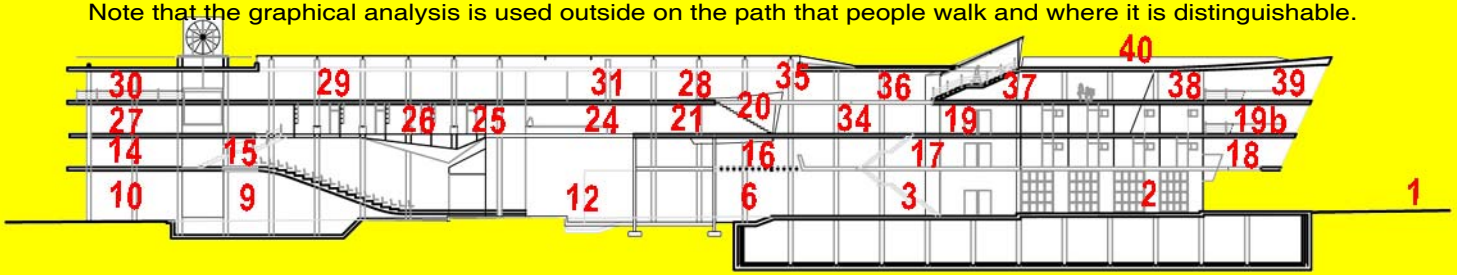
"The plastic arts at their most perfect must become music and move us by the immediacy of their sensuous presence...This, precisely, is the mark of the perfect style in each and every art: that it is able to remove the specific limitations of the art in question without thereby destroying its specific qualities, and through a wide use of its individual peculiarities, is able to confer onto it a more general character."

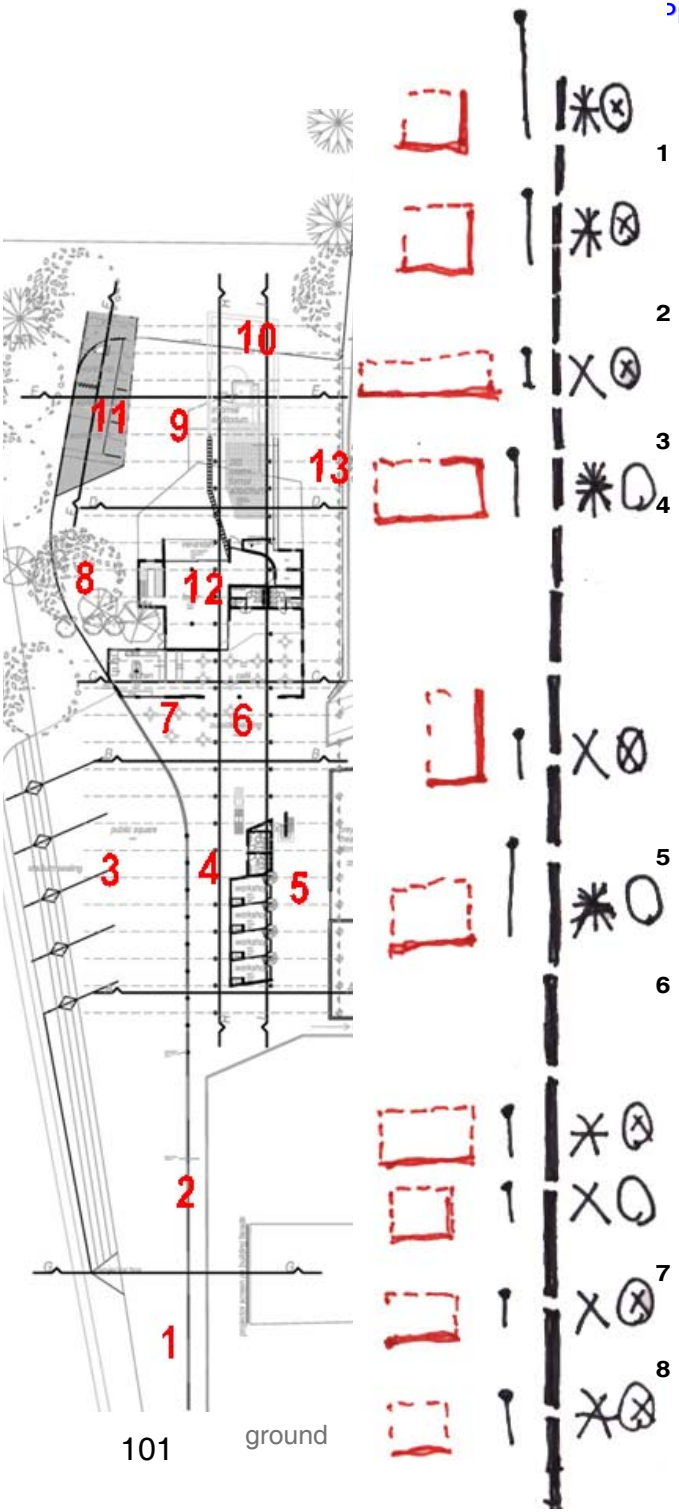
Friedrich Schiller, in "On the Aesthetic Education of Man" (1779)

After the building has been designed to fulfil all requirements of the program in terms of size of zones and inherent functions and good principles of context, technical, acoustics, climate, detailing, energy usage, lighting, services and general functionality, the guidelines of intersection of volumes and the phenomenal transparency also guiding the decisions – after all of this the movement inside the building can be made harmonious. Movement already exits and the path through the building has been determined. The spaces the melody/movement passes through need to be made comfortable for humans, need to be well defined and make a good building better.

16
analysis

The numbers on the plans and sections correspond to explanations in the text. The red text is an intervention that was taken after the space was decided to still need alterations to make it harmonious. Again, this intervention is a subjective decision. When the author decides that a space needs more loudness then this decision is made according to what the melody/movement seems to need to make it move harmoniously. The same counts for how this intervention looks practically. It can take on different forms and is left to the designer's discretion whether to increase the loudness by cutting open a slab or adding a mezzanine level. Note that the graphical analysis is used outside on the path that people walk and where it is distinguishable.





1 very high **pitch** due to projection on building façade and **magnet** to pull melody over street; **rhythm** started with shading and beams in overhead roof plane; protection of **melody** by roof plane and wall plane on one side; basic **phrasing** of materials that repeat in differing forms

2 softer **pitch** (only filtered light from top) and good **rhythm** (overhead shading and beams); human **proportioning** (proportion system); not too loud (little volume transitions)

3 soft **pitch** (overhead shading); protection of **melody** (overhead and wall plane)

4 increased **pitch** (two types of overhead shading – normal shading and concrete fins); increased **loudness** (opening of slab into double volume); stronger **rhythm** (two types of shading and columns); harmonious **proportioning**; stronger **phrasing** (concrete in differing forms); protection of **melody** (roof plane and somewhat less defined wall plane); add to **loudness** by letting columns pass through cut in slab – accentuate intersection of volumes and vertical movement; better play of orchestration by differing between pre-cast and in-situ concrete.

5 less **pitch** (high amount of shading); vertical space; **melody** protected by extremely high wall planes and no roof plane; good conditions for private and informal movement

6 good **pitch** (different types of shaded roof planes); good **loudness** (varying intersecting volumes and different textures, also between old and new); harmonious **proportioning**; good **orchestration** of different types of concrete (using them in the way intended); decision point for different **rhythms** for the different directions to go to; increase harmony of **loudness** even more by increasing definition of intersecting volumes (sloping up wall);

7 permeable overhead roof plane for protection of **melody**; soft **pitch** and **loudness**; ideal for sitting down at café

8 very harmonious space due to trees; soft **pitch** (shading); soft **loudness**;
add to **orchestration** by letting materials respond

to context and replace concrete beam with wooden beam as it passes through treed area

9 less and softer **pitch** (higher shading by trees); **melody** protected somewhat by overhead plane of trees; conditions good for private and informal square

10 increased protection of overhead plane to increase protection of **harmony** and channel **melody** underneath slab

11 harmonious **proportioning** inside building and protected overhead plane; add to **orchestration** by letting materials respond to context and make entire structure out of wood within trees

12 soft **pitch** (strong light into foyer through glazing); good **loudness** (double volume and intersection of volumes); **rhythm** of columns into building;

13 less **pitch** (high amount of shading); vertical space; **melody** protected by extremely high wall planes and no roof plane; wall plane opening up on one side and good conditions for public and formal movement

14 higher **pitch** (north facing openings); gentle **loudness** (not much change in volumes); **melody** protected by overhead plane and semi-permeable wall plane; harmonious **proportioning**; general balcony with not too long times of rest intended

15 higher **pitch** (light through lift shaft, roof and wall plane); good **loudness** to enliven **melody** (intersection of volumes through ramp cutting through); healthy rhythm through columns; add to **orchestration** by letting ramp cut on shaft and up to end of slab; increase **rhythm** by emphasising columns and choosing more pronounced system of glazing

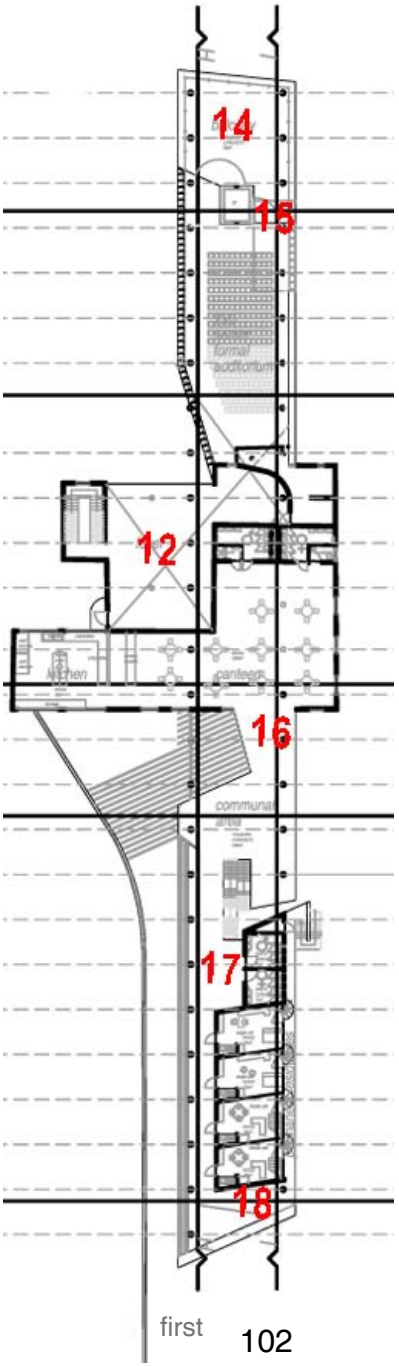
16 high **pitch** (big openings on both wall planes); good **loudness** (intersection of many volumes and opening up of slab); **rhythm** emphasised by letting new grid run onto existing; harmonious **proportioning**; respond to phrasing of existing openings in MOTH club by moving the cut of the wall inside to include last important window

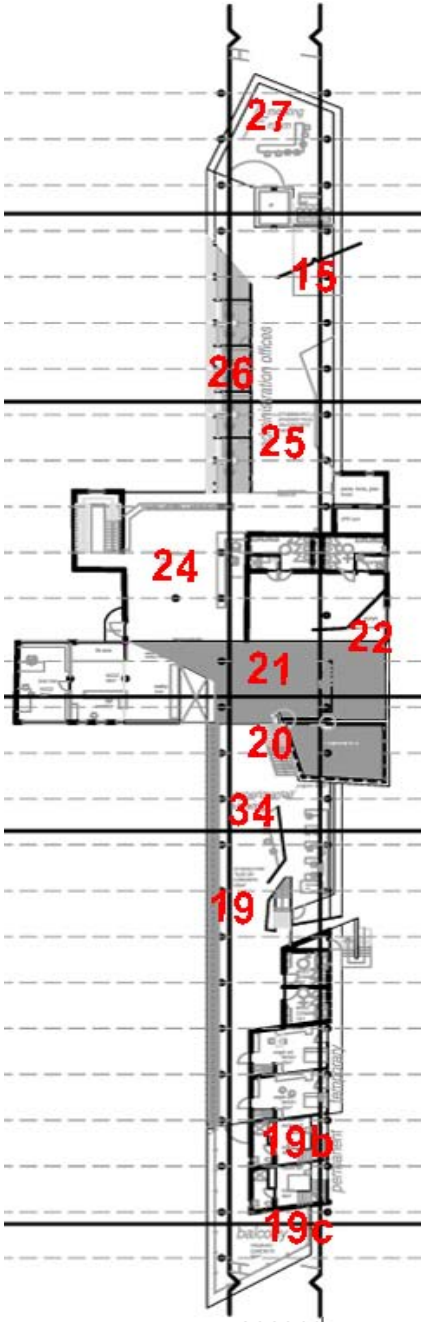
17 high **pitch** (big openings on both wall planes); good **loudness** (intersection of many volumes and opening up of slab); **rhythm** aided by concrete grid; harmonious **proportioning;** increase space definition and **loudness** by letting columns pass through gap in slab

18 semi-high **pitch** (south facing openings); more **loudness** than 14 (more change in volumes); **melody** protected by overhead plane and semi-permeable wall plane and channelled into opening by walls of residential units; harmonious **proportioning**; private balcony with longer times of rest intended

19 good **pitch** (windows with shading on both sides); good **loudness** (different cuts in slabs, intersections of volumes); very strong **rhythm** (both louvres and curtain wall system along the sides); harmonious **proportioning**

19c semi-high **pitch** (south facing openings); bit less **loudness** than 18 (less





cuts in slab and change in volumes); **melody** protected by overhead plane and semi-permeable wall plane and channelled into opening by walls of residential units; harmonious **proportioning**; private balcony with longer times of rest intended

20 increased **loudness** (staircase cutting through 2 floors, movement box cutting into space); increased **pitch** (light on both sides and film screen on movement box wall); harmonious **proportioning**; strong **rhythm** through columns, louvres, curtain wall system; very strong parameters to enliven **melody** and increase harmonious movement through MOTH

21 less **pitch** (less light and different qualities); good **loudness** (movement box between two differing volumes of the old and new); good **orchestration** (working with existent structure); harmonious **proportioning**; increase **pitch** by including window on S side of movement box; increase **loudness** by leaving gap between movement box and cut in MOTH

22 less **pitch** (less different light), good **loudness** (differing volumes); harmonious **proportioning**; increase **pitch** to enliven melody by adding roof light

24 good **pitch** (big window on N side); good **loudness** (internal arrangement of volumes and gathering of many melodies); little **rhythm** (intermediate area, where melodies gather and do not originate); harmonious **proportioning**

26 good **pitch** (bio-glass on W side); small **loudness** (to aid a more settled melody and sitting in offices); little **rhythm** (not needed for same reason of providing a more static melody); harmonious **proportioning**; aid **orchestration** by letting wood box be inserted and responding to context of trees; aid **phrasing** by keeping unity of N wall of MOTH and letting new slab join existing wall sensitively

27 high **pitch** (windows on all sides, glass shaft); gentle **loudness** like 14; harmonious **proportioning**; increase **loudness** by cutting back slab, creating deeper volumes and letting columns run for 2 storeys

28 high **pitch** (glazing on all sides, strong definition through louvres); healthy **loudness** (double volume close by, differing volumes between new slabs, movement box, MOTH); harmonious **proportioning**; good **phrasing** (different concrete slabs); very strong **rhythm** (louvres, columns, trusses); different roof truss to increase **harmony** and **orchestration** (speak same language as rest of building and not be add-on)

29 high **pitch** (glazing on all sides, strong definition through louvres); healthy **loudness** (roof volume opening up); harmonious **proportioning**; very strong **rhythm** (louvres, columns, trusses); different roof truss to increase **harmony** and **orchestration** (speak same language as rest of building and not be add-on)

30 similar open space as 14; higher **pitch** (north facing openings); gentle **loudness** (not much change in volumes); **melody** protected by overhead plane and semi-permeable wall plane; harmonious **proportioning**;

general balcony with not too long times of rest intended

31 high **pitch** (glazing on both sides and window opening up); very healthy **loudness** (roof volume opening up); harmonious **proportioning**; different **rhythm** than rest (roof beam different than others due to jump between column grid of new building and MOTH); different roof truss to increase **harmony** and **orchestration** (emphasis the corner of the existing shaft and the jump between the two column grids)

32 strong **pitch** (strong external one-dimensional light); good **loudness** (see all different volumes); **harmonious** proportioning in horizontal direction (no roof plane); no protection of **melody** by roof plane; ideally there should be a roof plane to protect the melody, but practicalities made that very difficult

33 strong **pitch** (strong external one-dimensional light); good **loudness** (other buildings and own shaft); **harmonious** proportioning in horizontal direction (no roof plane); some protection of **melody** by roof overhang; unlike 32 some protection of the melody exists due to the roof overhang

34 very strong **pitch** (double volume windows and projection screen); very healthy **loudness** (man intersecting volumes, concrete and wooden roof intersecting at top) harmonious **proportions** and strong vertical emphasis; strong **rhythm** (columns, mullions); strong **timbre** (different textures and materials); good **orchestration** (all different types of concrete on different levels); very harmonious **melody** and lots of opportunities to move to

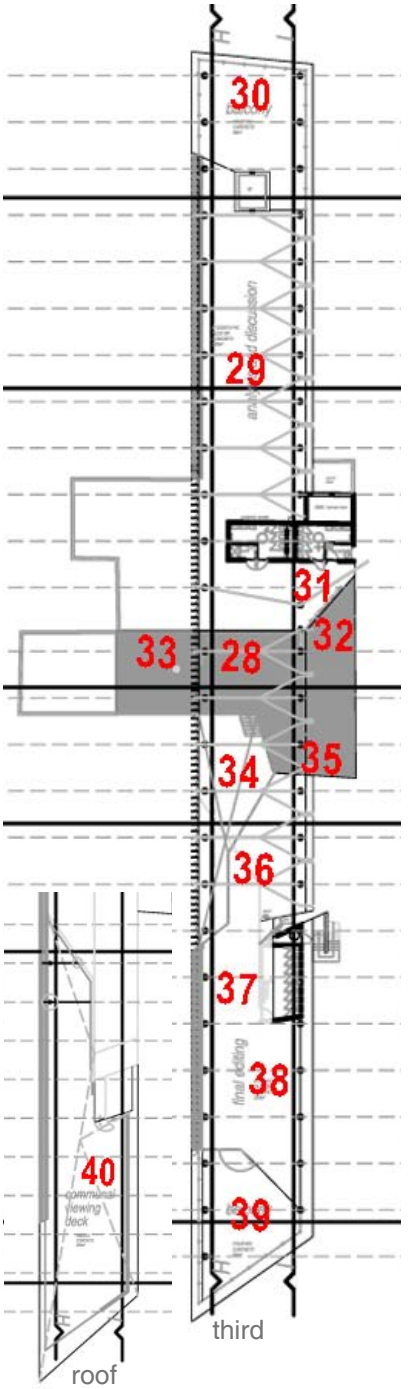
35 high **pitch** (glazing on all sides, strong definition through louvres); healthy **loudness** (double volume close by, differing volumes between new slabs, movement box, MOTH); harmonious **proportioning**; good **phrasing** (different concrete slabs); very strong **rhythm** (louvres, columns, trusses); different roof truss to increase **harmony** and **orchestration** (speak same language as rest of building and not be add-on)

37 high **pitch** (glazing on all sides, strong definition through louvres); healthy **loudness** (roof volume opening up); harmonious **proportioning**; very strong **rhythm** (louvres, columns, trusses); flat concrete roof again to condense melody again and prevent it from leaving the building, i.e. give the building a finite edge

38 same as 37, just volume opening up a bit again (horizontally and also roof sloping up) to keep condensed melody alive and move it along harmoniously

39 semi-high **pitch** (south facing openings); healthy **loudness** (slab sloping up); **melody** protected by overhead plane and semi-permeable wall plane and channelled to point of building by sharp edge of slab; harmonious proportioning; private balcony with longer times of rest intended

40 strong pitch (strong external one-dimensional light); good loudness (other buildings and own shaft); harmonious proportioning in horizontal direction (no roof plane); like 32 there should ideally be a roof plane, but this open space will be used for short times only and thus it is not really necessary to keep the melody too well protected



General changes to improve the harmony of the spaces in the building - the spaces where the melody/movement passes through - are:

The slope of the roof is changed to have the melody/ movement open up towards the W side (where the square and the views are), where it would want to go naturally, and not be forced to go E, where the close buildings offer no magnet).

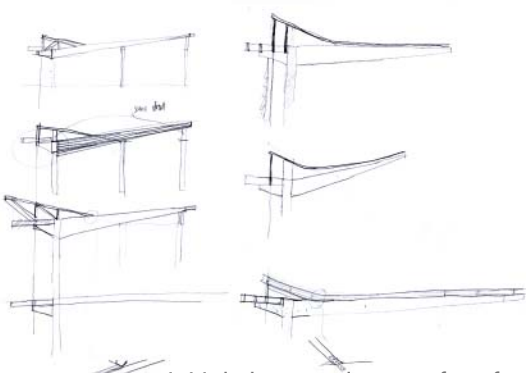
The slab is drawn back in the residential units at 19b to increase the loudness in the double units, where a stronger melody/movement is present. It also has functional advantages of clearing space for the internal staircase.

The pitch is increased all along the main covered walkway on Ground floor to create a magnet for faster movement. Putting fluorescent lighting all along where the concrete beam runs does this.

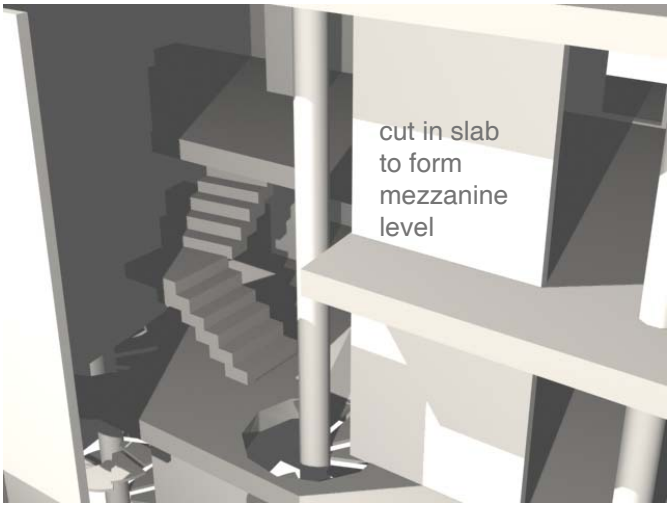
The detailing of the balustrading is chosen to carry the melody/movement that comes from the slab it sits on. For this 3 different types of balustrading have been designed depending on the slab ending.

Surface treatment is chosen for the type of melody/ movement passing over it. The faster the melody/ movement, the colder the treatment. Wood flooring is used in the offices and residential units where there is mainly static activity, PVC studded flooring in the intermediate zones, such as the editing and analysis, where there is some localised work and walking and concrete in the spaces used only for walking. The PVC tiles come in different colours from cold to warm, depending on the speed of the melody/movement.

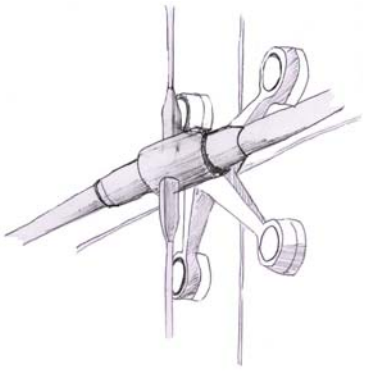
The curtain wall system changes from a standard mullion system to the suspended cable structure. It is felt that the latter system would increase the rhythm of the melody/movement by reinforcing the



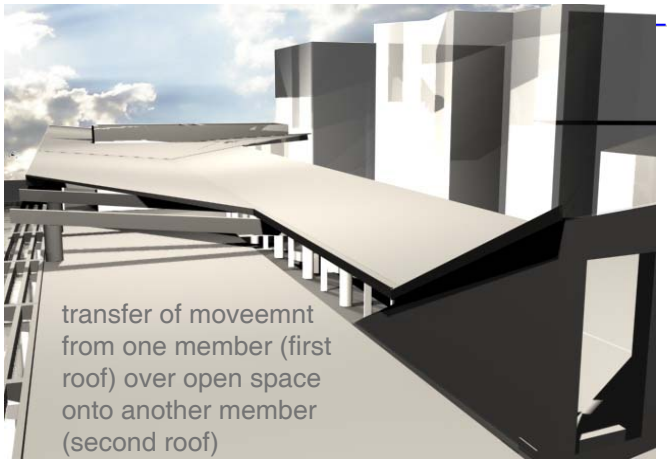
initial slope and truss of roof

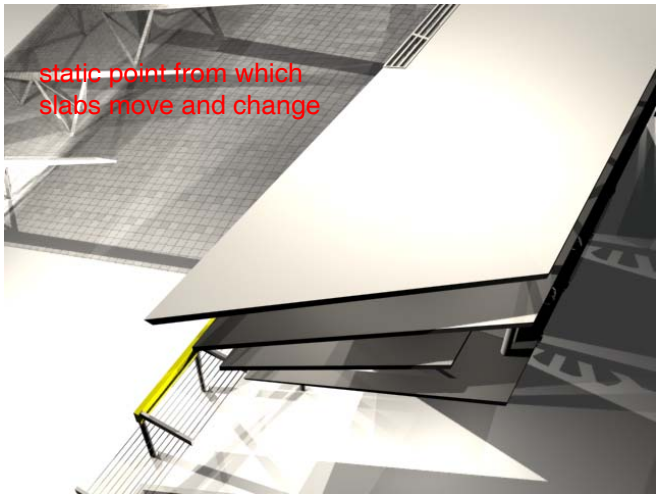


cut in slab to form mezzanine level



curtain wall system with more pronounced vertical members





vertical direction. There would be no practical or financial implications with this change.

Initially, the building was glazed virtually all around, but it was decided that glazing should only occur where the melody/movement is internal, where processes go on inside. The open zones are left unglazed. This had great financial benefits.

Open space is designed and not left to spontaneity. All the open space is seen as a unit working together and careful phrasing (where to put open space) will ensure that the melody/movement through the building is harmonious as it passes through those open spaces.

There is a constant play of contrasting volumes – open and closed, small and big, single and double – to give a healthy mix of loudness.

Movement is translated into the structure by letting columns pass through cuts in slabs, by exposing the service shaft wall on the one side with a cut in the slab, by letting the balustrading grow out of the slab, by letting the laminated trusses be an extension of forces from the bottom, by letting one member change directions and perform many different duties (with differing load transfer needs), but still remaining the original.

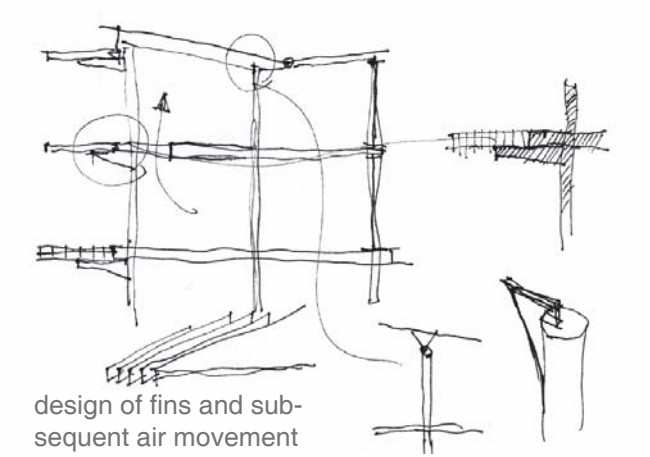
There are many “static points” from which movement spreads. An example is the static point on the S-E corner of the slabs, where all slabs start at that same point, but then flange out at the other corner, the top slab in two directions.

Air movement is very important and the concrete fins have been designed to accommodate this on the inside of the building.

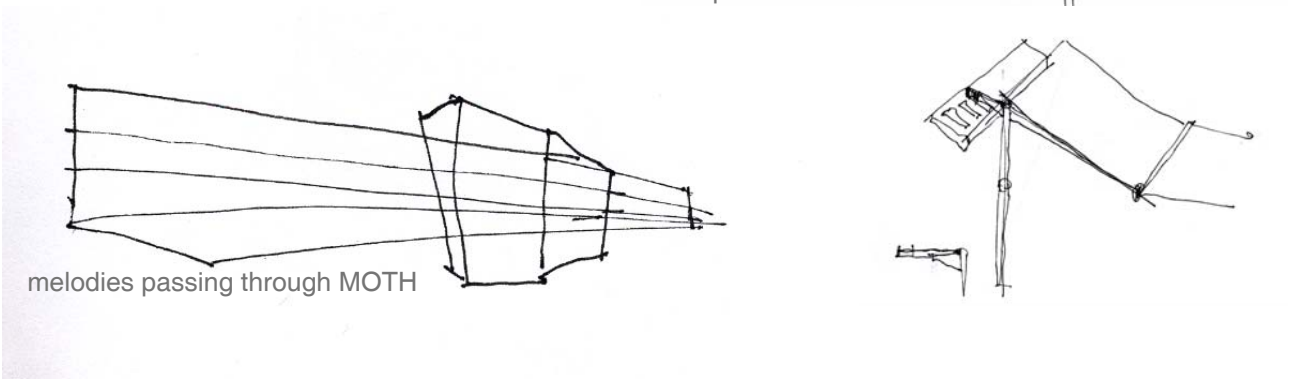
The building concept could be seen as a solid object (MOTH club) that is cast in the middle of melodies/

movement lines that pass through and around it.

The MOTH club is cut open at different parts, but the S-W corner cut is seen as the cut that announces this. It celebrates the fact that this static building with bad internal circulation is cut into to let movement pass through it. This cut also serves as the servant entrance to the restaurant.



design of fins and sub-sequent air movement

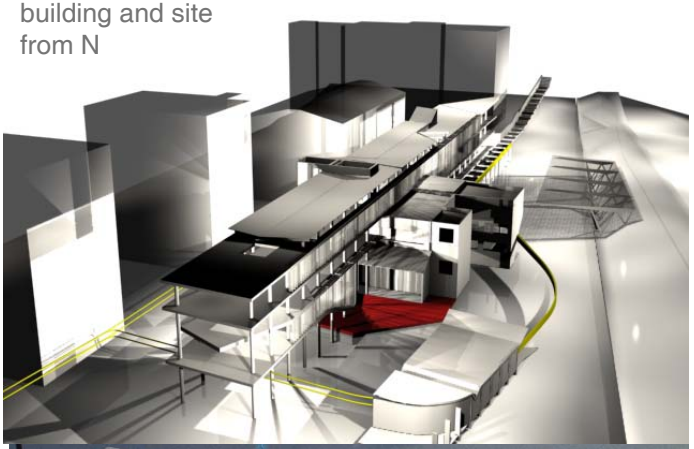


melodies passing through MOTH

cut in MOTH

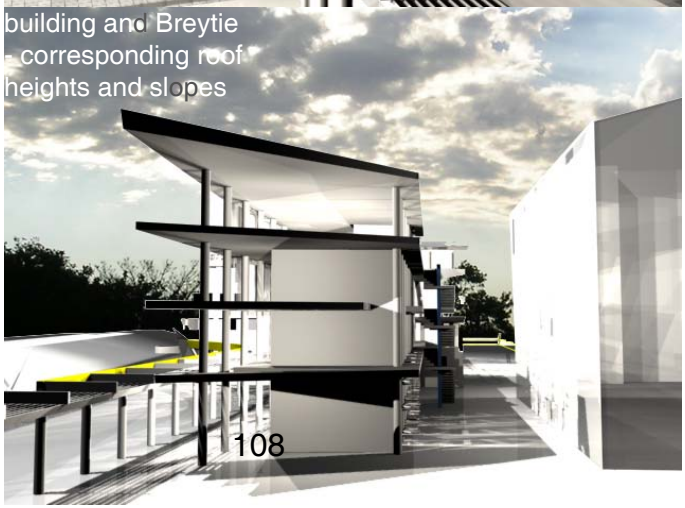
building and site from W

building and site from N



building and square from S

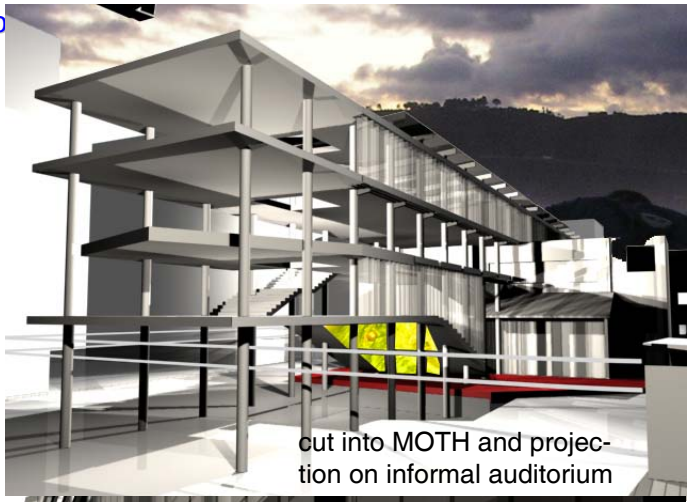
projector room in slope and screen on building facade

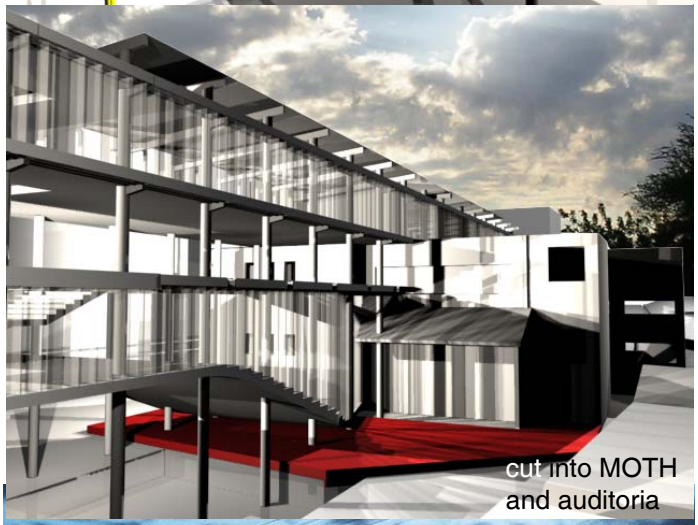


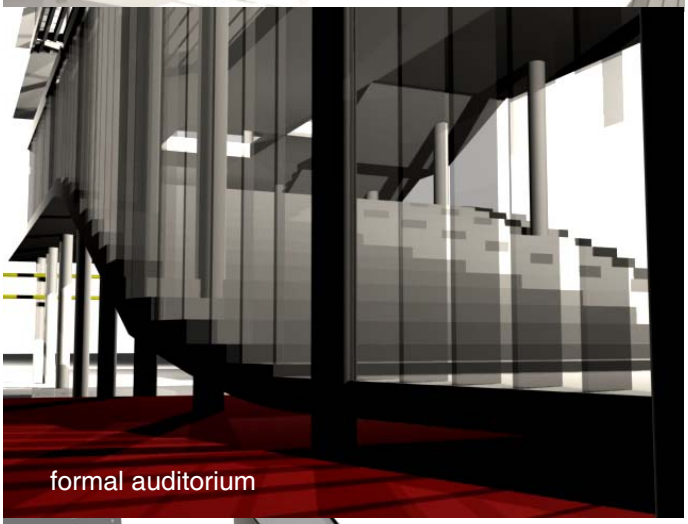
building and Breytie - corresponding roof heights and slopes

building and square from S

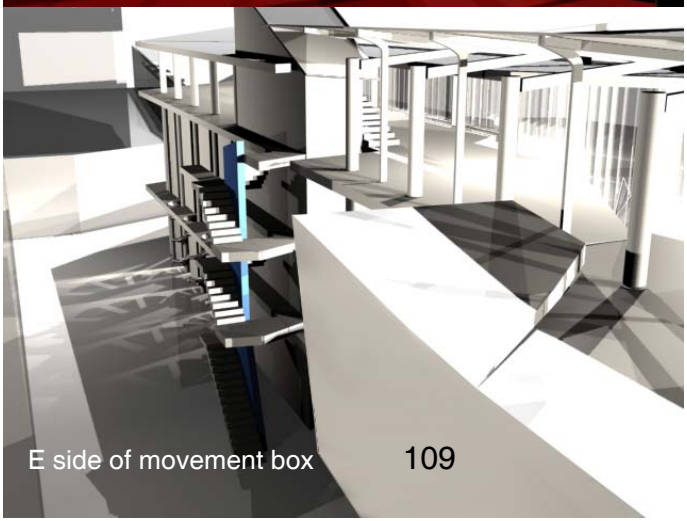

formal and informal auditoria from N


cut into MOTH and projection on informal auditorium


cut into MOTH and auditoria

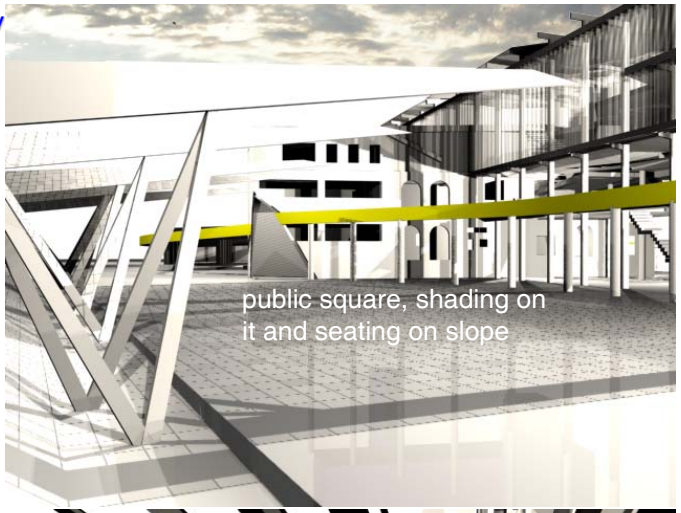

formal auditorium


community workshop and building

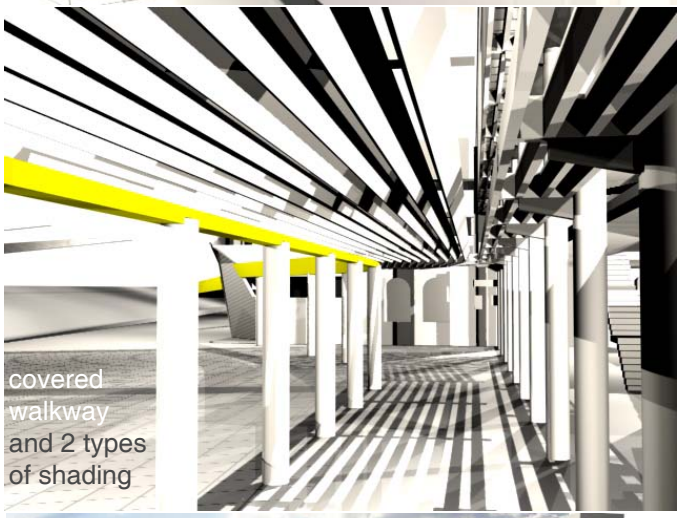

E side of movement box

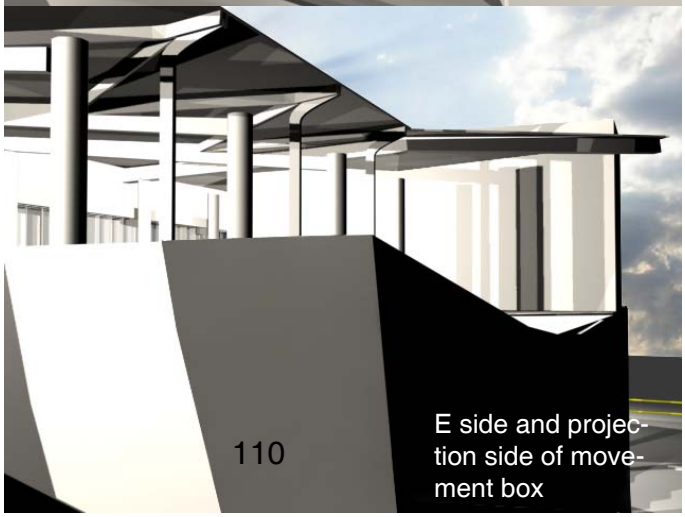
Mey

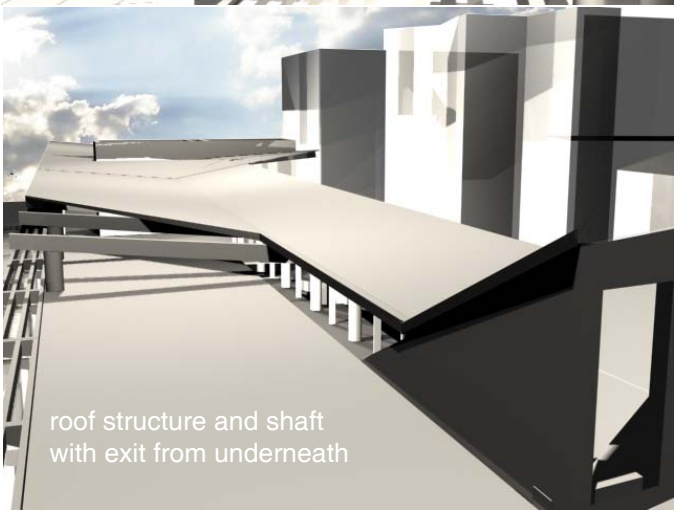

wood and concrete roof
and exposed trusses


public square, shading on
it and seating on slope


jump in two column
grids and accentuated
roof beam


covered
walkway
and 2 types
of shading

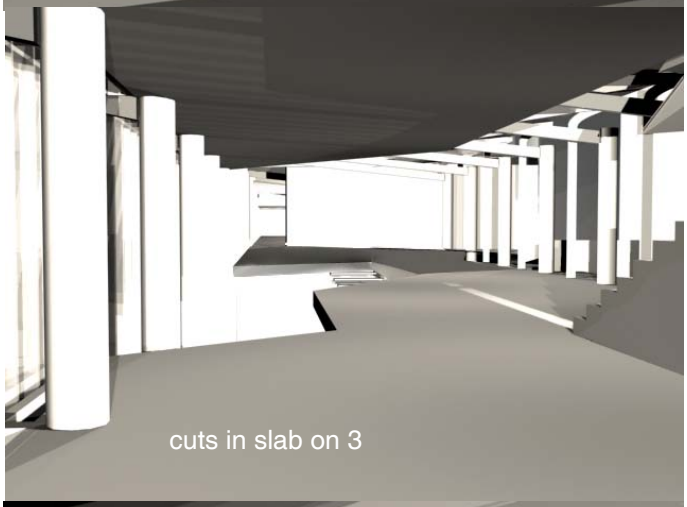

E side and projec-
tion side of move-
ment box

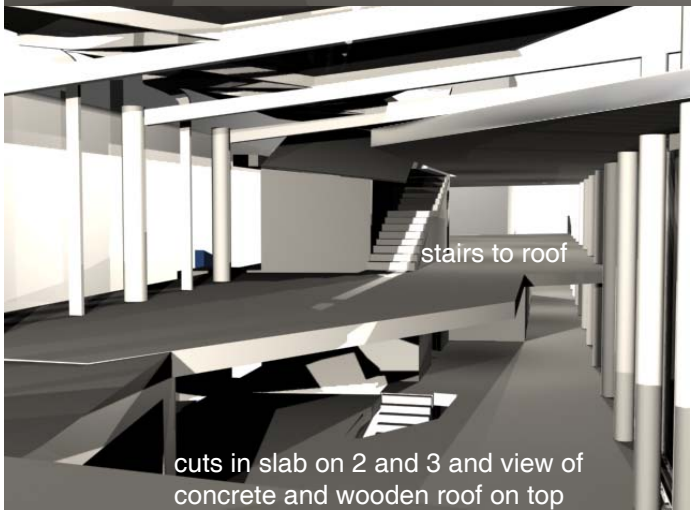

roof structure and shaft
with exit from underneath

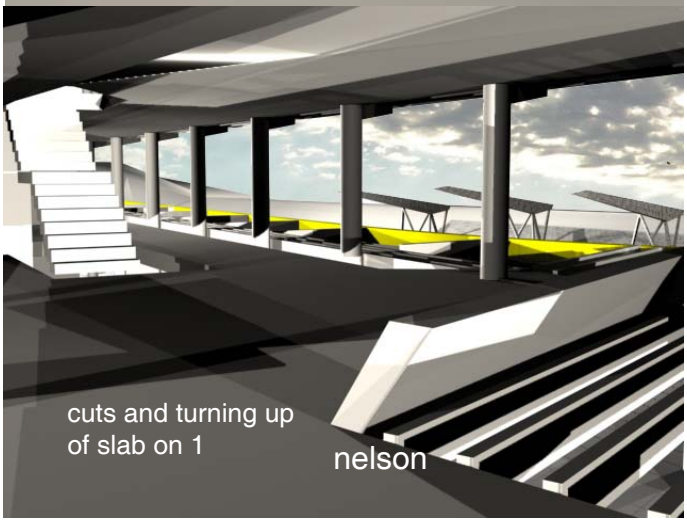

cuts in slab and free
columns on floor 1

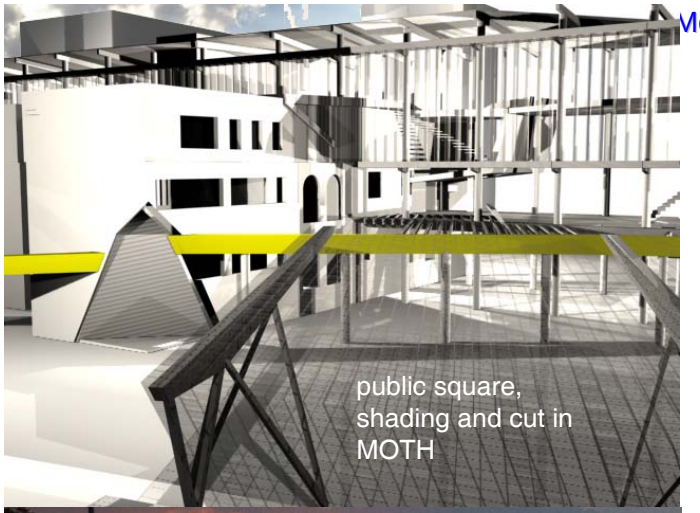

closed floor slab on 2

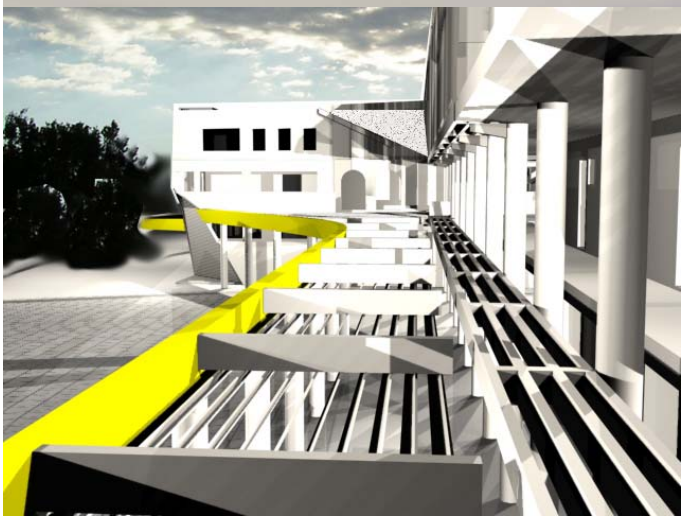

staircase and cuts in slabs on 1 and soffit of 2


cuts in slab on 3


stairs to roof
cuts in slab on 2 and 3 and view of
concrete and wooden roof on top


cuts and turning up
of slab on 1
nelson





Architecture, however…if it is music, then it is frozen music.”

Friedrich Schelling, in “Philosophie der Kunst” (1859)

CONCLUSION

The aim of this treatise was to produce good architecture, meaningful and relevant to all its contexts, architecture that is moving and in return moves us. This is no new striving and many architects have their own solutions to this problem. This is mine.

I want to make people respond to the city again, make them realise that being is little else than being one of many points on the line of movement through the flow of everyday experiences. This is possible through perception, which in turn is brought about by movement - through harmonious movement in time and through space. Experience through perception and perception through harmonious movement.

This is where the melody evolved as the plastic representation of the movement in time through space. It becomes the answer to the calculation that added all the factors that go into good space-making. And this melody/line of movement is to be made harmonious through making the spaces harmonious that it passes through. This where the skill of each designer comes in. The melody suggests the interventions that could take place, but the way in which these happen remains in the hands of the designer and his ability to synthesize all the requirements into a solution. Intuition and principles of good design take precedence over direct translation in good products.

The melody/line of movement is projected horizontally to give the plane on which movement takes place and this plane is projected vertically to create the volume for the melody/line of movement to move about harmoniously. But yet all of these - line, plane and volume - are composed out of single points, points that react to their context, the space they lie in. All of these spaces that compose the lines, planes and volumes are to be harmonious. Experience through perception, perception through harmonious movement, harmonious movement through harmonious melodies, harmonious melodies through harmonious spaces.

“[M]usic dominates,
reigns actually,
harmony; and
harmony itself
reigns over all
things.”

le Corbusier, 1949

BIBLIOGRAPHY

Appleyard, D., Lynch, K., Myer, J.1964.*The View from the Road*.MIT Press

Bacon, Edmund.1968.*Design of Cities*.The Viking Press, New York

Be Boddy, T.1986.*Undergreound and Overhead: Building the Analogous City*.Hill+Wang.New York

Blake, P.1966.*Le Corbusier, Architecture and Form*.Penguin.Baltimore

Casciani, S.2003.*Interview with Renzo Piano:Trio for Piano*.Domus, April 2003, no.858:22-25

Ching, F.D.K.1996.*Architecture.Form, Space and Order*.Van Nostrand Reinhold.New York

Ellin, N.1996.*Postmodern Urbanism*.Blackwell.Oxford

Fyfe, N.1998.*Images of the Street*.Routledge.London

Giedeon, Siegfried.1976.*Raum Zeit Architektur*.Birkhäuser.Basel

Harrop-Allin, Clinton.1975.*Norman Eaton: Architect*.Struik.Cape Town

Hillier, Bill.1996.*Space is the Machine*.Cambridge University Press.Cambridge

Hambidge, Jay.1967 (1919).*The Elements of Dynamic Symmetry*.Dover.New York

Inwood, Michael.1997.*Heidegger*.Verlag Herder.Freiburg

Jacobs, J.C.1961.*The Death and Life of Great American Cities*.Penguin. Harmondsworth

Kepes, Gyorgy.1944.*Language of Vision*.Chicago

Le Corbusier.1927.*Towards a New Architecture.*Dayson and Call.New York

Lyon, D.1994.*The Electronic Eye:The Rise of Surveillance Society*.Polity Press.Cambridge

Morris, E Toby.1996.*Musical Analogies in Architecture* in Structurist, Volume 95/96/36, pages 66-74

Pevsner, N.1970.*An Outline of European Architecture*.Penguin.Harmondsworth

Rasmussen, Steen Eilar.1964.*Experiencing Architecture*.Cambridge University Press.Cambridge

Rowe, Colin.1976.*The Mathematics of the Ideal Villa and Other Essays*.The MIT Press.Massachusetts

Scholfield, P.H.1958.*The Theory of Proportion in Architecture*. Cambridge University Press.Cambridge

Wittkower, Rudolf.1971.*Architectural Principles in the Age of Humanism*.M.W. Norton and Co..New York

www.zeppelin-university.de, as accessed on 10.10.2005 at 9:30

Varga, Bálint András.1996.*Conversations with Iannis Xenakis*.Faber and Faber.London

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