

# Space and Learning Lessons in Architecture 3

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## Foreword

Think of schools and usually it still conjures up visions of classrooms with blackboards and teachers up front doing their best to make the children facing them a little wiser. Throughout the world, particularly in economically distressed areas where children still manage to go to school, they eagerly absorb everything taught them. They know all too well that only learning can free them from their predicament and give them the prospect of a better life. In most of the world though, there is simply not the means to achieve even the most basic physical conditions for education: four walls, some openings to let in light, a roof...

Elsewhere, it is a place where pupils are more demanding and learning has to be more than just absorbing basic knowledge. In the relatively affluent countries with their increasing dependence on knowledge, the claims on space are getting greater too. Indeed, in the knowledge society differentiation is on the increase and with it comes the need for smaller working groups. Not just that, school equipment is getting more and more expensive. So the means necessary to achieve these more elevated objectives are often themselves unforthcoming. Moreover, the proportionately increasing onus on the profession of teacher has been grossly miscalculated, resulting in an ever greater scarcity of decent teachers. This shortage worldwide is expected to get worse and if only for that reason new forms of learning will require new spatial conditions alongside the traditional teacher-fronted lessons.

And as the interest in more individual-based education continues to increase, so does the spatial complexity of school buildings. Working alone or in groups requires more and more workplaces, though without endangering the view of the whole. This overall view is necessary as a support to the teaching staff, but also for helping pupils to find their bearings in the welter of options open to them.

The school must be an ever-changing, stimulating environment where there is a lot going on and there are choices to be made, as in a shop where everything is laid out waiting for you. Not only that, children have to contend with other children; they learn to do things together, take another into account, work things out between them,

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[1] Refugee camp, Tibet, 1960  
(photo Marilyn Silverstone/  
Magnum)

[2] De Eilanden Montessori  
Primary School, Amsterdam  
(photo Kees Rutten)

understand each other. This is a great deal more than reading, writing and arithmetic and the school space must encourage it.

Young and less-young children are confronted with all these new phenomena in what is for them a new environment and community – in effect a model of a city-in-miniature and thus a potted version of the world; the world in a nutshell.

Not only does the school become like a city; with learning expanding beyond the school curriculum it is important that our entire environment is educational. Just as continuing education (*éducation permanente*) is no longer confined to school hours, so with learning leaving the school territory and embracing the surroundings as a whole we can speak of 'boundless education'. Then not only does the school become a small city but the city becomes an exceedingly large school. This is a call to make the city instructive, a 'Learning City', in other words a stimulating, meaningful environment that points people, especially young people, in the right direction and leaves them wiser.

Add to that the fact that psychologists and psychiatrists keep harping on about the considerable influence the surroundings have on children of school age and that the first conscious impressions of one's surroundings are decisive for the rest of your life, for your sense of quality and for what you expect of life. So it is important that those surroundings are as rich and varied as can be, evoking as many positive associations as possible and leaving the best of memories. The things you recall best of your own school are the classrooms, the corridors, the stairs, the windows you looked out through, the space, the materials and perhaps the attic full of old stuff where you had no business being. Then there are the others – much like you but different – the friendships, the crushes and, in terms of schoolwork, what you were praised for or, alternatively, what earned you black marks.

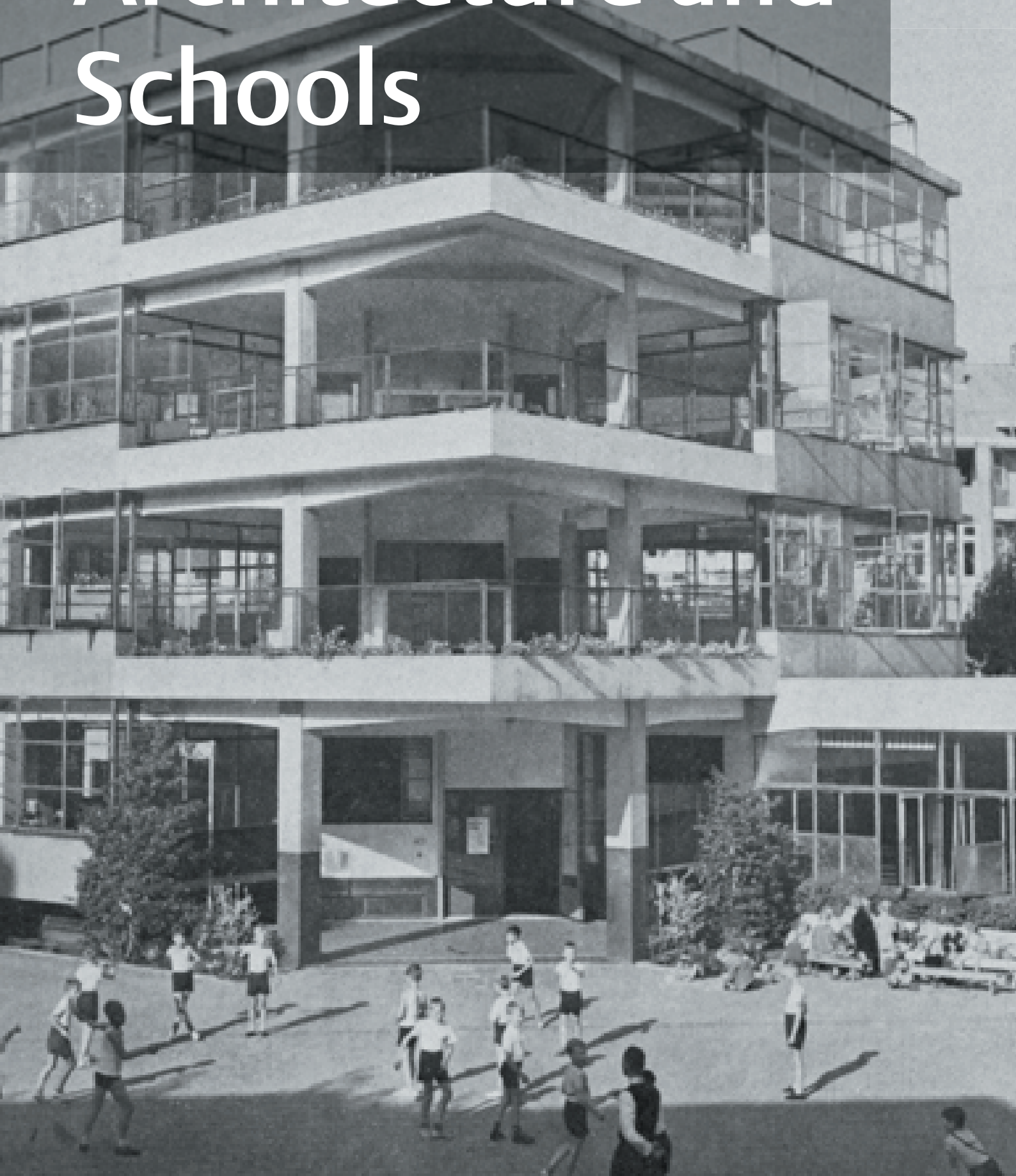
Do those who found schools, finance them, design them, build them, fit them out, take account of all this in their programme and realize the responsibility they are taking on?

Architects who design schools have to do more than provide routine tricks and good-looking run-of-the-mill solutions. What schools really need – anything designed in fact – is a precision in the conditions they are offering. Just as we see learning as second nature and an enlargement of one's space, it should be second nature to architects to prime space to those ends.

[2]



# Architecture and Schools



◀ [1] J. Duiker, Open-Air School, Clostraat, Amsterdam, 1929-1930

[2, 3] W.M. Dudok, school, Boschdrift, Hilversum, 1921

[4, 5] W.M. Dudok, school, Jan van der Heydenstraat, Hilversum, 1930

[6, 7] W.M. Dudok, school, Merelstraat, Hilversum, 1928

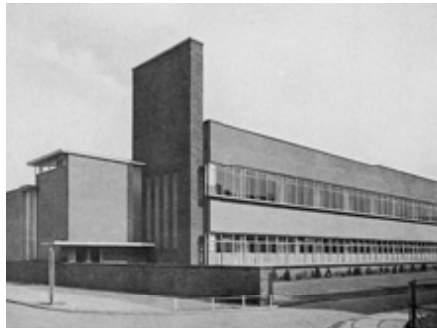
Architecture has unfailingly approached the designing of schools from a less than critical position. All the while, it seems, architects meekly followed their briefs and were mainly concerned with formal aspects of the exterior without busying themselves with spatial opportunities that might lead to better education, and with the role they themselves might fulfil there.

There can be few building types that have so poorly evolved during the past hundred years as schools. It was only in the closing decade of the 20th century that we saw deviations from a type that has been standard since the year dot. Only the form, particularly that of the exterior, moved with the times. How schools were organized was evidently unassailable.

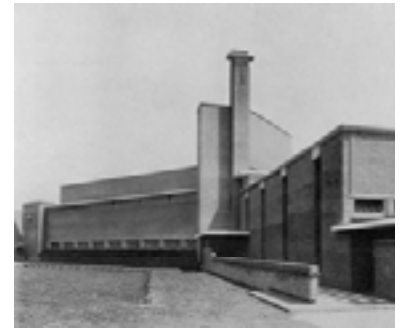
There have been many admirable schools designed in the 20th century by architects of wide-ranging persuasion, schools distinguished in terms of materials and fenestration with rows of rectangular classrooms off long corridors. Not that we can find much fault in the 'architecture', their exteriors; on the contrary, relatively many monumental



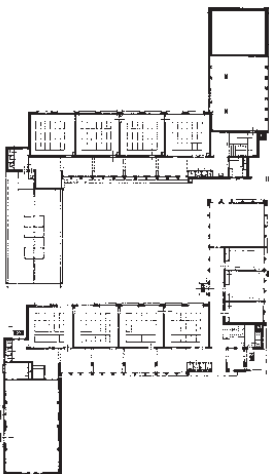
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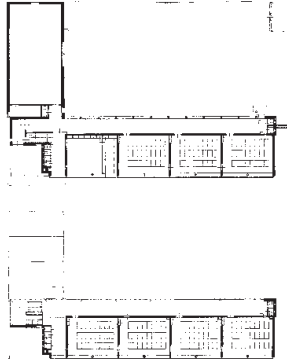
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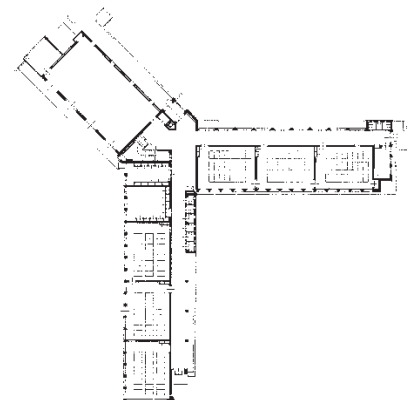
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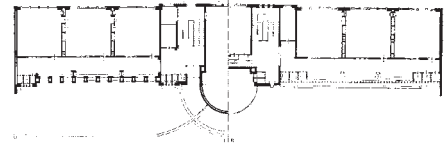
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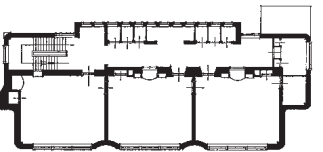
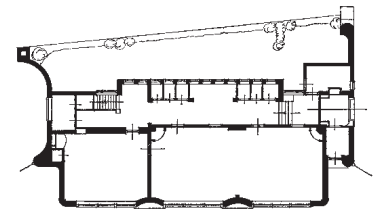
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schools, excessively so at times, have been built and these often managed to upgrade their surroundings.

In the Netherlands of the 1920s and '30s the local Public Works departments strove to give schools, a genre particularly well-represented on their agenda, a distinct countenance. With this, they sought to draw attention both contextually and architecturally to the key position they intended for education. The schools built in Hilversum, designed by W.M. Dudok in his capacity of City Architect, became particularly celebrated. But the many instigated and drafted by Public Works in Amsterdam to designs by the lesser-known second generation of Amsterdam School architects, amongst whom A.R. Hulshoff, N. Lansdorp, P.L. Marnette and A.J. Westerman, likewise established schools as a building type. These distinctive, elongated buildings underlined by the horizontal disposition of their windows and punctuated by monumental stair towers, were often striking cornerstones in what were then the newer residential areas. They were soon regarded as the 'churches' of these new districts, culturally as well as contextually. Evidently, this additional prestige spoke louder than the clamour that is part and parcel of schools and difficult to avoid.

A striking aspect was the consistency in form and materials but even more so the elongated floor plans with classrooms almost invariably on one side, the side facing the sun. This criterion effectively ruled out the possibility of a type with classrooms on two sides of a central corridor and so gave rise to the principle of two architecturally distinct sides, the front and the rear. The classrooms were usually glazed to the hilt on the inner side of the block, with a relatively closed, more monumentally inclined facade on the corridor side. With the playground on the sunward side, preferably as part of the block's inner courtyard, the school invariably showed its stern monumental side to the street.

And so the school building became a type, readily identifiable and familiar in the cityscape and fully integrated and assimilated in the urban blocks. Indeed, these schools expressed in their monumentality and not without pride the unconditional acceptance of educational institutions in the social democracy of the first half of the 20th century.



[1, 2] Public Works, school,  
Parkweg, Groningen, 1927

[3, 4] Public Works, school for  
bargee children, Droogbak,  
Amsterdam, 1925

[5-7] J.G. Wiebenga, school,  
Aalsmeer, 1932

[8] J. Duiker, Open-Air School,  
Cliostraat, Amsterdam, 1929-1930

These days, as it happens, we are back to classrooms facing the sun. With perimeter blocks becoming a thing of the past, the typical school building disappeared and schools as free-standing entities arrived on the scene. Formal frames of reference, usually imposed by the local government inspectors, such as the orientation of classrooms, continued to dominate the designs.

There is no better example of architecture seen as largely a question of exteriors than schools. Their internal arrangement has always been the same: classrooms as opaque boxes off long straight corridors purely for circulation and for hanging coats. And though new ideas on education emerged, unrelievedly calling for greater independence among pupils and expressing increasing doubt about traditional teacher-fronted lessons, these never resulted in breaking down the classroom as a self-contained bastion. It would seem that the inexorable spatial consequence of more independence among pupils, of opening up the classroom, never really got as far as the architecture.

It is striking that even modern architecture scarcely responded to this development, though this 'heroic' style professed to be the face of social reform. Modernist architects were most concerned instead with larger windows and greater transparency, chiefly oriented to the world outside.

Open-air schools were popular among architects, probably because they were an excuse for using masses of glass, but they brought no change to the authoritarian proportions of time-honoured orthodox education. Clearly, architects however progressive were simply not concerned with renewal in teaching and learning. Thus, if we look beyond the magnificent glass expanses in Duiker's Open-Air School, we see children still sitting on traditional school benches, although these were designed anew and are sometimes used in the open air, weather permitting.

The only ground-breaking element, besides the hygiene aspect, is the view, though this is grievously restricted here by the nearby block of houses surrounding the school, not least so that those living there can easily look into the building. A serious response to the new much-discussed new pedagogical insights, however, is nowhere to be seen.

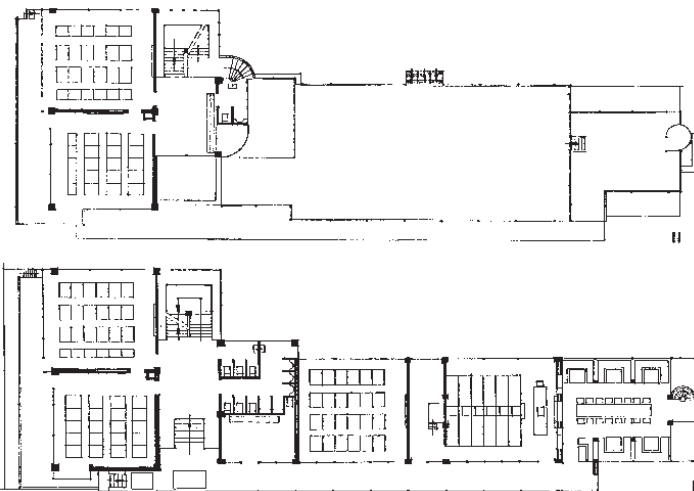
This celebrated Open-Air School (1929-1930) by J. Duiker may be spectacular in its transparency and its marvellously pure construction, but in fact it is a version, opened



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up to the outside, of the traditional classroom system in which children, all that light and air notwithstanding, are still taught along traditional lines. The corridors are actually widened landings of the main stair containing nothing but pegs hung with coats. Even here, you could be sent out into the corridor, in full view of the residents of the surrounding block and looking even more pathetic. Conversely, this fuelled the voyeurism of the children, who are all too willingly distracted by the view into the houses so close by. This demonstrative extroversion leads more to a trivial view out than a truly 'functional' one.

What mattered to Duiker is made clear in his description of the Open-Air School, whose title translates as 'A healthy school for the healthy child':

"It is a vigorously hygienic force that influences our lives and will grow into a style – a hygienic style! The one-sided emphasis placed on training the mind, as 'scholastic dogma', hampers the necessary attention from being devoted to bodily powers and potentials present in nascent form in the child. Yet the normal development of the mind is bound to a normal development of the body.

"Banished between four walls in overfull classes, bound for hours on end to subject matter that is often not understood, often into the evening in poor light, under more or less rigid discipline – this is how children spend their young lives of joy and gaiety. That which the adult casts off when not coerced by necessity and life's cares, is what the child must bear.

"There are of course the newer pedagogical methods: the Montessori and Dalton systems, each of which makes its own special demands on dimensions and division of the schoolroom. These are most certainly of the greatest importance for the child. But these pedagogic systems are not as influential on the architecture of the school building as the hygienic factor of 'immaterializing' the structure, which has a much more general character. This, then, is the stepping-off point for our philosophy of modern school-building. As long as the school remains the school for healthy children, the way the home until now has been the home for healthy people – that is, both lagging hopelessly behind in our recent hygienic world view – the younger generation in its strong tendency towards bodily culture will have to clear them out and modernize them."<sup>1</sup>

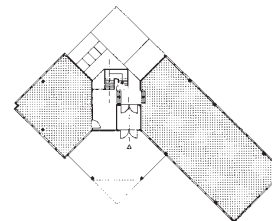
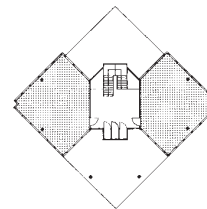
For Duiker the emphasis was on how architecture could contribute to hygiene as the condition for bodily well-being. In this he saw a legitimation of his quest for purity and a directness of form, in other words without ribs and ridges, corners, gaps and other potential gatherers of dust and bacteria. To get rid of dust through dematerialization and lightness – as much in the sense of construction as in that of creating spaces of maximum daylight – for him stood for a better and healthier world. Development of the mind came second. It is safe to assume that here Duiker is expressing the ideas of his generation of modernist architects, a generation that was simply not concerned with the spatial consequences of renewal in education.

Presumably the education side was not exactly being pressurized to emerge with new paradigms of spatial order either. The idea of an open-air school was new in itself and was meant for every child, "for the *healthy* child", and so not just for the physically impaired as was originally intended.

Be that as it may, this development had not the slightest implications for education as such and even less for designing schools. It did cause the emphasis to come to lie on



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