to the existing campus. While we had good functional and economic reasons to suggest a hospital with only four levels, the primary motive was a strong emotional desire to create a building that would enhance the campus atmosphere and fit in rather than threaten

In a similar vein, in the University of Alberta, Edmonton (fig. 5), the campus was a mixture of eclectic buildings from the 1930's, while the basic science and the clinical science buildings had been built in Brutal Modern and slick Modern styles. We tried to respond to the basic low-rise feeling of the campus, relating to the modern buildings while also responding to the stone and brick vernacular of the older buildings. The Hospital for Sick Children presented a totally different task to integrate the new ones into a dense urban environment, while The Princess Margaret Hospital addition had to respond to a complex historic setting, ranging from Eclecticism and Art Nouveau to Modern Brutalism.

But all this is really what architecture is about. It is this response to place and history that we admire today again in Cormier's work, which gave us such spiritual response to a site and its history at a time when this was thought to be superfluous.

EBERHARD H. ZEIDLER

Zeidler Roberts Partnership/Architects

Notes

- 1 Bertrand RUSSELL, *Principia Mathematica* (Cambridge University Press, 1950).
- 2 Eberhard H. ZEIDLER, "Architecture — Dream and Reality," lecture, Cornell University, February 1984. From Poelzig to Van der Velde, El Lissitzky to Mies van der Rohe, the words were the same. Hannes Meyer perhaps expressed it best when he said in 1928 in the *Zeitschrift für Gestaltkunst* "architecture as an emotional act of the artist has no justification, pure construction is the basis and the characteristic of a new world of forms."
- 3 Douglas HOFSTADTER, *Göedel, Escher, Bach: An Eternal Golden Braid* (New York: Vintage Books, 1980).
- 4 Jean-François LYOTARD, *The Post-Modern Condition: A Report on Knowledge*, trans. Geoff Benington and Brian Massumi (Minneapolis: University of Minnesota Press, 1984).
- 5 ZEIDLER, "Architecture — Dream and Reality," "Technology and construction are aids to execution... technology is not art. Form is the expression of spiritual content," so said in a 1960 manifesto Gieselman and Ungers.

6 Roger S. ULRICH, "View Through Window May Influence Recovery from Surgery," *Science* 224 (April 1984).

7 Eberhard H. ZEIDLER, *L'hôpital en voie de guérison* (Toronto: Hunter Ross Company, 1974).

8 Ilya PRIGOGINE and Isabelle STENGERS, *Order out of Chaos: Man's New Dialogue with Nature* (New York: Bantam Books, 1984).

Résumé

L'ART ET LA GUÉRISON

Facteurs actuels dans la conception d'hôpitaux

Le plan de Cormier de l'hôpital universitaire (non construit), prévu pour être inclus à l'intérieur de l'Université de Montréal, était conforme aux principes du positivisme qui subordonnent l'art de soigner à la science. Comme la médecine, l'architecture avait cessé d'être un art, dont on devait prouver scientifiquement les hypothèses. Malgré l'influence du positivisme, Cormier ne s'écarta pas complètement de la tradition dans sa démarche d'architecte.

Récemment, l'herméneutique remettait en cause les fondements positivistes au niveau de la forme architecturale. L'approche post-moderniste quant aux facteurs humains et émotifs, sans rapport avec la logique et la science, nous a permis encore une fois d'envisager le monde sous un autre angle. Toutefois, l'existence même des facteurs émotifs et leurs influences n'impliquent pas qu'il faille négliger l'approche scientifique. Les établissements modernes des sciences de la santé doivent par conséquent être conçus en vue des progrès scientifiques et technologiques et compte tenu aussi des problèmes liés aux aspects humains et émotifs. À un autre niveau, ces bâtiments doivent respecter les exigences que posent l'environnement humain et la trame urbaine.

Dans plusieurs projets, l'agence de Cormier a traité la distribution des espaces intérieurs à la manière d'un paysage urbain susceptible de refléter le mouvement et l'animation des rues d'une ville. En intégrant les nouveaux bâtiments à un environnement urbain éclectique où se côtoient divers styles, l'agence de Cormier dut soupeser aussi la complexité liée à l'orientation des bâtiments. La solution adoptée par Cormier, compte tenu des lieux et des antécédents historiques, est ce que nous admirons aujourd'hui dans son œuvre.

Traduction: Catherine Roberge
Centre Canadien d'Architecture