

UNIVERSITY OF NSW

HARRY SEIDLER UNSW TALK 2

**FORM RELATIONS IN BAROQUE AND MODERN
ARCHITECTURE**

17-4-1980

INTRODUCTION

[0.00] **Sydney architect, Harry Seidler, was appointed visiting professor in architecture at the University of New South Wales for the first semester of 1980. He was born in Vienna in 1923. After studies in England he graduated from the University of Manitoba in Canada. Later, he did post graduate work at Harvard University under the founder of the Bauhaus, Walter Gropius, and studied design under the painter, Josef Albers. In 1948 Seidler started to practice in Sydney and the many buildings he has completed since then have earned him an international reputation. Amongst his best known buildings is Sydney's Blues Point Tower, Australia Square and the MLC Centre and Canberra's Trade Group offices. A recent overseas work is the Australian Embassy in Paris. This lecture is the first of two lectures which deal with baroque architecture and the parallels and form relations that exist between baroque and modern architecture.**

To suggest that there could be any relation at all between what we generally refer to as modern architecture and the baroque period would have been considered almost preposterous until recently. Most people would have agreed that those two things are just so far apart that any relation between them would be quite irreconcilable. Now, modern architecture has now reached a level at which it can afford almost greater concern with historical continuity and there's generally a greater willingness to look again at periods of history and find not only evidence of historical continuity which is beginning to be more and more important to those concerned with the development of architecture but to also find in certain respects a new appreciation and particularly for periods that have to their credit such amazing achievements as the seventeenth and eighteenth centuries.

Now, the period I will deal with broadly is the century between about 1650 and 1750, give or take a decade or so. Now, this was a period in the western world of great creativeness and invention. To it, I believe, belong some of the heights of man's achievement that can be traced back not only to the visual arts, including architecture and town planning but also to the sciences and especially to mathematics. There was a time when integral calculus was literally invented. It was an era of giants such as Michelangelo, Borromini, Guarini, Balthasar Neumann, the time of Newton and his discoveries, of Rembrandt and Rubens but also, of course, it was a time of great social problems and upheaval. I would prefer for our purpose to resolve, not to dwell unduly on these unpleasant aspects of the time but restrict our concern with the visual arts and above all try and enjoy what has been handed down to us from that time. Now, baroque grew out of the Renaissance and the Renaissance being a time of classic revival of forms, with its static harmonies, it's a time that suddenly broke tradition in about the mid seventeenth century or rather it concerned itself more with a transmutation of these forms that have been in existence ever since classic times to include now some new elements and those elements are mainly those of movement and dynamic concerns, contrasts, a new exploitation of space in buildings such as had never been dealt with before. Now, in our time until recently, of course, baroque had always been considered something quite degenerate, something debased about the classic tradition. In fact, the word itself really means barbarous, grotesque, wild, whimsical and such things. Now, it is significant, I think, that Sir Banister Fletcher, that *doyen* of architectural history, everybody studies his textbooks, he all but ignored any positive aspects about the baroque; people disliked it. Now, why is this sudden

rediscovery of that period? And I think probably the man who is most responsible for it is Sigfried Giedion, that well-known Swiss art historian who wrote 'Space, Time and Architecture', because he points out that many elements about the baroque era coincide with the visual ethic and the aesthetic principles that have come to life in our own time.

Now, it's of relevance, I think, to observe the fact that there is a certain overlap of tendencies between those two periods. What we have in common is that we also are in an era of inventiveness and much change; we generally refer to our progress of technology. What happened in the baroque time was a new concern and development of systems of geometry of a very, very high order and complexity. Now, they reflect, of course, that preoccupation at the time with mathematical speculation, the invention of integral calculus, it's a time that dissolved, changed the static image of the Renaissance into a fragmentation of its planes, the flatness, the two dimensionality of Renaissance architecture is broken and of course it's an era that glorified the curve. A new *power* was found to mould space, almost to the point of portraying infinity. Now, that was something that preoccupied people at the time.

Previously, there had been a concern about single point perspective as there was in Renaissance times and now this has expanded into a systematic space/time method of creating multiple perspective points, a new spatial concept. Now, this we have in common with the baroque because we too in our time use space as our main design tool. Baroque had a love for the theatrical and that theatrical, the drama in building and environments served, of course, a specific purpose: it was the purpose of the church in its counter-Reformation moves aimed at quite magical effects, magical spatial results to impress people. Those who promoted this mostly were, of course, the Jesuits, Jesuit priests who to this day some orders of Jesuits have remained great patrons of the arts and they've commissioned some of the great modern cathedrals, churches, those built by Marcel Breuer in the United States. And it also served the purpose of an absolute monarchy: they wanted to impress people how powerful they are by their gargantuan theatrical effects. So, one of the interests visually is in illusionistic effects to produce illusions of grandeur, of infinity, something triumphant about the visual results was demanded, especially in France but we will deal with that country and its contribution in part two of these talks and it will deal with the great landscape garden architects in France, city planning visions and just how they dealt with nature.

[9.48] Now, when we talk about, you know, is there really something valid to be compared? It may be simple a coincidence that we find similarities but there is no doubt that the visual aims as they've been expressed at the time and by some of our historians in retrospect to what modern period has produced have some overlapping tendencies but to be quite honest and if I'm to admit to an ulterior motive I would like to discuss and show these buildings mainly because I think they are utterly beautiful, they will show something of my love for that period, and I think it should be understood that such a love for the buildings of the past must by necessity or is desirable to be a passive one; it's a very different thing to love things actually, that is those things and actively that you in fact want to do yourself. We couldn't and wouldn't want to actually have such buildings, not that we could by any stretch of the imagination produce them and that, I think, is important to recognise. But showing these examples, I believe, will reveal when looking behind the often quite bizarre and quite unbelievably overdecorated

surfaces that we find – and especially in some of the German work – a discipline about their geometry which is both inventive and imaginative and in that respect there are many similarities to our time. But more than that, I think when one reads about the people and how they went about both commissioning and building in that century that I designated, there is a single-mindedness, a tenacity about the way they went about doing things and a consequential, almost *moral* approach which really brings that time very close to the ethic edicts that have been at the core of modern architecture's thoughts.

Now, we find in that period mathematically elaborate plans and yet the more one looks at them the more one finds them based on extremely simple, fundamental concepts of geometry. It's very comparable and similar to the music of the time which we can probably have personified by Johann Sebastian Bach who intertwines essentially *simple* themes and transposes them into great and rich harmonies. They're at once elaborate and yet subtle and pure. Now, in this I feel there to be a similarity between modern architecture's ethical edicts and aims and it certainly reflects my own ambitions in architectural design.

Now, here we have a building, if we were to start to get an image of the time that doesn't belong to it, of course: it is a Renaissance building. It is a building by Brunelleschi, Pazzi Chapel in Florence, and I show it in order to by contrast largely to emphasise the difference between Renaissance effects and building with its planar, very highly elegantly two dimensional architecture based very firmly on classic tradition as much as is Bramante's Tempietto, a very beautiful reuse of literal classic forms; we find such circular colonnaded buildings in Roman times and yet here transmuted into Renaissance language. But still it has really something that is quite different to that which is to follow. What probably symbolises the Renaissance or the person and his work who symbolises it more than anyone would be Palladio, an utter perfectionist who drew plans such as this and there's very little that one could imagine to be more orthogonal than this pattern of a circular hall and these identical spaces around two axes, symmetrical lines draw through it. Villa Capra, the acme of Renaissance design, and this, of course, was built something like a hundred years before the time that I want to portray.

Now, this time started with certain essays, with certain *images* that broke with this Renaissance tradition. The *key* figure in these endeavours was Borromini, an *extraordinary* architect working in Rome who built this little passage of which this is a plan in Rome, Palazzo Spada. Now, it has a wide opening and diminishes in plan as you walk into it. The columns lining its side diminish in dimension or *change* dimension, become narrower and narrower and so on, just as the width of that arcade reduces. If we look at it from the wide end it *appears* to be very long, something like – well, most people would guess it ten, fifteen metres long but nothing like it. It in fact is something like three or four metres long. It's a visual trick. It's a visual trick to deceive the senses by using, exploiting the knowledge about perspective that would make you believe you're walking along a great, long arcade where in fact it is a very short one. Now, who would, one would think, would go to the trouble of doing this? Here, for instance, a view looking the other way and it has absolutely no depth at all because it works in reverse, the perspective, it appears, of course, shorter with the side walls moving outward. Now, who would be serious about building this out of stone and immense trouble unless they were besotted with the notion of making it known to

the eye that such a thing as perspective is a powerful force that influences everything in the way we see it and the way it is received by our senses which is really quite a different way to the way Renaissance times had looked upon it.

Now, here is the Barberini Palace in Rome. The first two floors of this were built some time before but the upper storey added by Borromini contains window reveals which are quite shallow, no different to the ones below, but he wanted to give them a greater depth, make the façade look as though it were much deeper than it really was able to be and he used the same kind of perspective trick on these archways: very shallow but with perspective lines leading the eye in and making it appear that it is much deeper than in fact is the case. The decorators of the time probably dramatised this concern about perspective and the vista beyond the true depth of an object and this work by Potso, the famous mural painter who decorated many important churches and palaces of the time is in Vienna, the Yesweidenkirche. Done about 1700 or so, you come into this church and it's comparatively flat, the ceiling is hardly arched at all but when you look up into this dome - what appears at least to be a dome - you can suddenly see enormous depth because here there are lines converging up into the sky that make you believe there's an enormous cupola built above it. The painting adjacent to it, as much in this one as in others, make you believe that there is in fact no roof at all, the senses just soar up into the sky here and painting makes you believe there is endlessness where in fact there isn't. Now, this has, probably to pinpoint the first responses to our own way of looking at it, some parallel in the way we look at the world because we also like to dramatise space and create the *impression* of the beyond in much modern architecture.

[19.49] Here, figures seem to *soar* into the sky and there's literally no *end* to it, whereas in our buildings - and this is Pei's famous new east wing to the National Gallery in Washington and it too plays upon this sense of the beyond that you cannot quite fathom at the time. It's, of course, a triangular building which makes the tricks of perspective even more powerful. The walls don't generate converging perspective lines but they somehow trick your senses and it appears literally endless into the distance and this is an imagery that goes throughout much of modern architecture, the viewing of spaces in sequence until apparently they recede into infinity, there's never quite the finite image about them. The concern about space and illusion is something that we do share between the two periods. Here's a plan of a pilgrimage church in Switzerland; it has a unique arrangement. You enter the church at this end and it has a large, circular sort of form with a centrally placed object which is a shrine as well as structural support. So, you have to walk around this object, around either side, before you can get into the church. That's the main nave and of course finally the apse end is somewhere at this end. Now, this sequence of having to walk around an object in order to perceive the space is something quite new and quite unprecedented, I believe, in architecture until that time. Here's the façade that shows a rather characteristic bulge outward, an expression of the form that happens immediately inside the door and when we enter we're confronted with this centrally placed shrine and the intertwining arches that emanate from it above and give support to the form of the space that moves around either side of this. And just this experience of going around this shrine and structural support centrally placed is an experience that I believe has its counterparts in our own time because we are forced to deviate from the axial approach and something is hidden from us as soon as we enter, we are intrigued to go

and explore more in order to get in; there is nothing bluntly obvious about the way one gets into so many Renaissance buildings where all is revealed instantly you enter.

And this parliament building at Chandigarh by Le Corbusier has a very similar spatial effect. There's an amorphous-shaped hall around the focal parliament building itself which is placed in the centre of this structure with offices and so on right around it. Light is emitted from all kinds of sources but as one walks around this focal hall here the space changes constantly and that has very similar effects on the perspective as this baroque work has.

Back to Einsiedeln and this pilgrimage church, when we do finally confront the apse end of that church more tricks ahead of us because not only are we denied access, it seems, to the apse end but the way it is excluded from our view is by very, very successfully shaped screens which give the impression with these perspective lines, just as Borromini did many decades before, to give the impression of greater depth; it's actually a flat screen, of course, and that's the sort of concern about visual objects that I think is characteristic of the time.

Borromini, whom I've mentioned to be the very focal talent of the period, particularly early on around 1650, was a man possessed by the need to develop systems of geometry in his buildings. In this famous church of Sant'Ivo in Rome we find a building that has a very regular geometric floor plan apparently based on interlocking triangles. There's one equilateral triangle this way and another one going the other way and they interlock and on this form we find both concave here and also convex forms intertwining with each other in alternate bays and these bays are taken right up into the dome and when we approach the building through a long Renaissance courtyard there immediately is that juxtaposition of opposing elements in front of us, the convex wall here juxtaposed with this concave outline of the church behind it. On the interior this pulsation of opposites, the in and the out of these curves becomes very *powerful* because not only do the walls rise that way but in fact the dome does the same which was quite unprecedented. Normally, domes started at this cornice line but they were in some sense spherical or thereabouts in the past whereas this dome not only continues the plan form but it changes the plan form; it has a convex form here and as it rises it becomes concave so there's a twisted surface involved in this. Here it already is concave and ends up the same way up but here it changes its form as it rises and this harks back very much to our own concerns again, which I will point out later. Here is the view straight up into the cupola of this church with its quite magnificent geometry and spatial effects.

Now, in modern architecture we have similar concerns. As I say, in this building in Mexico there is a juxtaposition of these opposites with the concave, the convex, in this case in the way of quadrant forms which in the previous talk I pointed out to be the preoccupation very much of some modern, non objective painters. And this pursuit of the same form in opposing mode permeates this design entirely because not only does it do so on the main form of the tower that rises in one case outward one way, another way here, but the screen walls, for instance, in these courts oppose each other: this one goes inward whereas this one moves outward in the opposite way. This is seen particularly well, I think, not only on the typical floors where there's a juxtaposition of curves continuously as one moves around the building outward, inward and the ground plan shows these quite baroque forms. One could almost call

it maybe something of a tropical baroque because this is a very flamboyant, exuberant climate and environment to build and, of course, Mexico itself is very much influenced by baroque building and developed its own architecture of this kind during the Spanish first moves there. But we find this opposing of form quite characteristically here in the entrance, convex, concave and they move around with each other as they do up here as well.

[28.44] Now, the curve is of course a concern of the baroque and here there's no reason why in modern architecture this isn't as delightful or can be as delightful as it was throughout the ages. One of the great churches in Rome, also by Borromini exemplifies this, that it takes the ellipse as in that building, the modern building is the same form, virtually, as this very subtle ellipse but it has components of ellipses adjacent to it. Borromini knew about the opposition of taking the same form and repeating it in its diametrically opposed form: the positive and the negative. And here these two concave and convex actually occur in the base of San Carlo **[alle]** Quattro Fontane, that extremely well-known church of his. And there's really no difference between that form of 1630 and the form of the Australian Embassy in Paris, having one building concave, the other convex for other good reasons. The parallels can go on almost indefinitely to show that form and its opposition to be a concern not only of the baroque time but of our own. Here, a garden wall, retaining walls in the magnificent Chateau of **Chantilly** not far from Paris, built in the seventeenth century of these opposing retaining walls as one rises to the focal point from which the chateau is entered and probably fifty years before that **[Pietro da]** Cortona built this brilliant little church in Rome called Santa Maria della Pace and it juxtaposes these opposing forms in a most exuberant way. If we analyse the forms, not only does it do so in one but in two and three dimensions. We have the quadrant occurring horizontally, occurring vertically, and this is picked up on the canopy, on the interior; it permeates the whole design.

And we do so today as well, as we can see in this internal space of a building, a form going one way and we see it spatially going the opposite way beyond it, fusing two levels. The concave façade is something that focuses for practical reasons outlooks from the building employed in this case in apartments in Paris in order to avoid seeing another building but making everyone look the same way and focusing on a magnificent outlook. And not so *different*, really, are the things that were done in England. This one is in Bath, in the Circus in Bath, circle cut into fragments and for the same reason: making everyone focus inward.

The French architect, Courvillier, built this delightful pavilion in the palace gardens **in** Munich, a very simple, little garden pavilion where Mozart was invited to play his music and one can just imagine him doing so in this little gem of an early eighteenth century building. The plan form, I think, shows this *deliberate* attempt at creating the plus and the minus, the positive and the negative, in that this central, large room is literally pushed out of line downward to bulge out on one side and to create a recessed courtyard and yet it's not allowed to be just recessed but it recalls the bulge again before it returns in almost an S-shaped, pulsating way. Here's the pavilion from the side where it moves forward; quite moving lines, there is no abruptness in the way the architecture moves around this projection. And on the negative side on the entry, the other side we find again the juxtaposition of the receiving end and the moving forward, actual doorway and this is exploited in a similar way again on the interior

arrangement of certain rooms and that you're drawn in by this *neck* of two opposing curves and they widen out and they narrow in again, they widen out and again they're opposed here on the interior. It's a sequence of spatial effects that goes on and on, doing the same kind of thing in a varying form way: here's a concave wall, here's a convex wall – not very well visible but it is a convex wall that grows out from it, as is in this central space, showing the undulations through which the spatial movements are taken.

In Rome again and evidence of space as we think of it but not moulded within a building but moulded between buildings: negative space we can call it, a most astonishing arrangement of buildings around the church, in front of a church, showing oval forms. Two ovals here: there's an ellipse and here's another one with streets running into this square so that the space is not created within buildings but by buildings and around the form of the buildings. Now, this is something that has occupied modern sculptors a great deal in our time, is that it is as important to deal with the air contained within an object as the air that is displaced and moulded around an object. And this piazza in Sant' Ignazio in Rome is a really superb example of that and this concern about dealing with the negative space outside buildings is as much our worry as it was theirs, this negative space generated by the actual form of a building. But probably of this oppositional concern there is no better example to come back to this church I've already mentioned, San Carlo **alle** Quattro Fontane by Borromini, because his plan – and this is not a very good plan but it's some hundreds of years old so we must forgive its quality – but here's this pulsation on the inside, this *waving* line that continues around the form, here turns around the apse end and again bulges in and out; it's space in motion, more so than ever before done; this building dates back to about 1634 and it's a prize, really, of this symmetrical undulation which extends not only to the inside but throughout its composition and particularly the exterior of the building, this pulsating effect, the in and the out.

Now, if we look for quite different reasons how we have arrived at such forms, they point to our technology because it is a fact when one has a long beam that's concerned structurally in the centre is a very different concern to what it should do at the ends. And if we really give free expression to this demand that is placed on it by nature is that the centre of a reinforced concrete beam *needs* a lot more concrete at the top than it does at the bottom; that's in compression and it's in tension; the reverse happens at the end where we have to deal with shear. So, for other reasons but probably guided by the same impulse we find a pulsating form generated some four hundred years later almost, three hundred and fifty years later, for different reasons but with very similar visual results that are shown on this scheme for a building in Hong Kong and this one, one of the projects for the High Court in Canberra: a similar beam that is shown growing in an S-type configuration at its top edge as against its narrowing bottom edge. This one gets larger from the support outward, this one gets smaller from the support outward.

Another example by probably baroque's greatest spokesman, a great theatrically dramatic sculptor and architect, Bernini, with powerful clients, the Popes employed him to build churches, decorate buildings and make some of the most magnificent sculptures and buildings in Rome. Sant Andrea in Quirinale, a small church which uses the device of having two concave walls come outward from the façade and, as it were, embrace people entering the building, drawing them into this entry because the

site is very narrow, it doesn't have much dimension at right angles to the approach road and therefore the main body of the church is really an ellipse turned at right angles to the approach which is a most unusual thing, would have never been done in Renaissance times. And it's this opposition generated by the *tentacles*, as it were, that reach out to receive people. We can see them starting off here, these walls moving outward in a curve and on this side going outward again, juxtaposed with the great oval of the church which we'll see inside.

[40.07] Now, that has its parallels, almost direct parallels and as so many of these things – not that it was done deliberately – it's the kind of thing that you recognise afterwards. There's a memorial at Rookwood on the cemetery where there was a need for people to congregate, to gather, to move in, gather in this space, be drawn in by these quadrant shaped walls, to move in for a particular ceremony, be it wreath-laying or whatever, a similar need to the church in Rome. And when we see this forecourt with its fangs, almost circular forms reaching outward, it has undoubted similarities to some of the baroque concepts. And here's in detail what happens to the eye: you see these pulsating walls moving inward and outward as you approach it and here it is looking backward but *shadows* also as in baroque times play an important part in these compositions because they *supplement* and they *emphasise* the forms, *underline* them, and this is a device used very much in the seventeenth century, to play that off to an absolute maximum and here are the two screen walls that gather the crowds in, to bring them in. So, here is the opposition and the spatial penetration as we have known it in modern architecture and modern painting. This Piaristenkirchen, church, in Vienna I think also shows this juxtaposition of the negative and the positive: this quite remarkable indentation here that is off the main nave of the church which is in this body here but these sort of chapel indentations on either side play up this positive and negative. And I happened to see, as one does, a modern design in the same city, not very far from it, by a well-known Viennese architect, Hans Hollein, and here surely – I don't know whether he's aware of it at all – but the same tendency, the form in its negative repeated here in a positive by these reveals of the shop windows here in this shopfront, this very famous, much celebrated, very small-scale design done in Vienna by this architect.

Theatrical illusion and spectacle has been the preoccupation of much architecture in our time as well as in the baroque. Now, here this monastery at Melk, not far from Vienna on the Danube, is placed quite stunningly on top of a cliff, almost unbelievable that somebody would dare to put a building on such a precipitous slope but with quite magnificent effects, of course: nothing looks as *grand* and brilliant as an elevated elegant structure of this nature. And this preoccupation is pursued, modern architects for decades literally how to dramatise a building as in this case. Breuer did with a hotel that juts out over a giant cliff; a very similar tendency. In the seventeenth century people literally put on stage shows outdoors. What can be more theatrical than the Trevi Fountain, there for no other purpose but to enjoy, make people enjoy this magnificent spectacle that's there and moving and water *gushing* from it day and night; it's a frozen stage set, one could say. And there are architects and sculptors, really, and this probably is the height of *theatrical* drama of the time by Bernini: it's the Santa Theresa sculpture or the Ecstasy of Santa Theresa in Rome and as one would think, and probably as we would do, this thing is *spotlit* from above but not so. It is placed in such a way and apertures above, this opening in the church are arranged in such a way so that daylight may pour down and illuminate, dramatise,

spotlight, as it were, this magnificent sculpture in such a way that its shadow and light are brought out to an absolute maximum effect and that's not so different to our own concern, where we like to illuminate artworks to dramatise their impact at night.

There were two brothers in Germany who built some quite *stunning* churches with very similar preoccupations quite some decades after Bernini but here's the Asamkirche in Munich: very narrow, very dim, hardly naturally lit at all interior of great flamboyance but the focal point above the altar are sculptures that are quite *imperceptibly* lit by natural light, apertures put into the side walls and above it to focalise your attention on this grand sculpture. And the same happens in the great entertainment salon of our embassy in Paris, where you obviously *aim* to impress people, to make them feel that they've really come to an important place by dramatising the spaces, limiting the light in the foreground but making it appear to *recede* by this artwork that is so specially illuminated here and leads the eye on to seeing, in fact, the Eiffel Tower in the distance – a similar tendency. Probably the greatest *dramatist* of the time, if one can call it that in *visual* terms, is an architect we will speak of more the next time and that's Balthasar Neumann in Germany. This is part of the Wurzburg Palace where he makes people enter in a very dim and low ceiling height space under here. In fact, you come at this building at right angles to this and you're not terribly impressed, it's almost oppressive to enter this but, my goodness, what happens to you. You turn left and suddenly is revealed to you this tremendously arched, huge span for their time with this Tieoplo fresco all across the staircase; a more *overpowering* and dramatic impact one cannot imagine. And this we obviously do today where in maybe a different *form* – and Albers' paintings have been called the *icons* of our time, an object of repose, of study, a focalist thing that we do with colour and here is an Albers' tapestry placed dramatically on a blank wall, illuminated to form the very essence of the entry to this MLC Centre entry. We do the same to exterior elements: we illuminate trees in the same way, dramatically lit from below, swimming pools suddenly become glowing objects in the night. So, illusion, spectacle, *theatrical* focus we have in common. But one element that's probably in the forefront, as I say, to modern architecture's concern *is* the creation of space and there are some instances where vertical *transitions* of spatial effects have occurred in the baroque time that are quite *astorishingly* parallel to our own way of doing things. This university in Genoa is built on a steep hillside but to approach this building at all it forces one to go through all kinds of spatial manoeuvres, of going upstairs, moving sideways, being turned backward, coming out again at quite a different level, looking back to where you had been, moving up some more; it's quite a *theatrical* way of giving access to different horizontal surfaces throughout this palace. And this one in Vienna, the Belvedere, built by Hildebrandt in the early eighteenth century, the Belvedere for the first time, as far as I know, does one thing and that is to enter people into an important building at *mid* level between important floors. Normally people enter, are forced to go upstairs if they are to go to another floor. In this case you enter between floors in order to fuse and make them *equally* accessible; they're both important, so the entrance brings you up to a mid level and from that level – and there's nothing else except a door there - and you go downward and you also go upward.

[50.09] And that happens so much in our own concerns because we do have much planning in modern architecture that is greatly based on this principle, of entering between floors and *fusing* levels and creating spatial effects that give us the same advantages. It's a

planning and a sectional device in building that has happened a great deal in our time: that is to place *some* important floors between others and give equal or unequal importance to those as the case may be and this is something earliest done in the baroque but probably Michelangelo is the one that brought perspective and spatial illusion to an absolute nth degree almost. Here is a drawing of how he tilted buildings apart in the Campidoglio in Rome in order to give the effect and the impression that these buildings are really parallel. They're not truly parallel, they appear parallel but that's a forced perspective in order to *dramatise* this effect of reaching it by means of a stepped ramp. And now this stepped ramp is another vertical access device that I think is quite ingeniously exploited in the baroque. Here in Venice a similar thing is done where quite painlessly people are taken from one level in this case over a bridge and down the other without being *forced* to climb stairs which people resent and dislike doing. And we employ the same device today in the MLC Centre: in order to go from the entry part down here up to the entrance of the tower you actually have to walk through two floors which is a very unpalatable thought without the device employed in the baroque where this happens quite imperceptibly, of a *sloping* surface interrupted by small steps. And, really, that particular device really goes back further than the baroque to even Vignola who did this at Caprarola just north of Rome in the Farnese Palace where the stepped ramp is used quite some decades before the time we're talking about.

Now, to begin a discussion on structural form and as it was exploited in the baroque and to draw some parallels to our own concerns, there's one thing happened first of all at the baroque and that is to have buildings that do not have corner columns, where it is *avoided* to give structural support at the corner and this is quite unprecedented in the classic times. We find a building that really spreads the columns apart at the corner and in order to use the *same* length of beams that spread out from this one column placed in here we get a rounded exterior. Now, this has been done equally and quite brilliantly by Fischer von Erlach in Vienna in this Spanish Riding School. Again, a room that avoids corner support and delights in this curvilinearity that results both in plan and in his case also in section and similarly this happens in a building designed here for Melbourne, the CRA Tower, because it follows from a structural point of view that any building that doesn't have corner columns is far *easier* to deal with structurally because each beam here is the same *length* as any other beam going around the corner and you don't get into the typical problems of a corner of the rectangular building which structural engineers know so well.

But lastly – an here is another corner of the CRA Tower as it goes around the corner - but before closing and in preparation for really dealing with the structural concepts now in a three dimensional way, the two dimensional interlocking of ribs is something that first happened in the baroque time. In this ceiling here of the Collegio Propaganda Fide by Borromini, ribs are made to interlock, they do not reach or get support from the corners and they interlock in a most *ingenious* structural way and this was exploited by people who studied Borromini intensely in the decades to come. And these interlocking rib *advantages* structurally have been exploited in our own time by engineers such as Nervi who was a consultant on Australia Square, of which this is the heavily loaded floors of the base of this circular tower achieve a similar effect of it in two dimension, a two dimensional structural interlock similarly and for a similar reason that the MLC Centre it also does that in an extended sense to the way Borromini would have done it but, I think, employing a curvilinear geometry that is as

sought after in our time as it was in the time of the baroque in the seventeenth and eighteenth centuries.

Rather than continuing with the baroque as such, the next lecture will deal as rather an antidote to dealing with history with very *practical*, in terms of our own time, with design as it leads to particular systems of construction, something of an attempt to avoid maybe visual indigestion for those for whom these forms are somewhat too much, something like a cold sorbet in between two fine courses of a meal. But we will continue in the second part with *three* dimensional spatial systems and the great, *vast outdoor* architecture of France and to some extent Germany.