THE IMPULSE FOR BIOSCULPTURAL ARCHITECTURE

A look at the biosculptural method and early building projects of the Little Yarra Steiner School

LITTLE YARRA STEINER SCHOOL - Master Plan Document
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A personal Note

Since the two decades of architectural experience and the particular approach of the Little Yarra Steiner School may be of interest to other Steiner Schools, particularly those who are being newly established, I have decided to share this document via the web. In doing so it seemed appropriate to preface it with a personal note that explains the unique set of circumstances out of which the Little Yarra Steiner School's early buildings arose. Although this part may not be of immediate interest to the newcomer, it is added for the benefit of those who know the Little Yarra Steiner School and have taken an interest in its history.

The following document was written to accompany the School's Master Plan, which was being prepared in the years 2004 – 2007, some 20 years after the school's founding. The task of the "formal" Master Plan was to integrate it with the "informal" Master Plan, which had guided the school, in pioneering fashion, throughout its growth from Kindergarten in 1986 to its first class 12 in 2004. The new Master Plan was to be a comprehensive and professionally drawn up blueprint that could lay out the school's further developments for the next 20 plus years. The present document was intended to provide a link between past and future practice.

My role in the school had always been an intensive one and soon expanded from class teaching to general administration and building project management, including, as it turned out, the architectural design of the school's buildings from the early beginnings. In order to find the essential qualities and typical gesture for the new school initiative that was coming into being, the founding group, together with the appointed architect, went through many discussions and an intensive process that sought to establish the general, qualitative brief for the school's future buildings. However, when the time came to design the first buildings on the new land it coincided with the architect's decision to accept a position in the public service, which meant giving up his private practice. Faced with the question where to go from here we all felt that there was neither the time nor the energy to duplicate the same process and lengthy discussions for the benefit of a new architect. This is when some of my colleagues in the founding group suggested that I should take up the design of the school's buildings. Reluctant to accept at first, I thought about my longstanding interest in form and gesture and accepted the challenge with a mixture of trepidation and quiet enthusiasm. It was to remain my responsibility for nearly 20 years, until my resignation as architectural consultant in late 2007. Amazingly, after accepting the task I was flooded with ideas and inspirations and within a couple of weeks had prepared clay models of the essential gestures that were to flow into the designs of the early primary school classrooms.

In a small pioneering situation such as ours at the time, everyone's time and energies were stretched to the limit and my colleagues were very happy to be able to delegate the design and project management of the buildings, which left me in the curious and unusual position of wearing the three hats of architect, client and user group all at the same time. Although of course the consultation processes grew in size and frequency with the growth of the school, essentially I remained in the role I had stepped into at the very beginning and continued to represent architect, client and user groups throughout the library, science laboratories and primary school class room projects. I leave it to others to find the disadvantages or potential conflicts of interest that theoretically could be associated with such an overlap of responsibilities and focus on the unique opportunities it created, because without this particular constellation of circumstances it is difficult to see how the early buildings of the Little Yarra Steiner School could ever have been built in the way they were, in the face of the many financial and planning difficulties thrown in our way throughout this time.

The advantage of being a Steiner teacher was that I knew what was required at each year level to meet, from an artistic and architectural perspective, the changing consciousness of the children. The advantage of not being a practicing architect was that I had no other projects to think about and therefore had the luxury of incubating design ideas for months, even years ahead of construction time. This is a huge advantage when compared to the usual time pressures experienced by architects and clients in getting a project through the various design, planning and documentation stages. The advantage which the role of administrator carried was an awareness of the school's fluctuating financial position and future capital needs and the ability, if necessary, to bring key players together and make decisions on the spot. Thrown into this mix was a close and ongoing working relationship with the builder, Mike Gorman, who was also a parent at the school, and, above all, the good will and trust of my colleagues from the founding group, which provided a foundation of warmth and encouragement and allowed the artistic freedom without which very little that is of value can ever be birthed.

Just like an unborn baby grows within a protective womb and a young child must be nurtured and surrounded with an atmosphere of human warmth and support in order to be able to thrive and prosper, so every creative idea and artistic project needs a protective womb to incubate and an atmosphere of warmth and selfless generosity to be able to emerge and come to fruition. In other words, without the unity of vision, good will, trust and mutual support that characterized the founding group of the school, neither the school nor the building impulse could have taken hold and flourished in the way they did and would soon have succumbed to bureaucratic, political and financial pressures of which there were many.

The natural response to bureaucratic obstacles, political pressures and financial worries is a contraction of energy both on a material as well as spiritual and artistic level. What starts out as an inspiring, unified project so often ends up being cut and modified here and there to save costs or suit partisan interests, each no doubt justified within their particular perspective and in their own right. However, the danger and inevitable end result of yielding to such pressures is of course the loss of artistic wholeness and integrity. This is not an issue for those focused predominately on utilitarian considerations and "quantitative value for money", as long as the end result still can be said to "look nice". However, the Little Yarra Steiner School's buildings were always aiming for more than just "looking nice" or "mirroring the curves of the surrounding landscape". As explained in the following document, the ultimate aim of what I have since come to call "*Biosculptural Architecture*" is to inspire on a deeper, morally uplifting level. This is nothing less than the function and challenge of all "true" Art. The difference and particular challenge in the realm of architecture is to maintain such an aim in the face of multiple interests and without compromising practical function.

That we were in the process of building an environment of more than superficial aesthetic appeal was professionally reflected back to us for the first time by a visiting architect from Europe. Pieter van der Ree, Dutch architect and author of a book about *The building impulse of Rudolf Steiner and the Organic Architecture movement of the 20th century*[1] had been travelling around the world to visit and take pictures of architectural examples for an upcoming international exhibition on Organic Architecture. He visited the Little Yarra Steiner School in December 2001 and to my surprise he seemed fascinated with the idea of metamorphosing classroom shapes reflecting the changing consciousness and curriculum of the different year levels. Apparently this was not what was usually done and he felt strongly

[1] "*Organische Architektur",* Suttgart 2001

enough about it to subsequently follow up his visit with a letter of encouragement addressed to the teachers and board of the school, which is reproduced on the following page.

Pieter's comments were informed by his experience of "*visiting probably more than a hundred Waldorf Schools*", and provided a welcome boost to my morale, particularly since they came at a time when the school was in the midst of a political crisis that also affected the architectural impulse, particularly the design and construction of what was then viewed as the class 11&12 building. For more details see the history section in the following document.

Subsequent to Pieter's visit the metamorphosing primary school classrooms became the subject of other publications in Germany and England.

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iona stichting *herengracht [illegible] amsterdam*

Little Yarra Steiner School
Att. The Board and the Teachers
PO Box 19
Yarra Junction 3797
Australia

01A176 20.12.2001

To the board and teachers of the Little Yarra Steiner School,

Last year I wrote a book about Organic Architecture. In this book I included your Little Yarra Steiner School which for me was one of the big suprises of the exhibition 'Transformative Architecture' in Dornach last year. I am happy to present you a copy of this book for your schoollibrary.

In addition to my book, the Dutch Iona Foundation commisioned me to make a travelling exhibition on Organic Architecture. To prepare this exhibition I have travelled around the world and in December I visited your school, where I was kindly showed around by Johannes Schuster.
It was a pleasure to see the buildings in reality. The pavillions are not just nice to look at (what already is a rare quality) but they also seem to fit into the landscape perfectly and are connected to the pedagogical content of each class. I can hardly think of any other example in which this relation between form and education is established in an equal satisfying way! In Johannes work I see a very fortunate and convincing synthesis between the middle European ability to translate ideas in form and the Australian sensitivity to the landscape and honesty in dealing with construction and material

Therefore I do hope that you will be able to finish the whole school out of this architectural concept! To me this seems not only important for your school, but for the whole Waldorf School movement in the English speaking world. There are a lot of schools that want to build, especially in the United States, but there are hardly any experienced architects who work in this direction or satisfying examples. Most schoolbuildings are therefore compromises and the result of several architects adding their own ideas in different times.
After visiting probably more then a hundred Waldorf Schools, I must say that you really guard a treasure and I hope you will manage to nourish it untill it is fully grown.

I would like to include photos and drawings of your school in our exhibition and would be grateful for your permission. I also want to include it in a new, English, edition of my book so that others can draw inspiration from it.

I whish you a blessed Christmas, a regenerating summerholiday and all the best with your work in the new schoolyear!

With kind regards,
Pieter van der Ree (Projectmanager Organic Architecture)

So what is it, in a nutshell, that characterizes these metamorphosing architectural shapes?

Metamorphosis describes the process of changing forms by which all living things grow. The opposite of metamorphosis is mechanical growth, such as the way crystals or stalagmites grow. The characteristic shape of a crystal does not change as it grows in size. Living things on the other hand go through multiple stages of form as the seed develops to seedling, flower and fruit, the caterpillar changes into a butterfly or a fetus keeps metamorphosing to the eventual form it has at birth and from there to adulthood.

Underlying the process of metamorphosis is the presence of a soul/spiritual reality which cannot simply give birth to a finished physical form, but must gradually build and adapt the form until it is ready to fit the incarnating entity hand in glove.

It is no different within the architectural context. First there must be a soul/spiritual content such as the nature of consciousness of a particular age group. Then the design process will invariably go through various phases until the appropriate form is found, which matches the spiritual content and practical function in outward physical form, as best as is possible in the circumstances . What this implies is that the presence or absence of a spiritual content in a building expresses itself through its structural gesture and cannot be added through landscaping, color schemes or furnishings as an afterthought later on. The latter contribute greatly to create a particular feeling and soul atmosphere inside and around a building, but the spiritual core and potential is embedded into its structure, which is the "ego-enabling", architectural equivalent of the human skeleton. All of this is further explained in the following document.

The buildings built on the new property during the pioneering decade, (1991 – 2001), were the library /administration, the primary classrooms 1 – 6 and the science laboratories. These are the "white-roofed" buildings built by Mike Gorman. As explained later, the science laboratories were built in difficult financial circumstances and suffered from severe cutbacks without, however, giving up their structural integrity, the essence of which was able to be retained.

During the turbulent years (2001 - 2003) that saw the school outgrow its pioneering phase and enter its so-called organizational phase, Alvyn Williams, from Soft Loud House, was appointed as the new architect overseeing the building developments of the school. I collaborated with Alvyn, working on what was then proposed as the class 11&12 building, while the school was expanding into these senior levels. However, the politically fractured nature of the times during which this building was designed and built made it impossible to pursue the impulse of metamorphosing forms. After the school had reached year 12, in 2004, I resigned as "School-Coordinator" but was retained by the school as "anthroposophical" architectural design consultant, working with Alvyn on the new Master Plan, the Kindergarten, classes 7&8 and classes 9&10 projects.

Fortunately by then the idea of metamorphosing classroom shapes, which had been abandoned for the class 11&12 building, had been taken up again and Alvyn and myself worked together to find the appropriate forms for classrooms 7 -10. For planning and funding reasons the class 9&10 project was built first, while classes 7&8 were still on the drawing

board. In this way the impulse of metamorphosing classroom shapes for the class teacher period, (from class 1 to class 8), and again a slightly different but similar impulse for the upper school, nearly succeeded all the way through from class 1 to class 10, with the possible exception of the class 7&8 project, as explained in the following.

What happened was that because of concerns about the additional costs connected with metamorphosing rooflines for the class 7&8 buildings, Alvyn was asked to prepare a more cost effective design which retained the metamorphosing floor plans but opted for generic roof designs instead. When shown this solution I was unable to agree with it. Knowing that the spiritual and artistic integrity of the new buildings as I saw them were tied to their structural gestures, and that generic rooflines in the end could produce little more than superficial shells that were disconnected from the generating impulse for the buildings (and therefore devoid of individual presence and character), I strongly objected to this particular cost saving solution, but found myself as the lone voice among the decision makers.

To resolve the impasse the primary school faculty, as user group, was made arbiter in this decision. Alvyn, as consulting architect, brought the question of metamorphosing classroom shapes to the faculty meeting, where the teachers voted to abandon the idea of metamorphosing roof lines in favor of a combination of cost savings and other improvements or additions, paid for through simplified generic roof designs. For the teachers, the administration and the architect this appeared to be little more than a choice between different yet equally acceptable aesthetic options, for me it significantly compromised the artistic and spiritual integrity of the design, comparable to finishing off an individually sculpted form or portrait with a generic mask. Conscious of the fact that I was the odd one out and that since my resignation as a staff member three years earlier I no longer had any right to speak either on behalf of the administration or as one of the school's teachers, I accepted this decision without further discussion. However, since the impulse of metamorphosing forms had become my particular expertise and reason for staying on as design consultant in the first place, there was now no longer any need for such advice and I offered to tender my resignation from the design team, which was readily accepted by the school.

Although this turn of events was naturally difficult for me to accept at the time, with the benefit of hindsight I can now see my own failings and my inability to communicate the spiritual basis of the building impulse at the Little Yarra Steiner School in such a way as to generate a broad enough interest and sufficient understanding for it to be able to be continued on as a priority over competing needs[1]. Given the many years of my involvement with the school, how was it possible for such a communication gap to arise? It was partly lack of clarity on my part and partly a matter of circumstances at the time. What has to be remembered is that the workload of teachers and the many things they have to be mindful of and think about is enormous. The weekly faculty agenda is routinely crowded with educational demands and day to day pressures all competing for meeting time. Little wonder then that the deeper architectural questions that go beyond superficial looks and practical function are more likely to be regarded as a luxury item, both, in terms of time or money spent towards their coming into being.

At the same time it was also the case that throughout the time of my involvement with the design of the school's buildings I acted somewhat unconsciously, following an inner vision and urge which hadn't risen enough to the surface yet to be able to clearly verbalize it. It was

[1] a discussion about the "Priority of Values" is added in the appendix, pp.99

not until I had come near the end of my involvement with the Little Yarra Steiner School that I was able to bring to consciousness the principles that had somehow guided me intuitively for all those years. However, by then the timing was no longer right to speak about it. Yet I was now in a position to put down my thoughts in written form. This is when documents such as the following one, (as well as others, previews of which are available through this website) began to emerge, all of them contributing to define and give birth to what is developing as an architectural idea and approach in its own right, *"The Impulse of Biosculptural Architecture"*.

I am grateful to the Little Yarra Steiner School for the opportunity and to my former colleagues and fellow founding teachers and parents, including Mike Gorman, the builder, for their trust and help in birthing this impulse, even if it meant that some of the landscaping and painting of the original buildings had to be delayed for a time so the limited resources could flow into their structural gestures instead. No doubt this necessitated a sacrifice on the part of earlier generations of teachers and students, but to the benefit of subsequent generations who are able to enjoy both, the properly finished buildings complete with their uncompromised structural forms and individualized gestures.

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1) Introduction

The combination of "Architecture, Anthroposophy and Steiner School" makes for an interesting mix and calls for some explanation. A separate document *("The Master Plan and Anthroposophy"*) has been appended to the Master Plan, to give an overview and draw the link between the school's underlying values and philosophy, and the Master Plan.

The present document is being appended for the same reason, but with a specific focus on the school's architectural impulse. If Anthroposophy has been described as a pathway to lead the Spiritual in the Human Being to the Spiritual in the Universe, Biosculptural Architecture could be described as the impulse to incorporate spiritual values and qualities of soul in the physical forms and gestures of a building.

To quote R.Steiner himself:
"However much study may be given to the elimination of crime and wrong-doing from the World, true redemption, the turning of evil into good, will in future depend upon whether true art is able to pour a spiritual fluid into the hearts and souls of men. When men's hearts and souls are surrounded by the achievements of true architecture, sculpture and the like, they will cease to lie if it happens they are untruthfully inclined; they will cease to disturb the peace of their fellow men if this is their tendency. Edifices and buildings will begin to speak, and in a language of which people of today have no sort of inkling."[1]

To "turn evil into good" or "pour a spiritual fluid into the hearts and souls of men" as in Steiner's quote above, architecture cannot possibly remain grounded within the materially or technologically driven currents that prevail today. Nor does a simple connection or orientation towards nature, health or ecology seem enough to bring about the profound moral effects Steiner alluded to above. There can be no moral effects without moral causes. Moral causes, however, are always spiritual causes. If architecture, therefore, is to affect us on a deeper moral level, we must learn to find the links between architecture and the moral or spiritual realities that alone can have such effects.

Steiner also said that spirit cannot act in the world without form. If we therefore wish to draw the links between spirit and form we must learn to speak the **language of form** spoken by the spirit. The best classroom to study this language is the world of natural forms in the kingdoms of nature, which perfectly combine purpose and spirit and which can inspire and teach us to be similarly creative in building living structures of body, soul and spirit.

An inspiring physical and cultural environment, created out of good will and filled with creativity, vitality, natural harmony and beauty, supports and strengthens the social and moral fabric of the people living, learning and working in such a place.

What would an environment created out of such intentions look like?

"It is an environment where every form and gesture and every detail radiates back the warmth, skill and wisdom that flowed into its creation; where the buildings have a structural gesture that reveals their purpose and meaning; where the many details from door knobs to lampshades have been considered and perhaps crafted out of the same purpose; where the

[1] R. Steiner, *Ways to a new style in Architecture* (1914), see p.16 for full quote

colors weave and move and are chosen in accordance with the same principles; where the individual essence of every building creates a community of interesting "characters"; where the spaces between buildings are inviting and are forming nooks and billabongs for social interaction; where the angles and structural details have movement and at the same time create pattern and texture that play with the light and create interest, mobility and change……

where the natural environment has been equally carefully considered; where the garden beds, shrubs and trees provide a richness of color and scent and reveal the different seasons throughout the year; where creative landscaping anchors the buildings on the earth and links them to each other and into the natural environment; where the quality of the larger landscape finds an echo in the gestures of the community of buildings; where the balance between open spaces and built up areas is considered, where different atmospheres are created from the spaces that speak of hands on work, tools, materials and clutter, to the spaces that are pure and pristine, to others that are socially warm and inviting.

Perhaps it is not yet possible in this day and age to devote this much time and energy to the creation of such an environment. Ultimately such an environment can only be created in freedom and out of the heart realm. However, it is never the less good to hold it there as an ideal, in the full knowledge of the power of transformation on a deeply human level, that such an environment is capable of surrounding and inspiring us with."[1]

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The present document gives a more detailed explanation of the aims and principles of Biosculptural Architecture and how these have come to influence and shape the school's various building projects.

The first part (ch. 2 - 9) explores the rationale and principles behind Biosculptural Architecture.

The second part (ch. 9 – 12) explores the spiritual and educational ideas that have flowed into the specific designs of the students' home rooms and sections of the school, from the Preschool to the Lower, Middle and Upper Schools.

The final part (ch. 13 – 14) provides some historic context, explains the core ideas behind various specialist rooms and gives a brief outlook on some of the projects planned for the future.

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Finally, a word of thanks and acknowledgement goes to the Commonwealth Government for the substantial Capital Grants received towards the various building projects and to the school's first builder, Mike Gorman, who for the first 10 years on the new site built all of the schools buildings and without whose generosity and support the architectural impulse could not have been birthed and developed in the way it has been able to.

[1] extract from ch.7, pp. 23-25

2) In Search for the Spiritual in Architecture[1]

Most architects would want a building to be functional, efficient and useful, many expect to include environmental criteria, sensitivity to the landscape and biologically healthy materials etc. but where in all this is the "Spiritual"?

Is there such a thing as a spiritual component to a building? Do a bell tower and a cross over the door make a building spiritual?

In ancient architecture architects used sacred geometry to create proportions and relationships inherent in the relationship between the earth and the stars and planets. Great structures like the pyramids, temples and cathedrals all incorporate a sacred geometry lost or considered irrelevant to modern architecture. We live in a secular time. We gather no longer around the local temple, shrine or cathedral to seek the divine. Where then, given our modern age, can we see a spiritual component to architecture?

Logically the search for the Spiritual in Architecture only makes sense for those whose outlook on the world is a Spiritual one.

If we can see the Human Being as a being of Soul and Spirit coming to expression on the physical plane in a physical body, we can then take the next step and ask: how do forces of Soul and Spirit come to expression in a building?

According to Rudolf Steiner, it is the human skeleton that is of special significance for the human spirit to live and develop self-consciousness in the human body. Through our skeleton we are creatures able to walk in an upright position, our hands are free to work, the weight of our head is freely resting on our shoulders and we are able to look into the world and achieve perceptions in a conscious way. The movement we experience through our bones lays the foundation for us to comprehend concepts of space and geometry. Young children with learning difficulties often lack this spatial awareness. By undergoing a specialized program of movements such disabilities can be remedied.

Through our skeleton we give expression to gesture and intent, we ‚read' another person through their body language and recognize a familiar person by their gait and posture at considerable distance, without seeing their face or other identifying features. Such perceptions can give us a glimpse of the ‚I' or 'spirit', the essential uniqueness of another person.

‚Soul' on the other hand is related to the range of feelings, thoughts and emotions we share with other people, which are ever present and ever changing and which reveal our personalities. Facial expression, tone of voice, our breathing and temperament, heartbeat, skin color (we blush or go pale), the type of clothes and colors we like to wear etc. All of these are physical expressions of our soul life.

[1] This and the following two Chapters are taken from the introductory chapter of *Biosculptural Architecture and the Esoteric Science of Form Creation* by this author. The book is currently (2010) still in preparation but a preview is available on www.biosculpturalArchitecture.com

When we compare what expresses itself as soul with what expresses itself through movement, gesture and body language, we perceive something deeper than emotions. Emotions or feelings of one kind or another are always present on the surface and keep changing, like ripples on the water, stirred up by the breeze. Gesture, posture and bodily gait on the other hand are something much more enduring and unconscious. Unless we are trained actors, our innate gestures and body language are much harder to control, slower to change and usually reveal something which is recognizable as being unique to a particular person. It is here that our perceptions touch on expressions of the „I' or „spirit' of another person.

In this way some of the non physical complexity of soul and spirit is able to express itself in outward physical form in the human being. However, the picture is not yet complete here because a being of soul and spirit can only incarnate in a physical body that is alive. Nature accomplishes the process of creating a body capable of life „automatically' through the activities of the so called „life forces' which mould and organize matter into living bodies, overcoming the physical forces of aging, density, mass and decay. What nature does „naturally' through its inherent laws, forces and processes we are called upon to learn to do consciously, whenever we engage in an artistic process, creating physical structures and forms capable of becoming alive with a soul / spiritual content.

If therefore, by analogy, we take the above organic picture and assume it to also have relevance in the inorganic sphere of architecture, we might say that the spiritual essence and intent of a building is revealed through its gesture, which arises out of its structural form or skeleton. This internal structure also determines the future potential and perhaps life span of a building. A square box will always be a square box, its potential limited and determined no matter how „nice' or „environmentally friendly' or colorful are its furnishings or materials. Once set, this potential (unlimited in the case of the human being, large or small in the case of a building) is hard to ever change, unlike colours, materials and furnishings, which reveal the soul of a building and which can and often will change over time. The „life' of a building is a reflection of the manner and degree to which the various angles and shapes are able to incorporate warmth, light, movement and functionality, which are the „architectural life forces' we use to create space and shape.

The task of the architect in this context is to anticipate and comprehend the soul quality of a building through the many future uses and functions the building will have to accommodate. He then must search to intuit the spiritual essence in the form of an overall structural gesture. A true gesture is capable of unifying the various parts and details and at the same time embraces and supports the activities for which the building is designed. Sometimes the gesture arises as an intuition from the very start, other times it emerges during the design phase. Finally, he must combine everything into an artistic whole, using angles, light and movement to enable the building to breathe and become alive.

In ancient times architects used sacred geometry to give expression to the spirit. In our secular times we are called upon to learn a different geometry, the Language of Form spoken by the natural world, which perfectly combines purpose and spirit and which can inspire and teach us to be similarly creative in building living structures of body, soul and spirit.

3) R. Steiner's vision of a future Architecture

Steiner described Anthroposophy as a pathway that leads the spiritual in the human being to the spiritual in the universe. By analogy, one could describe anthroposophical architecture as aiming to bring ideals of a soul/spiritual nature and make them come to life in the earthly forms, colours and furnishings of a building. For Steiner, the universe, nature and the world as a whole are continually ensouled and formed by forces and beings of a soul/spiritual nature. He has much to say about the nature and character of these forces and in this spiritual/scientific knowledge and method of approach to nature lies the contribution anthroposophy is able to make to the wider movement of organic architecture. Steiner himself placed extraordinary importance on the link between architecture and spiritual realities and the positive effects this would have for human and social development. In a lecture he gave in 1914 during the building of the first Goetheanum he had this to say:

"It is probable that our building will not be able fully to attain its goal – indeed we are only aiming at a primitive beginning. Yet if human culture is able to take what is expressed in our building (in so far as we fulfill the tasks set us by the higher Spirits) and develop it; if the ideas underlying such works of art find followers --- then people who allow themselves to be impressed by these works of art and who have learnt to understand their language, will never do wrong to their fellow men either in heart or intellect, because the forms of art will teach them how to love; they will learn to live in harmony and peace with their fellow beings. Peace and harmony will pour into all hearts through these forms; such buildings will be "Lawgivers" and their forms will be able to achieve what external institutions can never achieve.

However much study may be given to the elimination of crime and wrong-doing from the World, true redemption, the turning of evil into good, will in future depend upon whether true art is able to pour a spiritual fluid into the hearts and souls of men. When men's hearts and souls are surrounded by the achievements of true architecture, sculpture and the like, they will cease to lie if it happens they are untruthfully inclined; they will cease to disturb the peace of their fellow men if this is their tendency. Edifices and buildings will begin to ***speak****, and in a* ***language*** *of which people of today have no sort of inkling."*[1]
(My emphasis)

Rudolf Steiner

To "turn evil into good" or "pour a spiritual fluid into the hearts and souls of men" architecture cannot possibly remain grounded within the materially or technologically driven currents that prevail today. Nor does a simple connection or orientation towards nature, health or ecology seem enough to bring about the profound moral effects Steiner alluded to above. What seems required is to find the links between architecture and the moral or spiritual realities that alone can have such effects. This in turn begs the question of the identity and methods of anthroposophical architecture, its relationship to Anthroposophy itself and its relationship to the wider organic architecture movement.

[1] R. Steiner, *Ways to a new style in Architecture,*(1914), p.17

4) Bio-sculptural Architecture and Anthroposophy[1]

Anthroposophic Architecture is often also referred to as Organic Architecture, which is a much wider movement present throughout the 20th century and to which Anthroposophic architecture has been an important and unique contributor.

What are some of the principles underlying organic architecture? In his book about R. Steiner's architectural impulse and Organic Architecture in the 20th century, well known Dutch Architect Pieter van der Ree shows examples of organic buildings from all around the world, many of which have arisen out of Anthroposophic initiatives. He goes on to explain the concept of "metamorphosis" as one of the key elements Steiner introduced to architecture. Also included and featured in the book are some famous architects such as Louis Sullivan, Frank Lloyd Wright, Antoni Gaudi and even Le Corbusier. Although at first there seems little in common, all of them look towards nature for inspiration, each one focusing on different aspects. Louis Sullivan coined the famous maxim that "form always follows function", for Wright "the relationship to the immediate natural surroundings" was important, Gaudi was fascinated by the structure and "sculptural nature of organic forms", Le Corbusier in his later work i.e. the chapel in Ronchamp, focuses on "light" and speaks about venturing forth into the unknown through "Art" or "Sculpture "and "colour". None of them wish to copy nature; all of them wish to be in a particular relationship to nature.

The desire to be in a meaningful relationship to nature is neither unique to nor the prerogative of so-called "Anthroposophic Architecture". Neither is the increasingly common practice to include such qualities as health and ecology, sustainability, energy efficiency, natural and environmentally friendly materials and of course an interesting appearance etc. as important desirables in a brief. Who wouldn't want to have all such qualities incorporated? If all such qualities are already part of the general and organic vocabulary, this does raise the question posed above as to the unique contribution or task of "Anthroposophic Architecture" within the larger field of "Organic Architecture".

Wherein do we need to see the essentially anthroposophical aim, perspective and practice?

"Bio-sculptural" and "Bio-dynamic"

There is a useful analogy in the area of agriculture. Anthroposophically oriented agriculture is known within the general organic movement as "bio-dynamic" agriculture.
Steiner explained the relationship between plants and the cosmos. He spoke about elemental beings and the etheric body which places the world of plants into a relationship with the stars, sun and planets. Out of this relationship with the cosmos specific practices and methods arise, which distinguish and define biodynamic agriculture within the larger movement of organic agriculture. A biodynamic farmer must know how to practice the biodynamic methods. A grounding in Anthroposophy is not enough. A farmer who is an anthroposophist is not

[1] see note 1 on p.14

necessarily or automatically a biodynamic farmer. The source and the method must come together. The same applies to Doctors, Teachers and Architects within their respective fields; all must have a method by which the source is revealed.

In the case of Anthroposophic architecture the question obviously does not lie in the source, but in its link to daily practice and methodology. Anthroposophy is the context and source. The task is to take the vast spiritual context and dimensions which Anthroposophy is able to add and bring it to bear in a concrete way on the field and practice of architecture.

As already mentioned above, Steiner defined anthroposophy as the pathway linking the spiritual in the human being with the spiritual in the universe. If by analogy we can find the concrete links between the spiritual in the universe and the spiritual in a building, we might be getting closer to achieving moral aims of the kind envisaged by Steiner. Steiner also said that spirit cannot act in the world without form. If we therefore wish to draw the links between spirit and form we must learn to speak the language of form spoken by the spirit. The best classroom to study this language is the world of natural forms in the kingdoms of nature, which, as stated in the introductory summary, "perfectly combine purpose and spirit and which can inspire and teach us to be similarly creative in building living structures of body, soul and spirit."

The more concrete such a "Language of Form" can become, the more teachable will be the methodology by which it is applied or spoken. If the buildings we design and build are imbued with "life" and do indeed bear the "sculptural" forms capable of incorporating soul and spirit, the architectural impulse that gave birth to them deserves to be called "Bio-sculptural" Architecture. To the point to which such Architecture is grounded in Anthroposophy and able to develop a methodology based on an evolving Language of Form, and to the extent to which this language can create living forms and give concrete physical expression to soul / spiritual realities, bio-sculptural architecture stands distinct and with a unique impulse within the larger organic movement. In this case biosculptural architecture is not unlike biodynamic agriculture, which also stands unique within the organic agriculture movement and whose inspiring source and methods are similarly, yet in a different way, able to link cosmos and earth and draw increased life forces into fruit and vegetable. Just like the bio-dynamic farmer must learn to „read' his plants and know when to spray the „light and silica based 501' or whether „500' is needed to bring water and lushness into the earth, (to use a somewhat simplistic example), so the bio-sculptural architect must learn to read and use the different qualities and life forces inherent in nature and in the different forms and expressions of a building.

5) Developing a Language of Form:

Although Steiner gave many indications and spoke on numerous occasions about the ethers or formative forces, he never gave a systematic presentation of these forces. Apart from numbers of smaller contributions by Wachsmuth, Lehrs and others, the late Ernst Marti seems to be the only one who made and published a systematic study and presentation of the ethers and formative forces, published posthumously in 1989, under the title "Das Aetherische". The most important point of the whole book is the fundamental differentiation he makes between Ethers, Elements and Physical Forces on the one hand and the formative forces on the other hand. From this it follows that the Ethers bring the general form impulses that find expression in everything that is alive, the formative forces on the other hand, which emanate from the Zodiac and the planets, bring the specific form impulses that distinguish the trout from the daisy. In other words, there are 12 (Zodiac) + 7 (Planets) cosmic formative form impulses that are able to produce the infinite variety of forms we see in nature.

Steiner on numbers of occasions related the form impulses that enable language, the consonants and vowels, with the form impulses inherent in the Zodiac and Planets. In the main there are 12 Consonants and, including the diphthongs, there are 7 vowels. The formative shapes created in speech through the consonants and vowels are able to create an infinite variety of words, language and poetry. Once we learn to understand ever more deeply the formative signatures of the formative forces emanating from the universe we will be able to start using them consciously to create meaningful forms. The individual impulses then become like the letters of an architectural alphabet, or language of form, and in future times we will be able to write consciously in this language. Viewed from this perspective it is possible to sense the future potential and reality behind Steiner's famous quote about the moral effects of architecture.

How can we begin such research in practice?
Let's take for example the letter "T" and what we can take as different starting points. We have the particular Eurhythmy gesture, we know about the connection to the sign of "Leo "and we have Steiner's indications about the hierarchy of the "Thrones" who stand behind the sign of Leo. From all of this it should be possible to extract certain characteristics that have a bearing on form and gesture. To mention another example, take the letter "C". It also has a Eurhythmy gesture and is associated with the sign of Libra and the substance calcium, which has a bearing on the process of "secretion". Calcium also materializes in the skeleton which in turn provides the physical basis for the development of the "I" or "ego", our „backbone' so to speak. In this way all consonants and vowels can be researched and brought into certain relationships of form and gesture.

In addition to the Eurhythmy gestures, vowels and consonants, a rich field for the study of formative forces are the many plant forms in their relationships to the various Planets and points of the Zodiac.

The four Ethers

While the study of formative forces is the longer term task, the more immediate need is to build an understanding of the forces through which the formative forces are able to come to expression in the world, namely, the study of the etheric forces or more precisely: the four ethers.

The four ethers constitute a force field that forms a direct opposite or polarity to four fundamental physical forces or force fields. In between stand the four elements, which can yield in either direction:

ETHERS	*ELEMENTS*	*PHYSICAL FORCES*
Warmth Ether	Fire	Physical Warmth
Light Ether	Air	Density
Sound or Chemical Ether	Water	Weight
Life or Purpose Ether	Earth	Disintegration / Decay

The above system of forces is present in every living creature. What bio-sculptural architecture seeks to do is learn to understand and work with these forces in order to bring "Warmth, Light, Life and Purpose" into a building. Only a building that has "Life" is capable of effectively incorporating soul / spiritual contents. Soul and Spirit cannot live in forms which are dead, that is, within the architectural context, forms lacking in warmth, light, ordered movement and overall purpose.

The Limitations of Form

It is mainly in the area of form and structure where the contribution and research of biosculptural architecture lies. In as much as form can bring spaces to life and can embody soul and spirit this is of deep significance and importance.

However, it is also important to keep in mind that placing the focus on form does not eliminate the need to consider many other important architectural perspectives such as health and biology, sustainability, energy friendliness, environment, efficiency, function and so on. Although such perspectives are important, they are not the prerogative of or unique to biosculptural or anthroposophical architecture and are already included as a matter of course in the contemporary architectural vocabulary, in particular in the area of organic architecture.

6) The Creative Process

It is one thing to consider the significance of form. It is another to create it. Any significant creation or work of Art has to be traced back ultimately to an inspiration. Without inspiration nothing new could come into the world, we would be forever rearranging the old and familiar.
Having and inspiration can be a profound experience or it can simply light up as an idea.

This begs the question as to what process we go through whenever we create something of value.

Because of the relevance of this question within the context of the architectural impulse, we are reprinting in the following an abbreviated version of a chapter called „The Creative Process', taken from the sister document attached to the Master Plan, which is entitled „The Master Plan and Anthroposophy'.

There seems to be a difference between creating and producing. The latter describes a more mechanical and external process whilst the former is a very personal and internal process. It is impossible to consciously create something new without prior motivation. To be creative I have to be inwardly stirred with enthusiasm, which translates into energy. Also, being creative takes effort. The new creation wants to be paid for with will power and the sweat of the brow. In other words, whenever I am sincerely creative I am giving of my own substance in an atmosphere of warmth. My own energy and substance is the sacrifice upon which the new creation is built.
Wherever there is fire or warmth there is sacrifice. The wood of the tree sacrifices itself to the burning flames. My personal substance feeds the flames of my creativity.

Warmth alone, however, is not enough. I also need the light of wisdom to know how and what to create. I need expertise, background information and, finally, inspiration, which is associated with light.
Once I am filled with the warmth of enthusiasm and I have the skill, knowledge and inspiration to begin the practical part of the process I am ready for the third step, which is to bring the whole thing into movement. I have to experiment, try this, try that, until the final form arises out of movement. During the creative process it is important to retain fluidity, so that necessary changes always remain possible. Once the final form has crystallized out of the fluid element, it has become fixed and become solid reality.

In this way, every time a truly creative process is taking place it proceeds through these four steps: ***Warmth – Wisdom – Movement – Form,*** which at the same time are the qualities associated with the four ethers and elements. (See „The Master Plan and Anthroposophy)

The factory produced plastic toy may have the perfect form and incorporate a degree of wisdom, but it lacks warmth and movement. The wooden toy carved with unskilled hands may incorporate warmth and movement, but a lack of skill or knowledge, which in this context is lack of wisdom, results in an imperfect form. Yet, many people would choose the imperfect wooden toy over the perfect plastic toy because of the element of warmth and care which was woven into the wooden toy during the carving process.

All the four steps are needed to achieve good results. What if one step is skipped over?
The following would be the consequences:

Lack of Warmth: - no personal involvement; uninspiring, slick or boring designs.
Lack of Wisdom: - dilettantism; lack of functionality; ugly or stupid solutions.
Lack of Movement: - the fixed form arrives too quickly; mass produced clichés or sloppy solutions which are impractical.

Conversely, what is the consequence when all four steps are part of the process? We achieve designs, structures and works of Art that have powerful and lasting value, because they radiate back to us the degree of warmth, wisdom and Movement that was woven into their creation by the creative process.

This brings us to the following, very interesting comparison. What is the difference living and working in an environment where Art and Beauty are valued, compared to an environment that is built around utilitarianism and efficiency? To build a utilitarian, no frills environment that is sterile and efficient, the above four steps are not needed. Instead of individually contributed warmth and creativity we have mass produced uniformity. Instead of wisdom we get overloaded with data and information, instead of movement, which wants to be playful and requires patience and time, we become subject to time pressures and to the demands of cost efficiencies and regulations, which are very effective in stifling movement and closing the door to creativity. Sadly, most of our modern day environments such as our work places, institutions, hospitals, schools, factories streetscapes etc. are of this kind. In fact, we have become so used to ugliness, commercialism and utilitarianism that we seem to accept it almost unquestioningly.

When people for the first time walk into a Steiner School and are confronted with a different set of values built into the physical work and learning environment, they often have mixed reactions. There are some who regard Art and Beauty as a curiosity and an unnecessary luxury. They are the ones who interpret the focus on Art as having relevance only for those who wish to specialize in the Arts. On the other hand there are others who are more sensitive or open in the heart realm and who find themselves instantly attracted to the warmth and beauty in the environment. In either case, the values that are built into an environment also emanate from it and have an effect on every one. Some experience it consciously, others absorb it unconsciously.

7) The Vision and Power of an Artistic, Transformative Environment

The reader is also referred to the sister document ("The Master Plan and Anthroposophy") where the same topic is being discussed from a different and more esoteric point of view.

What goes up, must come down. What is put into the environment, does come out in manifold ways. The type of learning, working and living environment we create for ourselves becomes a constant, unceasing influence from which we cannot escape any more so than the air which surrounds us. Mostly we are not conscious of the air unless we take a few deep breaths or smell the rain or open the windows to let fresh air in. There are moments when we consciously appreciate the air. Most of the time, however, we don't notice it. Yet it has a profound influence on us. Fresh air keeps us awake, stale air sends us to sleep, or makes us irritable. The way we breathe affects our state of consciousness and our state of well being. The point is this: here is something we are mostly unconscious of, yet it influences us profoundly on many levels.

The same holds true for our living and working environment. There is no such thing as a neutral space. There are **always** qualities woven into our environment, the question is which ones and whether they are there by choice, ignorance or lack of care. If we take care and pride in our environment and strive through true creative processes to create spaces filled with beauty, the Warmth, Wisdom, and lively Movement that was expended in the creation of such spaces radiates back to us and we feel uplifted by it. Just like fresh air still has its benefit on those who are unconscious of it so does an artistic environment affect everyone whether on a conscious or unconscious level. It is easier to see this in the reverse case. If the environment is sterile, slick, boring, uncreative, pretentious, uncaring, cold, bland, glitzy, technical, ostentatious, artificial, and so on…. all of these are also **qualities of soul**, which were incorporated, perhaps unintentionally, into the environment when it was created and which will continue to press in on us consciously or unconsciously long after their creation.

If the nature of our living and working environment is important in everyday life, it is crucial in an educational context. Children are much more vulnerable and impressionable and soak in the qualities of the environment like a sponge. The educational environment we create therefore introduces a second curriculum. There is the curriculum we teach and there are all the unconscious values and qualities that are built into the physical environment, which combine to form a second curriculum that is making unconscious impressions on the children all day long.

The Kindergarten child has a natural assumption that the world is ***"moral and good"***. A healthy education and upbringing will help the young adult to discover that the world is ***"true"***. However, there are many young people to day for whom the world has become negative and cause for apathy or cynicism. Many adolescents are unable to make meaningful connections with the world and are seeking compensation or refuge through drugs or instant, easy gratification on a material level. What is the difference between the young adult who is able to look into the world with self confidence and positive expectations and the one who has given up or never bothered to try?
The difference lies in the degree by which the human spirit or "ego" has been able to grow and emerge within the thinking, feeling and willing soul. The process of education could be described as creating the best possible conditions for the human spirit to emerge and become

free and self responsible within the soul. The Curriculum in this sense is like the food for the spirit to learn to understand and take an interest in the world.

Steiner explained that the place where the actual spirit or ego lives within the physical body is in the warmth of the blood. This fact alone points to the significance of the element of warmth in education, warmth, quite literally in a physical sense, and warmth on a soul level. Warmth implies generosity, gratitude and good will and is the best antidote to pressure and fear.

However, just like the plant needs not only the warmth of the sun but also its rays of light to be drawn out of the seed and into the light filled air, so the spirit too needs to be drawn out through the light of wisdom, which in the context of education are true and meaningful experiences and real, positive connections with and insights about the world. The process of education, viewed from this perspective, begins with warmth, is fed by wisdom and expresses itself through un-pressured movement. We recognize in this the qualities inherent in the creative process described further above.

The qualities of ***Warmth, Wisdom and Movement*** are the preconditions for every truly creative process. If this process is directed into the physical environment it crystallizes into inspired ***Forms*** and an artistic, uplifting environment. If on the other hand the same process and qualities flow into the Curriculum and teaching, a free and open space is created wherein the human spirit or ***Ego*** can emerge within the soul and grow towards freedom. This space is initially generated from the Heart and from there it engages the thinking, feeling and willing soul which is the soil out of which the ego eventually matures into free and self responsible adulthood.

Just like the physical heart is intimately connected with the Head and limbs and indeed with every cell in the body, so is the heart realm of the soul also linked to our thoughts and actions. Thinking without heart becomes cold and calculating, heartless actions are mechanical and unfree. In other words, the middle realm, the realm of the heart, of Art and Beauty, is the keystone that creates the open space that enables freedom.

We are now in a position to complete the above picture: The world for the Kindergarten child is ***"moral and good".*** For the adolescent and young adult the world is ***"true".*** For the child in the lower school the world is ***"beautiful".*** It is therefore in the middle years of education when it is particularly important that the children are able to develop their sense perceptions and faculties of imagination in an environment of Warmth and Beauty. If during this time the child is starved of Beauty and truthful, imaginative contents and surroundings, all of which are food for the soul, the later teenager and young adult lacks the self confidence and richness of soul which are the very qualities that enable the young person to make good and free choices and form positive connections with the world. This raises the stakes on how much we care about the physical environment and how seriously we take the steps of the creative process to create in a way that is inspiring and real. If we do take it seriously we are able to create an environment that is inspirational and uplifting, enlivening and heart warming, and we are planting seeds that bear within them a powerful transformative force for the future.

What does such an environment look like?

It is an environment where every form, gesture and detail radiates back the warmth, skill and thoughtfulness that flowed into its creation; where the buildings have a structural gesture that reveals their purpose; where the details from door knobs to lampshades have been considered and perhaps crafted out of the same purpose; where the colors are sensitive and vibrant and are chosen to enhance the intended atmosphere of different spaces; where the individual essence of every building creates a community of interesting "characters"; where the spaces between buildings are inviting and are forming court yards and billabongs encouraging social interaction; where the angles and structural details are alive with movement and at the same time create pattern and texture that play with the light and create interest, ….

where the natural environment has been considered with equal care; where the garden beds, shrubs and trees provide a richness of color and scent and reveal the different seasons throughout the year; where creative landscaping anchors the buildings on the earth and links them to each other and into the natural environment; where the quality of the larger landscape finds an echo in the gestures of the community of buildings; where the balance between open spaces and built up areas is considered, where different atmospheres are created from the spaces that speak of hands on work, tools, materials and clutter, to the spaces that are pure and pristine, to others that are socially warm and inviting.

Perhaps it is not yet possible in this day and age to devote this much time and energy to the creation of such an environment. Ultimately such an environment can only be created in freedom and out of the warmth of heart that gives rise to courage and generosity. However, it is never the less good to hold it there as an ideal, being conscious of the power of transformation on a deeply human level, that such an environment is capable of surrounding and inspiring us with.

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The next chapter summarizes the aims and principles of biosculptural architecture before moving on to give a glimpse of the thoughts, ideals and values that are associated with the different buildings at the school in the final 6 chapters.

8) " Biosculptural Architecture" - Summary of Aims & Principles

1) The name:

The name ***"biosculptural architecture"*** implies a deliberate association with the name ***"biodynamic agriculture".*** Both are practical endeavors that are arise out of anthroposophical principles and methods and both seek to establish concrete links between cosmic/spiritual and earthly/physical realities. Just like biodynamic agriculture seeks to bring plants into a dynamic relationship with the cosmos in order to draw increased life force into fruit and vegetable, so does biosculptural architecture seek to embody soul/spiritual qualities within the ***"sculptural"*** and ***"living"*** forms of a building.

2) The wider architectural context:

In as much as biosculptural architecture concerns itself with the soul/spiritual qualities that characterize and arise out of the particular use and purpose of a building, it is no substitute for many other important considerations such as health and biology, sustainability, energy efficiency, physical functions, cost efficiencies , environment and so on. As important and necessary as all such perspectives are, they are neither unique to nor the prerogative of biosculptural or Anthroposophic architecture and they are already included as a matter of course within good contemporary architectural practice, particularly in the field of organic architecture. Biosculptural architecture therefore does not seek to replace other forward looking forms of architecture but is adding a particular qualitative perspective which introduces specific methods and principles that can have a major influence on the final appearance, atmosphere and moral effects of a building.

3) R.Steiner's vision and prediction of a future Architecture:

To quote R.Steiner himself:
"However much study may be given to the elimination of crime and wrong-doing from the World, true redemption, the turning of evil into good, will in future depend upon whether true art is able to pour a spiritual fluid into the hearts and souls of men. When men's hearts and souls are surrounded by the achievements of true architecture, sculpture and the like, they will cease to lie if it happens they are untruthfully inclined; they will cease to disturb the peace of their fellow men if this is their tendency. Edifices and buildings will begin to ***speak****, and in a* ***language*** *of which people of today have no sort of inkling." (My emphasis)*

4) The resulting Aim and Premise:

To "turn evil into good" or "pour a spiritual fluid into the hearts and souls of men" as in Steiner's quote above, architecture cannot possibly remain grounded within the materially or technologically driven currents that prevail today. Nor does a simple connection or orientation towards nature, health or ecology seem enough to bring about the profound moral effects Steiner alluded to above. There can be no moral effects without moral causes. Moral causes, however, are always spiritual causes. If architecture, therefore, is to affect us on a deeper moral level, we must learn to find the links between architecture and the moral or spiritual realities that alone can have such effects.

Steiner also said that spirit cannot act in the world without form. If we therefore wish to draw the links between spirit and form we must learn to speak the **language of form** spoken by the spirit. The best classroom to study this language is the world of natural forms in the kingdoms of nature, which perfectly combine purpose and spirit and which can inspire and teach us to be similarly creative in building living structures of body, soul and spirit.

5) Etheric and Formative Forces:

Steiner explains in many places how the so called etheric and formative forces are the medium by which soul and spirit are able to come to expression in material, physical form. If we wish in a similar, albeit inorganic way to incorporate soul/ spiritual qualities in the physical forms of a building, it behooves us to study these forces. Biosculptural architecture, therefore, has made it its central task to study the nature of etheric and formative forces and their respective relationship to form and substance. The soul/spiritual qualities that come to expression in such forms produce the responses that affect us on a soul/spiritual and therefore moral level.

6) What are these forces and how can we study them?

Based on the Zodiac and the planets there are 12 + 7 formative forces which come to expression on earth within the force field of physical and etheric forces and through the four elements. Based on Steiner's indications we can begin to form a relationship with and an understanding of these forces via the eurhythmy gestures, the form impulses behind the vowels and consonants, all of which have an association with formative forces, and by observing and studying the many plant and other forms and phenomena of nature in the context of their particular gestures, medicinal properties and relationships to the planets and the zodiac. This opens up a huge field of study for generations of interested students and practitioners.

7) Developing a future Language of Form:

The formative shapes created in speech through the consonants and vowels are able to create an infinite variety of meaningful words, language and poetry. Once we learn to understand ever more deeply the formative signatures of the ethers and of the formative forces emanating from the universe, we will be able to start using them consciously to create meaningful forms. The individual form impulses then become like the letters of an architectural alphabet or language of form and in future times we will be able to write consciously in this language of form. In this case it is possible to sense the future potential and reality behind Steiner's seminal quote about the moral effects of architecture. (See p.6)

8) The Creative Process:

Through Anthroposophy we can come to understand how the creation and evolution of the world itself is a creative process on the part of numerous spiritual hierarchies. This process unfolded in four archetypal steps that could be summarized in the following four principles:
WARMTH – WISDOM – MOVEMENT – FORM
The nature of archetypal principles is that they not only apply on the largest but all the way down to the lowest scale, as expressed in the ancient hermetic saying: "as above, so below". Every truly creative process must therefore allow these four steps to take its course. There must be personal commitment, enthusiasm and engagement (Warmth). There must be appropriate skills, information and an element of artistic inspiration (Wisdom). There must be a sufficient amount of time and space to allow the design process to develop, so the solutions have time to "cook" and mature (Movement) before the process is finally able to yield a concrete, comprehensive and beautiful result (Form). If any of the four steps or principles is missing in the design process the results are being compromised.

9) What goes in will come out:

Through a creative process it becomes possible for ideals and values, good will, care and beauty to flow into our creations. Whatever flows into a creation through human effort and will is never lost but becomes a storehouse of artistic beauty, love and care, which then radiates back to us out of the environment. Wherever there is poverty of values and an absence of human effort, nothing useful is able to flow in and nothing useful can radiate back. This is why we generally prefer things made by hand and regard machine and mass produced factory items as cold and impersonal. However, an absence of values does not usually leave a neutral space but creates the opportunity for negative and unconscious qualities to incorporate, which then combine to form an environment that is ugly, impersonal, alienating and ultimately de-humanizing. In other words, there never is a vacuum of values and we have the choice to consciously choose and incorporate our values or allow the spaces to be filled with what we don't choose and aren't conscious of.

This is a call on the architect and the client to take their considerations beyond the utilitarian and physical use of the building, and consider what deeper moral values are being associated and sought to be incorporated to serve the use and life of the new building.

10) The power to transform evil into good:

The extent to which "*true art is able to pour a spiritual fluid into the hearts and souls of men*" and is capable of "*turning evil into good*" as Steiner put it in the quote above, depends on the degree of warmth, wisdom and selfless movement that are able to flow into a particular project. If indeed such qualities were able to flow into a particular project or environment then what is radiating back to us has a transformative power that is capable of affecting us on a moral level. Ultimately and in the ideal case such an environment is capable of "turning evil into good" in the way Steiner put it. In the final analysis it is the aim of biosculptural architecture to bring such transformative impulses into the world.*

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*Particularly with regard to this last point and in relation to the topic of "transformation", reference is being made to the sister document also attached to the Master Plan and entitled ***"The Master Plan and Anthroposophy"***.

9) The Kindergarten buildings

The Kindergarten rooms were the second rooms transported on site near the end of 1989. They initially housed Kinder children and the second composite class 1&2 class and later on were extended and washrooms added to provide room for two composite Kinder/Prep groups. Over the years a wonderful garden and outdoor space for the children was created and there is now an urgent need for a third room and to expand the "temporary" rooms and replace them with purpose built buildings.

The following thoughts form part of the foundation and brief that informs the Kindergarten design. The actual construction of the purpose built rooms is planned for 2009.

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Pre-school children range in age from the 31/2 year olds in the playgroup to the 6 year olds in the Prep group. They all are in the 1 – 7 year old cycle. Primary school children fall into the second 7 year cycle, from the 7 year old in class 1 to the 14 year old in class 8. This is the time covered by the class teacher period. With the 15 year old adolescent in class 9 begins the upper school. The third 7 year cycle is complete with the 21st birthday.

The transition between the Kindergarten and primary school is marked physically by the loss of teeth. This usually happens around age 6 or 7 and is an indication of a significant developmental step. We all inherit our physical body from our parents. However, at birth the physical body is by no means complete. It is still like a seed in many ways and has much growing to do. Growth occurs not only in size but also in maturation. The inner organs have to fully establish their independent function and rhythms and the sense organs are soaking up all external impressions as the child learns to sit, walk, speak, move and function in the physical world. During the first 7 years the child makes the physical body his own. All cells are literally being replaced and the teeth represent the hardest element and final step in this process. All of this points to the fact that the Kindergarten time is a very physical time. All the energy and work of the life forces or etheric body must flow into the healthy development of the physical body. To try and engage the child in a mental or intellectual way during this time would be a mistake and take away energy that should rightfully be available to flow into healthy organic growth.

How do children learn during this time and how can we support their healthy development? It was R. Steiner who pointed out that during this phase of growth children learn by **imitation**. It is not until after the change of teeth that the child's etheric body is sufficiently relieved of it's work on the physical body to become available for supporting the development of the **imagination** and, at a later stage in the upper school, creative **thinking**. It is natural for a primary school child to dream and form imaginative pictures as he or she listens to a story. The Kindergarten child straight away wants to act out the story. Everything is acted out and imitated, not only the stories but also the actions and activities of the adults around them. The

Kindergarten child's sense organs are extremely open. Nothing is filtered out and every impression is absorbed, not only physical impressions but also the moods, attitudes and gesture of the adults. This explains why the Kindergarten teacher and the assistants are very conscious that their actions and work in the Kindergarten are worth imitating and why so much care is given to the Kinder environment to make it natural, peaceful, wholesome, beautiful and fit to become an education for the child's senses and being.

What can we glean from all of this from an architectural point of view? First of all we have to take account of a curious polarity. On the one hand we have described the focus on the maturing and growth of the physical body, yet on a deeper level the Kinder child's consciousness is not at all fully present in the physical world. We are all spiritual beings going through a physical phase and with little children the connection they still have with the spiritual world is much more obvious, strong and unconscious. As children grow up the connections to the physical world become stronger and more conscious and the connection to the spiritual world weakens, only to be potentially re-awakened in freedom in the fully conscious adult. The whole process of education and of growing up could therefore be also described as an incarnation process.

Physically we grow from the head, which is huge in the embryo and still big in children, down into the limbs. The growth of consciousness on the other hand occurs from the limbs (metabolic system, action, "imitation") to the heart (rhythmic system, feeling and imagination) to the head (nervous system, thinking) These are the three phases of the pre-school, lower and upper schools.

The Kindergarten child therefore is a being that is all sense organ, that lives in imitative activity and whose consciousness is still linked strongly with the cosmos and the archetypal realities and semiconscious memories of the spiritual world which formed his or her previous reality.

To derive our architectural brief we must know what the developmental context and the educational aims are for the Kindergarten age child. Whilst the task of the lower and upper schools are to guide the child to grow in consciousness and become familiar with earthly culture and learning, the educational task in the Kindergarten is to help make the child feel at home in his or her physical body. The educational method employed to this end is to provide wholesome and simple physical activities such as baking bread, feeding the chooks, going for walks, making things, playing out stories etc. and at the same time surrounding the child with natural colours, materials and textures, which are food for the senses and are able to base the child's experience in truth and reality. This is the reason why in a Steiner Kindergarten there is no room for plastic or electric toys or cartoon characters, computers, idols or television stars, all of which are part of a more artificial and intellectualized reality which in itself is rather empty and is not focused on developing healthy sense perceptions and organic growth.

We are now in a position to extract a few architectural guidelines for the Kindergarten buildings from the above considerations.

The Materials:

As mentioned above, the Kindergarten environment is also designed to be an education of the senses. Natural materials such as stone, wood, wool, bees wax, cotton cloths etc. provide a rich palette of true textures, smells and colours. Such sense experiences become the reference points for what is real and what feels artificial in the later adult. In earlier generations this was taken for granted but in a modern world where so many things have become artificial, perceptions of what is real and what is artificial cannot be taken for granted and must be learnt. The child's experience of the physical world into which he or she has stepped is much enhanced when surrounded by a natural environment and natural materials.

The Roof:

The roof of a building can be seen as analogous to the head. The bigger the head is in relation to the rest of the body, the younger the person appears to be. An embryo is all head and a child has a comparatively big head which is almost the same size as in the adult. If in a building I lower the walls and make the roof higher to perhaps three times the height of the walls, the building will look more child like, resembling a little fairy tale hut. We automatically transfer the proportions we are familiar with in human beings and apply them to other creatures, including "houses".

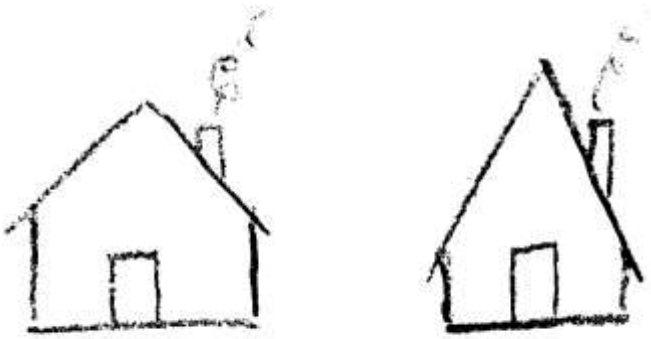
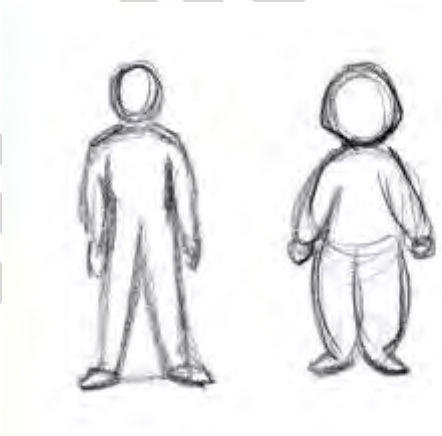


Figure 9-0-1: The difference between a "normal" house shape (left) and a "fairy tale type, child like house (right) lies in the proportional dominance of the roof, which mirrors the physiological dominance of a child or baby's head in comparison to that of an adult. (below)



The way to give the Kinder room a child like, fairy tale look and feel is to lower the proportions of the walls and let the roof reach higher in parts. This will echo the proportional dominance of the head in young age. The higher ceiling in some parts is also an expression of the child's consciousness which on a deeper level is still more strongly connected to the cosmos and the spiritual world, while it is building its earthly home in the physical body of the little child.

The Walls:

Walls can be straight or round and there is a world of difference between the two. Without going into detail, on an archetypal level the straight line is one-dimensional and related to light. When straight lines meet they create angles and crossovers, which have an awakening effect that stimulates our thinking. The curved line on the other hand is two-dimensional and relates to the element of water. Curved lines meander, join together and flow, straight lines refract, cross over and challenge. Ultimately the straight line, in as much as it represents light and perspective, has a closer relationship to thinking and consciousness, while the curved line has a closer relationship to softness, feeling and movement.

Because the element of thinking is not yet awake nor in need of being awakened in the Kindergarten child it is appropriate to have round walls. Round walls encourage movement and flow without the awakening effect of angles and corners. Because of the developmental characteristics of the pre-school child, the Kindergarten is the only class room in the school that benefits from round walls. The reason why all other rooms from class 1 up have combinations of straight walls is connected with the development of the imagination and of creative thinking, which begins with class 1 and which benefits from the play of angles and the awakening character of straight lines.

Overall Gesture:

Kindergarten children live in activity, movement and imitation. What, then, is the difference between the movement and activity of a kindergarten child and the equally active movement and liveliness of a primary school child? The primary school child moves in concert with increasing imaginative capacity, which internalizes ever increasing aspects and sections of the surrounding world and culture. The Kindergarten child on the other hand does not internalize the external world in imaginative pictures. The Kindergarten child soaks up all sense impressions like a sponge, but instead of internalizing them and living in them, the child externalizes those sense impressions through outward action and play. Outer sense impressions, as well as internal organic growth come to expression in the play, drawings and activities of the preschool child.

If the movement of the primary school child could be compared to the sprouting growth of a plant, the movement of the pre-school child represents the movement taking place inside the bud, which builds up in activity and pressure until it bursts open into another phase of expansion. The etheric body of the pre-school child is extremely busy shaping, regulating and maturing the physical body and the child's outward activity is an expression of this inner etheric activity. It is not until the change of teeth and around the 6th or 7th year that the

etheric body has completed this task and is "born" so to speak to become available for other work such as the development of imaginative thinking.

The possibility of inwardness is created by the sheath or skin which surrounds all living creatures. The Kindergarten years could be compared to a seed which harbors strong inward activity, which bursts into stem and flower during the subsequent school years and which finally bears fruit in the young adult.

The quality and form of a seed is a great image for the archetypal gesture of a Kindergarten building. The walls want to be strong, and protective and embrace the internal space in a gesture reminiscent of the Eurhythmic gesture for the letter "B". The same gesture also reminds us of the gesture of the human embryo or the curled up gesture of the fetal position, all of which are expressions of intense inwardness and inner movement. Once the perimeter of the roof line and verandahs are taken into account we get an egg like form, which is also reminiscent of the shape of a bud.

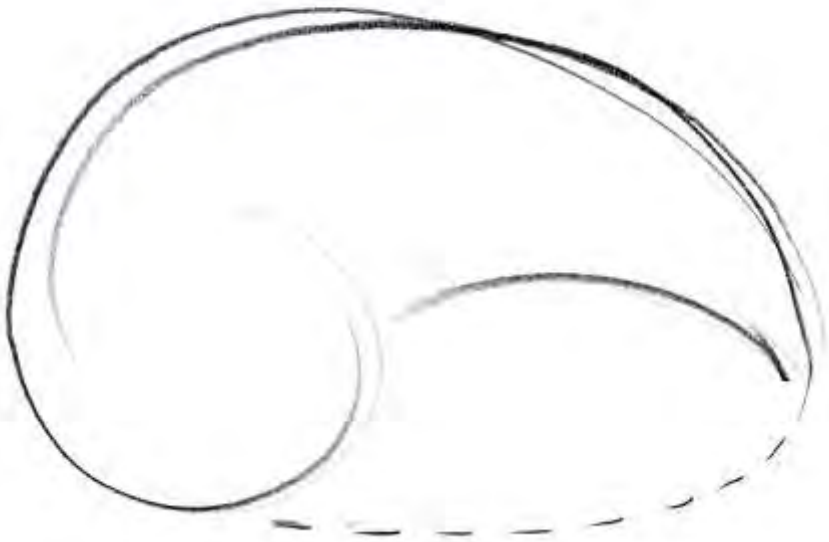


Figure 9-0-2: An archetypal Kinder floor plan could be reminiscent of a "seed, or bud like, embryonic shape" or of the Eurhythmy gesture for the letter "B"

The circular space where the children gather for the story may end up roughly in the same location where the head is situated in the embryo. This is also the area which deserves the highest ceiling line. It could run into a cone shaped roof that feels like a cheeky hat or cap which defines the child like proportions and characterizes the gesture of the Kindergarten roof from the distance.

The element of Warmth:

All maturation processes need warmth and seeds sprout best in the spring sun. Warmth is of particular importance for little children, which goes for both, physical and etheric as well as soul warmth. It is obvious how to incorporate physical warmth into a building and it is also obvious how soul warmth issues from the teachers in the class room, but how can we weave etheric warmth into a physical structure? Etheric warmth in the architectural context comes from two sources. One is the rounded quality of the structural geometry, the other is from the quality of handcrafted natural items.

As explained in the previous chapter, the efforts we make in creating an artistic environment are not lost but flow into our creations, adding a measure of value, love and wisdom in accordance with the amount and quality of the energies that were expended in the creation of the project.

For the Kindergarten it is particularly important that it is able to incorporate forms and artifacts that are carved and shaped by hand. Tables, chairs, doors, windows, architraves, door and window jams, kitchen benches etc. are all elements that allow hand shaped natural timbers to weave an element of love and care into the practical daily environment, which unconsciously has a powerfully strengthening and confidence building influence on the children. Not only is such an environment an education for the senses but it also quite literally embodies warmth, care and practicality, which are values that are especially important in our intellectualized and technological modern culture. If such qualities can flow into the seed during the pre-school years they are able to bear flower and fruit in the young adult. To achieve such aims, the architectural and natural environment are an essential component of the overall educational environment and process.

*10) The Developing Child In Relation To The Lower School Class Rooms**

*(reprinted from an article by this author, which first appeared in the LYSS 1989 yearly magazine and has since been reprinted in other publications in Germany and England)

The physical spaces in which we work and live can have a profound effect on our senses and feelings and can support or detract from the activities that take place inside them. What would it feel like to be in a narrow, dark room compared to an open airy, light filled room, a room with low ceilings compared to another with high and vaulted ceilings? How would it be to stand in a round space with no corners to move into or a space where the walls were not straight but leaning in or out? Each time our feelings would be very different. These are the extremes. In between there is an endless number of more subtle variations. Most of the time the effect a room has on us is not conscious, particularly once we are used to it. The space however continues to affect us, regardless of whether we are aware of it or not.

Children spend a lot of time in the classroom and many activities take place there. The kinds of things children do and learn, the eyes through which they look towards their teacher or look out into the world are not static. Big changes take place in children from year to year. In Steiner Schools every year the curriculum, stories, drawings, discipline, games, subjects etc. change to embrace the child's consciousness at a given age and to support him or her in the business of "growing up" .The 7 year old's perception of the world is completely different from the 12 year old's. Children spend a lot of quality time at school and the totality of the education environment in which they are immersed has a profound effect on their healthy growth in body, soul and spirit. The buildings and landscape in which the children work and play are an important part of the educational environment.

If the children's consciousness and the teaching contents and activities that change from year to year can find an echo in the architecture of the classroom, it can be a wonderful support to teacher and children. In other words, if the shape and feeling of a room can respond to the atmosphere and nature of the activities going on inside the room, something happens akin to the well-proportioned body of an acoustic instrument, which amplifies the tone and makes it sing.

We have been very fortunate at the Little Yarra Steiner School to be able to have purpose built rooms. First the Library/Administration building, which was built in 1991, then the Class 1 and 2 building in 1993, followed by Classrooms 3 – 6, which were completed in 1998. Each building was designed and formed with a very different quality and intent.

CLASS 1

At last a King's daughter came into the woods; she had lost her way and could not find her father's kingdom again. She had been wandering round and round for nine days and she came at last to the iron stove. A voice came from within and asked: "Where do you come from and where do you want to go?" "I have lost my way to my Father's kingdom and I shall never get home again," she answered.

From 'The Iron Stove'.

Grimm's Fairy Tales

Class one children often draw houses and figures still floating in the air. There is no solid ground as yet. The child still has a dream like consciousness which is not yet directed to the world outside but lives in the archetypal images of Fairy Tales. All the activities, from painting and skipping to counting and speaking the sounds of the letters etc., are woven through with an imaginative quality. The world for the child is a beautiful world and there is cause for wonder wherever we look. Ideally, the physical space housing Class 1 should support this feeling of wonder and beauty and give a sense of warmth and protection. In Class 1 the teacher stands before the children like the shepherd gathering his little flock. The floor plan encourages this relationship between teacher and class: the walls create a near circle to gather the children around the teacher. The ceiling is slightly higher than that of Class 2 and has a steeper curve. There is more headroom and a little more space to dream. The roof curves over the space with a nurturing and protective gesture and lifts up just a little over the windows to let in the light.

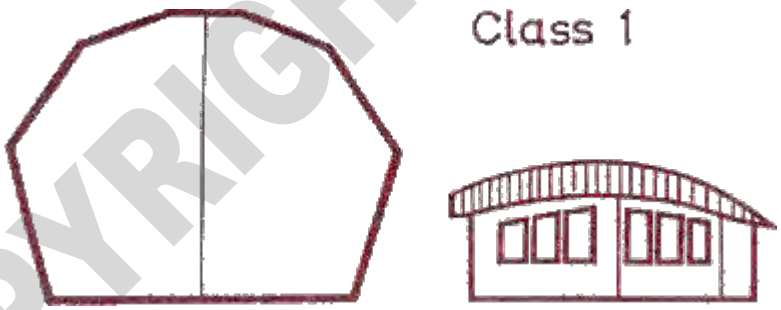


Figure 10-1: Class 1 Floor Plan and typical elevation

CLASS 2

"For three days and three nights they dug into the fairy mound, tunneling deeper and deeper. On the third day they reached the inner-most heart of it. To their mortal eyes, their senses protected from the fairy glamour by the cold iron of the daggers with which they dug, there was no splendid palace there, no fore-court of prancing horses, no banquet hall brilliant with rich hangings and vessels of gold and silver, only a dark, earthen cavern, held up by rough slabs of stone."

From 'The High Deeds of Finn MacCool'

Rosemary Sutcliffe

Class two children still love to dream but they have moved closer to the earth. In their drawings too, houses, trees and people begin to stand on solid ground. Class 2 activities are very similar to Class 1 in that there is everywhere an imaginative element of wonder and beauty. The difference is one of focus. The journey throughout the primary years is one of gradual awakening from dream consciousness to full 2Oth Century day consciousness in Class 8. In Class 1 the atmosphere is still very inward. By Class 2 the focus has started to shift outward, the journey has begun. If Class 1 children will quietly be occupied with a cubby made of cloths or twigs, or playing in the sandpit, Class 2 children tend to roam and find a tap somewhere to build dams and water courses. The Class 2 child seeks to meet the world through an experience of the 4 elements, Wind and Water, Fire and Earth. After the timeless and archetypal images of the Grimm's Fairy tales in Class 1, the Celtic Myths and stories of Class 2 are still in the realm of the fairy tale but there is a different quality now. Between tales of journeys and adventure there weaves an awareness of the landscape and a connection with nature forces and images of elements.

Figure 10-2: The Class 1&2 Building

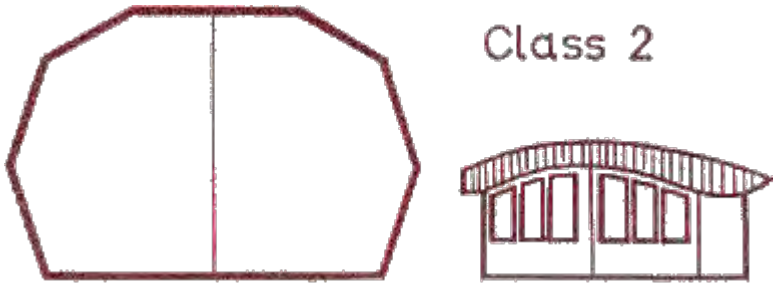


Figure 10-3: Class 2 Floor Plan and typical Elevation

The Class 2 room still allows the teacher to gather his little flock in a circle, but the circle is stretched out now, the flock is more 'jumpy' and a little harder to contain. The gesture of the roof is similar to that of Class 1 but the windows have become taller and the eave line lifts up further on three sides to allow more of the world into the room.

Figure 10-4: The Class 1&2 Building in the surrounding landscape

CLASS 3

And all the people answered together, and said: "All that the Lord hath spoken we will do." And Moses returned the words of the people unto the Lord. And the Lord said unto Moses: "Lo, I come unto thee in a thick cloud, that the people may hear when I speak with thee, and believe in thee forever."

Exodus Chapter 19, Verse 8 - 9

At some point in Class 3 the 9 year old child goes through a significant threshold experience, the realization of "I am my own person, I am separate from Mum and Dad or my family". This is a scary feeling and is often accompanied by a great deal of anxiety. 'Death' is a theme that often comes up for children at this time. What is the consequence of this experience? On the one hand the stronger sense of 'I' wants to test the water by challenging authority, on the other hand there is a strong interest to go out and meet the world hands on. Fights and disputes occur easily but there is also a fascination with physical work. 'Serious' cubby building and digging etc. are high on the list of priorities. The teacher will give the children descriptive pictures of how things are made and of the various trades. The Class 3 Building Project is a key feature of the year. In this turbulent time the Class 3 child is best supported if the teacher can become a firm authority who sets the rules and determines the consequences of breaking them. The Class 3 child loves testing out the rules and is greatly reassured when the consequences are predictable and consistent. The Class 3 stories are often drawn from the Old Testament. Moses and the Prophets represent strong leaders and individuals who lead the Israelites through the desert and into the promised land. In some ways this is like the picture of the children's journey through Class 3. There is always a strong sense of what is 'right' and what is 'wrong' and whenever the Israelites (or the Class 3 child for that matter) do the wrong thing, the consequences are not far off.

Figure 10-5: The Class 3&4 Building

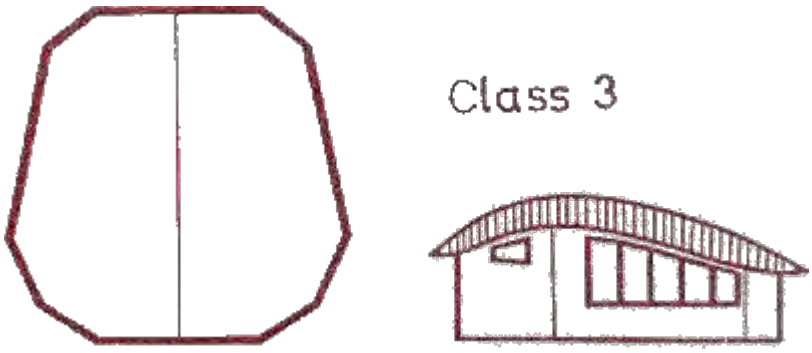


Figure 10-6: Class 3 Floor Plan and typical Elevation

The Class 3 room does not gather up the children in a circle any more. The room is more elongated and divided into a wider front section where the teacher stands and a longer section for the Class. Both, through the floor plan and through the rise and fall in the roof, the teacher and the class are placed opposite each other. At the crossover, the space wherein the teacher and class meet, the room is at its highest point. At the front of the room the light streams from above; at the sides the walls have receded to make room for uninterrupted rows of windows which bring in lots of light and encourage the two way flow between the world outside and the class within.

CLASS 4

And Loki thought to himself how it might soften the wrath of the other gods if he took back to Asgard with him, not only new hair for Sit, but a gift for the Allfather and a gift for Freya as well, and he smiled and said: 'Then fashion for me a ship that shall be the best of all ships and worthy of the gods, and a spear that will always find its mark and will not disgrace even such a warrior as Odin.' 'We shall do those things.' said Ivaldi's sons, and they set to work at once, with a great heaping of fuel on their furnace and a great blowing with their bellows and much hammering of metal.

From 'The Six Gifts'

Barbara L. Picard

The class 4 child has reached a special time which could be described as the golden age of childhood. Looking back, the threshold experience of class 3 with its accompanying feelings of anxiety and insecurity has been worked through. Looking ahead to classes 5 & 6, new forces connected with the emergence of abstract thinking and prepubescence will mark the beginning of the end of childhood and the start of a new phase.
Class 4 is often a very social year. There is a sense of flow both socially and physically. The children move with a keen sense of rhythm, the colours they use in their drawings are strong

and full of contrasts and their form drawings flow in knotting and weaving patterns. The children now have a strong desire to move about and venture further afield. The curriculum at this point introduces local geography and animal study from the point of view of the child looking out to a world that is still familiar and near at hand.
The class 4 theme is Norse Mythology. Unlike class 3 where throughout the Old Testament stories there was one god, in the Norse myths there are many gods. We now have more than one authority and the gods amongst themselves have the most varied interactions and often step down to earth for all kinds of battles and tests of strength. Throughout the myths however, there is an atmosphere of impermanence, it is the "twilight of the gods" who know that the old world will pass away in the end and a new one will arise. This is not unlike the class 4 child who experiences the bloom of childhood which, however, cannot last forever and will also pass away for a new phase of life to begin.

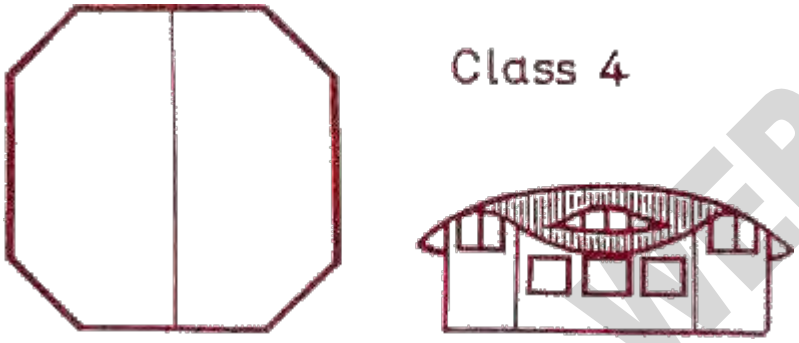


Figure 10-7: Class 4 Floor Plan and typical Elevation

Among all the primary class rooms the Class 4 room has the strongest sense of flow and rhythm. The roof weaves rhythmically up and down and particularly lifts over each comer, looking out into the 4 directions of the earth. The floor plans of classes 1 - 3 have a more rounded "organic" shape which pre determines the respective position of class and teacher. The class 4 floor plan, as a regular geometric form does not suggest where teacher and class are to be. Only after positioning the lower windows and blackboard do we know where the teacher will stand. As a result of this "front" and "back", "left" and "right" become less clearly defined which adds to the number of possibilities to position the class and creates a sense of movement and sociability in the space within. In addition to the lower windows, the class 4 room also has windows high up in the roof and under the eves. The gesture of these windows is one of looking out into the distance from a higher vantage point - just like the class 4 child also looks out to a widening landscape and a world that is getting increasingly bigger.

CLASS 5

When Perseus was grown up, Polydectes, King of Seriphus, sent him to attempt the conquest of Medusa, a terrible monster who had laid waste the country. She had once been a beautiful maiden whose hair was her chief glory. But as she dared to vie in beauty with Minerva, the goddess deprived her of her charms and changed her ringlets into hissing serpents. She became a cruel monster of so frightful an aspect that no living thing could behold her without turning into stone.

From 'Perseus and Medusa'

By Thomas Finch

Every class 5 teacher soon finds out that class 5 children love to argue. What matters is not so much the object of the argument but the very process itself - the joyful discovery of a new power of the mind which now can be put to good use disagreeing with or playing tricks on the adults around. The faculty that bestows such powers is the beginning of a new way of thinking. Although the class 5 child's thinking is still playful and picture-filled, the ability to form abstract concepts of the world begins to emerge. This opens up many new possibilities which the curriculum takes up in the study of Geometry, Botany, History, Grammar etc. and the further extension of Animal study and Geography.

Historically, the point in time when abstract, conceptual thought makes its first appearance, leads us to ancient Greece. Pythagoras, Euclidean Geometry, the Greek philosophers, orators and chroniclers all employ this new faculty. Odysseus, the hero in Homer's epic is a wonderful example of this. All the ancient heroes from Gilgamesh to Thor relied on strength and courage to fight their battles. Odysseus, whose idea of the wooden horse brought about the sack of Troy, relies on cunning and the powers of the mind to aid him through his numerous adventures.

The class 5 child can readily identify with the enquiring mind and the eye for beauty and grace of the ancient Greek and the theme of ancient Greece becomes an important context for much of the class 5 curriculum.

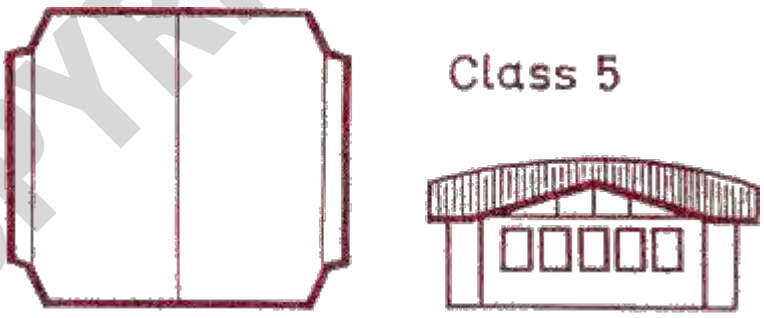


Figure 10-8: Class 5 Floor Plan and typical Elevation

The class 5 room too seeks to reflect a new enquiring outlook into the world. What was a small roof window arising out of the undulating flow of the class 4 roof has become a wide, formalised gable window in class 5, reminiscent of the angles and proportions found in ancient Greek architecture. Similarly, the long rows of lower windows take in and look out into the world with greater "silence" or "stillness" compared to the "busy" windows in the earlier classrooms, which rose and fell with the changing line of the roof. The floor plan encompasses a rectangle in the proportion of the " golden section" * which is also the proportion of the windows and a number of other relationships in the room. The corners have not yet crystallised into right angles but geometrically arise out of two overlapping pentagons. Overall the room has much less of the organic flow evident in the earlier rooms, in favour of greater formality and weight. The greater degree of formality is connected with the intrinsic nature of conceptual thought, which brings structure, form and understanding as against movement and flow which arise from the heart. In the class 5 child there is still a perfect balance between movement and form, but this balance is about to tilt in the following years.

* The golden section or ratio is the proportion of 1:1.618 which Euclid, the father of modern geometry discovered about the year 300 BC. It was widely used in Greek architecture and by artists of all ages and also appears in the proportions of living organisms, including the human body and face.

Figure 10-9: The Class 5&6 Building

CLASS 6

ROME
Let others better mould the running mass
Of metals and inform the breathing brass,
And soften into flesh a marble face;
Plead better at the bar; describe the skies,
And when the stars descend and when they rise.
But Rome! 'Tis thine alone, with awful sway,
To rule mankind and make the world obey:
Disposing peace and war thy own majestic way.
To tame the proud, the fettered slave to free;
These are imperial arts - and worthy thee.

Virgil

The consciousness of the child from class 1 to class 6 undergoes enormous change. The development we have observed is one from inward focus to outward interest, from dreaming to wakefulness, from picture thinking to the beginning of abstract thinking. The changing design of the classrooms reflects this development. However, the changing consciousness of the child is also paralleled by physical changes. Physical growth in the child does not occur on an even or uniform rate. In the early primary years we observe a remarkable change in the child's face. The forehead becomes less prominent, the eyes have become smaller, the upper lip no longer protrudes above the lower lip, the mouth grows thinner and the nose is more pronounced. Compared to the rounded and less formed features of the preschool child, the face of an 8 or 9 year old has individualised. This process of individualisation leads to the experience of self and of separateness typical for class 3.

In the middle primary years the strongest growth occurs in the trunk, which grows in length as well as breadth as the figure matures and becomes fuller. The trunk is the seat of our rhythmic organs and it is interesting that children's ability to physically move with rhythm and grace peaks at this time. Class 5 children can still balance with grace and confidence across a balancing beam when a year later in class 6 half of them will loose balance and fall off. The reason for this is the sudden spurt of growth that has occurred in the limbs. Class 6 for boys and often earlier for girls marks the beginning of pubescence. Puberty as such is preceded by a rapid growth in the bones, the children suddenly grow thin and tall and can outgrow their clothes in a matter of months.

We have described how the development of consciousness is paralleled physically in the growth from the head to the trunk and down into to the limbs. It is a descent from 'heaven to earth'. With every consecutive year the child is able to embrace new and further aspects of the world.

By class 6 the child begins to experience the physical weight and solidity of his and her own body. The curriculum at this point brings increased physical activity and introduces Geology and Mineralogy (the "bones" of the earth), Climatology and Physics. In Physics (Warmth, Acoustics, Optics, Electricity & Magnetism) the emphasis is placed on accurate observation, in mathematics practical applications (eg. interest and banking) become important. The physical growth occurring in the skeleton is paralleled with the child's increasing faculty of

conceptual thought, which seeks structure and form and is able to take hold of the subjects offered in the curriculum in a new way.

The cultural yearly theme in class 6 is that of Ancient Rome. If the ancient Greeks were Artists, Scientists and Philosophers, the Romans were Rulers, Law makers and Empire builders. The focus of the ancient Romans was very much directed to earth and they created the physical and organizational structures necessary to expand to the four corners of the known world.[1]
The history and cultural "atmosphere" of ancient Rome thus provides a very apt generative impulse for much of the class 6 curriculum.

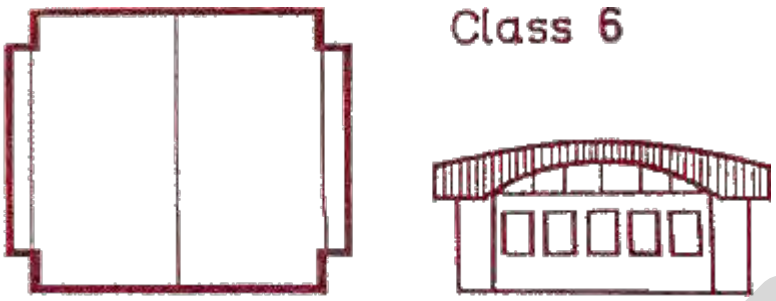


Figure 10-10: Class 6 Floor Plan and typical Elevation

The class 6 room is the tallest of the group of rooms and although it has the same size (80 m2) as all the other rooms, it feels bigger. With the extra height the proportions of the windows have also slightly increased compared to class 5. The floor plan is that of a square room over a golden rectangle and is above all characterized by the qualities of the right angle. The right angle is the point that lies exactly between acute angles, which feel thin and pointy and obtuse angles, which have a wide and open quality. The right angle is neither pointy nor open. Lying exactly in-between, it resembles movement that has come to rest in the static balance between two opposites, like the pendulum which comes to rest in the perpendicular and is held in this position by its own weight. Four right angles form a square. The number four has always been associated with Earth (as in the 4 elements, the 4 directions, the 4 seasons etc.). The square, or in its three dimensional aspect the cube is the form that gives expression to the weight, solidity and immovability of matter. It's opposite, the circle or sphere, can remind us of the circling dance of the planets and stars and the surrounding heavens. What has been described above as the “descent from heaven to earth “could also be expressed geometrically as the journey from the circle to the square or from the sphere to the cube. In class 6, however, the square of the floor plan is balanced by the rounded quality of the roof, which with the help of the hexagonal layout of the ceiling lining assumes a dome like character. Similarly, the gables of class 5 have become arches in class 6, reminding us of the ancient Romans who first invented the technique to construct arches and domes in their buildings.

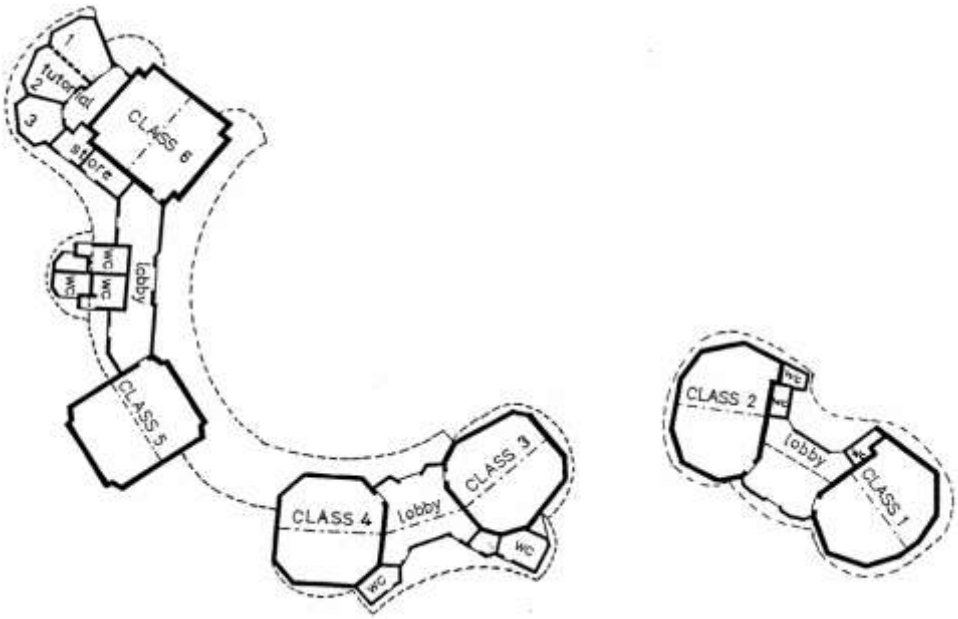
The class 6 child stands at the first beginning of adolescence. The coming years will be characterized by the physical and emotional changes that come with puberty. The equilibrium of body and soul which we still find in class 5 will be lost for some years and begin to return

[1] Ancient Roman roads and aqueducts can still be found in many parts of Europe and Roman law forms the basis of modern law in most European countries.

in years 11 & 12, when the emerging young adult awakens to a selfhood that can consciously and freely choose its directions in life. Geometrically we could say in class 1 we have a sphere, in class 6 the sphere begins to hover above the square, by class 12 they will have inter penetrated each other.

Figure 10-11: Classes 3 – 6 Roof lines (above)

Figure 10-12: The meandering lay out of Classes 1 – 6 approaching the ridge line. (below)



The class 7 & 8 rooms have not been built yet but the plans have been drawn up and two government grants have been approved. The class rooms are part of a larger project which includes a lower school staff room, conference room, multipurpose class room and a number of smaller rooms for one to one tuition and the school nurse. Construction was expected to take place during 2007/8. However, because of a change in town planning policy and zoning regulations, and the resulting delay in construction, estimated building costs have increased. At the time of writing, the increased Costs and changes in the school's priorities make it doubtful whether the class 7&8 rooms will be able to be built in accordance with the original designs. Whilst the biosculptural nature of the floor plans are likely to be retained, it is at this stage unlikely that the same impulse will be able to extend into the roof designs, which in this case would revert from individualized to generic shapes[1].

CLASS 7 :

In class 5 we saw the emerging faculty of conceptual thought. Class 6 was characterized by the emerging personality and individuality of the child. Neither of these processes are complete, but once a new development begins it doesn't of course just stop there but keeps going and gain momentum throughout the following years. Conceptual thinking is not necessarily abstract and dry. It can still have an imaginative or pictorial quality which it does have at this age. However, it allows the children to step outside a situation and become third party observers.

The little child merges with his environment. Once the child can mentally step outside the story and observe it there arises a new sense of freedom and independence. However, this new independence of thinking which is paralleled by the strengthening and greater individuation of the personality is by no means accompanied yet with a greater sense of responsibility. Towards the end of class 6 and in class 7 class teachers often remark on the unruliness of the children. All the good habits and manners acquired in previous years seem to have disappeared and class teachers often are at a loss and wondering what they did wrong.

The deeper underlying reason for this situation is connected with the nature of "self", "ego" or personality. Ultimately the human ego has a two sided nature and has been compared to a double edged sword. It can be selfish and self centered or it can choose to be selfless and giving. What is important for class 7 is that the emerging sense of self and independence is balanced by a sense of responsibility and is not allowed to become selfish or self absorbed. To support the development of a healthy independence and an outward rather than selfish focus the curriculum introduces a refining and devotional element which comes through the Arthurian stories of noble love and through the art and culture of the medieval ages.

After class 6 and the Roman cultural epoch the students in class 7 move on to medieval times through to the Renaissance. The church and monastic life in medieval times had a refining influence on the consciousness and cultural life of the times. The artistic and cultural content of class 7 is having a similar refining impulse in the students.

On the one hand the class 7 curriculum is very science focused and hands on. The students do mechanics, physics and chemistry etc. On the other hand it is very artistic and sensitive. In history and art the students are immersed in medieval content. In English the students read

[1] this was mentioned in more detail on p.7 in *A personal note*

the Arthurian stories which represent a refinement of the lower instincts into noble love and they are being introduced to their own emotional sensitivities such as in the main lesson about "wish, wonder and surprise".

The architectural response to the class 7 dynamic is a room that has a more contracted and inward feel. Whilst high ceilings, timber columns and tall windows introduce a devotional and refined atmosphere, there is also a strong physical element which comes through in the timber trusses and crossbeams that lend themselves to be used to support pulleys and ropes for the mechanics main lesson.

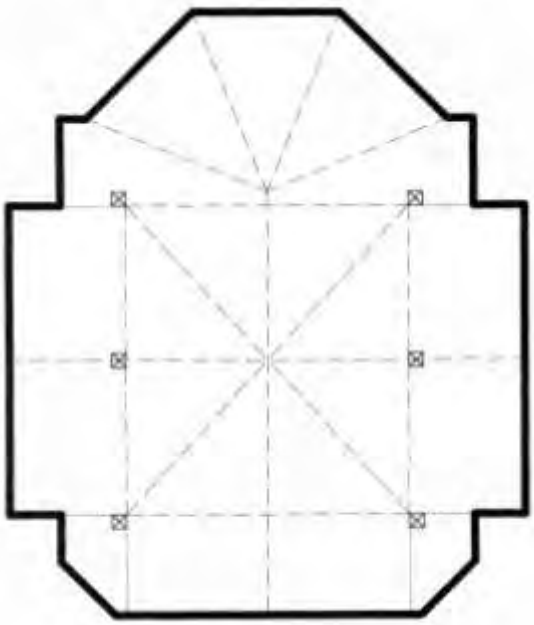


Figure 10-13: Class 7 Floor Plan

As in class 6 the roof is curved[1] but the curve has become steeper and displays an upward thrust. The angles of the floor plan are still right angles which retain a strong earthy element similar to class 6, but they are counterbalanced and warmed by a new outward movement created through obtuse angles in the front and back of the class room.

[1] see the introductory paragraph and footnote on p.48

CLASS 8:

Class 8 is the last year of the lower school and the last year of the class teacher period. It represents a culmination of many threads and a transition into a very different new phase. The cultural epoch and context for class 8 picks up again with the Renaissance and the age of explorers and continues through to the Reformation, the Age of Enlightenment and the 20th Century. Having been immersed in many ancient cultures all through the previous years the class 8 students finally arrive in the 20th Century and present day culture as they come fully into puberty and into class 9 and the upper school.

One of the interesting characteristics of the time prior to the 20th century is that knowledge was not yet as specialized and departmentalized as it is today. During the Renaissance in particular it was still possible for an educated person to represent and be familiar with all the knowledge of his day. This is sometimes being referred to as the universal man or "Renaissance man" and it has been replaced in modern times with the "Specialist" or "Expert". Renaissance man was an artist as well as a scientist and a philosopher. Today it is a rare person indeed that is at home in the arts as well as the humanities and science. It is inevitable that it should be this way and as the students move into the upper school they will be taught by teachers that are specialists in their fields.
In a way the class teacher who taught the core subjects for the last 8 years is a representative of the universality that characterizes Renaissance man.

The students in class 8 are all prepubescent and very soon they will be thrown fully into the emotional and physical roller coaster ride that characterizes puberty. In a way class 8 represents the last window in time where the students are still able to be engaged by a curriculum that has a universal breadth and cultural outward focus. Just like the explorers of old probed the four corners of the world, the class 8 students' consciousness too is able to span the whole orbit of the world in a geographic and historic sense. In class 9 the focus will again be more contracted and be directed into intense, self centered emotions, sport and physical activity. In class 8 there is still a breadth of universality which will go underground during puberty, and only re-emerge in class 12. At the end of class 8 the students put on a major play. They also prepare independent research projects which they present to the parents and class community. This is in many ways a preparation and foreshadowing of the projects they will research and present to the whole school community at the end of the class 12 year.

The architectural gesture for class 8 was designed to give expression to the outward focus and atmosphere of universality that is characteristic of the Renaissance. The qualities associated with the Renaissance represent a cultural high point and a flowering of art and science which is consistent with the overall quality of class 8 as the culmination and flowering of the lower and middle school and the end of an era.

The octagon is a full shape that reminds us of the orb of the earth. This is accentuated by the six sided dome that is forming the roof. [1] The two recesses on the right and left side contain wide and generous windows which emphasize the outward looking gesture. The octagon

[1] see the introductory paragraph and footnote on p.48

shaped floor plan represents a metamorphosis of the class 4 floor plan, which is also an octagon. Class 4 is a similarly outward looking year that marks the culmination of childhood. The "mirroring" relationship between class 4 and class 8 is further explained in chapter 11, which looks at the various connections and inter-relationships between all the year levels from the pre-school to class 12.

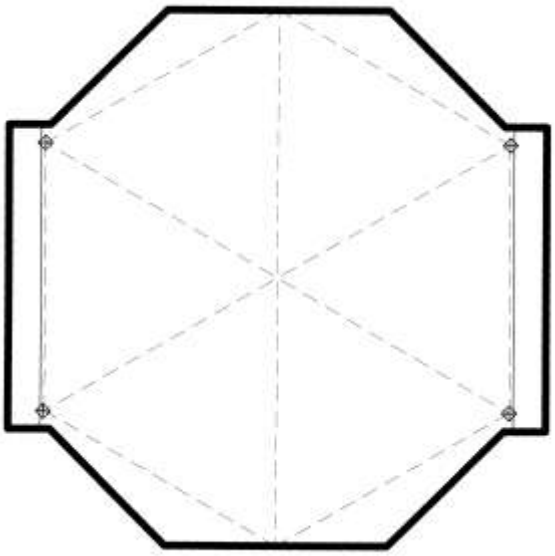


Figure 10-14: Class 8 Floor Plan

In the class 8 floor plan we can see the progression of consciousness from class 6. The Class 6 floor plan is characterized by a square and a rectangle with the golden proportion. The characteristics of class 6 consciousness were connected with the emerging individuality, which previously lived more unconsciously in an imaginative realm and now begins to discover itself through the blossoming powers of thought and a focus directed into the material and physical realm. The typical historical period that mirrors the preoccupation with the earthly sphere is ancient Rome. From here on the task of consciousness is to rise again out of the material to once again discover itself as a free individual with an imaginative and spiritual capacity.

Geometrically the square symbolizes the material earth while the circle represents the cosmos. We remarked earlier that geometrically the journey from class 6 to class 12 is the progression from the square to the circle. The emerging individuality taking hold of itself and growing towards freedom is characterized by the square transforming itself into the circle. The Class 8 floor plan, which has the rounded quality of the octagon grow out of the rectangle, mirrors this development.

The floor plans of classes 9&10 are dynamically balanced but irregular.[1] They challenge the emerging individuality to find balance and establish its own equilibrium. By class 12 (not yet designed) this balance is re-established in a floor plan shape that ideally will represent the balanced and free symbiosis of the square and circle.

[1] for a discussion of symmetry versus a-symmetry see the section on *Symmetry and Individuation* on p.55-57

11) The Classrooms of the Upper School

Developmental and Organizational Context:

The lower school, which is characterized through the class teacher period, is comprised of class 1 through to class 8. The upper school includes classes 9 – 12. From a practical point of view one of the major differences between the two is in the lower school the class room is the home base for one teacher, the class teacher, and the other teachers are like visitors coming to the class. In the upper school, the class guardians also take responsibility for a particular class and class room, but the rooms are used by many other specialist teachers as well. Whenever classes are split into two groups the students move around and use different class rooms in the upper school and as students have science, orchestra or eurhythmy etc. in specialist rooms, other groups often are timetabled to use their class room. In other words, the individual year levels and class rooms in the lower school take on a greater individual identity and are experienced more along the lines of "my home is my castle" whilst in the upper school the students move around, have a greater number of teachers and are in a setting that feels more like a campus.

There is of course also a deeper developmental reason for this organizational difference. One of Steiner's insights is the notion that the individual development of the human being retraces or recapitulates the development of human kind. Whilst the development that takes place in the womb is a recapitulation of developments of the distant evolutionary past, the different phases children pass through after birth are a reflection of the development of consciousness in the more recent pre-historic and historic past. In other words, like human kind at large, the individual child develops from an unconscious, naïve and imaginative state of consciousness to an ever more earthly and intellectually focused consciousness, until the recapitulation of the past has finally caught up with the consciousness of present day humanity, which is approximately around 14 years of age at the completion of the second 7 year cycle in class 8. In the years leading up to class 8 the curriculum too has retraced ancient civilizations, from pre-historic times to the more recent Greek, Roman and Medieval times, until we finally arrive from the age of enlightenment through to the 20th century in class 8.

Class 8, therefore, marks a huge developmental, educational and organizational transition point. As the students' consciousness has expanded to the point where they are able to become "proper citizens" of the world and of the 20th and 21st centuries they are leaving behind their class teacher and the lower school and become immersed in the roller coaster ride of puberty and the upper school. It is as appropriate for teenagers to be fully absorbed in the latest fads and the issues and questions of contemporary culture as it would have been inappropriate in earlier years.

During the lower school the children are able to fully grow into and out of their roots, absorb wholesome imaginative substance and practical skills, all of which combines to build inner confidence and strength of soul which is a good foundation for the turmoil and emotional intensity that comes with puberty. Teenagers who are unable to look back to a rich childhood that provided experiences of truth and beauty, practical skills and healthy, unhurried growth

experience this unconsciously as an inner emptiness which makes them vulnerable to cynicism and apathy or the unbridled pursuit of instant gratification.

The transition from class 8 to class 9 is also accentuated and characterized by another major developmental step which in anthroposophical terms is being referred to as the birth of the "astral body". The lower school is characterized through imaginative perception and learning which occurs through rhythmic and artistic activities, pictorial communication, music, hands on experiences etc. and is paralleled by healthy organic growth, all of which is connected with the strengthening and maturing of the etheric body. With the birth of the astral body we see the emergence of a new intensity of feeling which to begin with evaluates the world in terms of sympathies and antipathies which are black and white and which are so typical of teenage-hood.
The maturing of the astral body occurs throughout the upper school and constitutes a third 7 year cycle which comes to completion at age 21.

What are the architectural conclusions we can draw from the organizational and developmental context of the upper school given above?

The Architecture of the Upper School Campus:

The Geography:

The separation and different characteristics between classes 1 – 8 or the lower school and classes 9 – 12 or the upper school is reflected in the geographic lay out on the property. The lower school is situated on the eastern and more sheltered side of the ridge, the middle school stretches across the ridge and the upper school is developing on the western side of the ridge. This side is oriented towards the township, has a more open and busy feel and is more exposed to the north and westerly winds and weather.

The classrooms of the lower school are built in pairs, forming little islands along a meandering stream line which runs from the lower end and class 1&2 up to the ridge where classes 7&8 are being located. Along the way classes 1&2 , classes 3 – 6 and classes 7&8 form their own court yards, creating a degree of separation between the different age groups. The various class room pairs and individual rooms take on their very own identity and are linked via separate gardens and through pathways.

On the other side of the ridge this geographic lay out changes to reflect the different atmosphere of the upper school. The class rooms are still paired but the buildings are closer together and the designs are not as distinct and individual as in the lower school. It is more a matter of all the upper school rooms combining to form a campus type community of spaces which allow the upper school students to mix and mingle and gather or "hang out" in numerous nooks, verandahs and smaller court yards and billabongs formed between the buildings.

The Gestures:

As described in a previous chapter, the gestures of the lower school class rooms were generated out of the changing consciousness between the different year levels. It was mentioned above how the students' consciousness "catches up" with our modern world and the 20th and 21st centuries in class 8 and as they move into the upper school. Up to this point the students' consciousness was recapitulating the major steps of growth and development which have occurred over long periods of evolution during historic and prehistoric times. From here on and all though the upper school it is more a matter of refining and perfecting the faculties of thought and of artistic, social and practical skills and habits. There is therefore less need or justification to draw out strong consciousness based distinctions or characteristics for the different home rooms. This also makes sense in the light of the students moving around and using most of the upper school rooms at different times in the weekly timetable. The home rooms of the upper school therefore have been given less individualized roof lines and are forming more of a community of rooms rather than distinct islands. On the other hand, there is a noticeable difference in maturity between the upper school and the senior school i.e. classes 11&12. From a general architectural point of view this means there will be little difference in gesture and atmosphere between classes 9 & 10 and again between classes 11& 12 but there will be a clear distinction of identity and feel between the class 9&10 and the class 11&12 buildings.

Figure 11-0-1: The Science Laboratories on the left and classes 9&10 and Upper School Faculty room on the right. In contrast to the lower school buildings which form islands surrounded by gardens, the upper school is designed like a campus type community of buildings and rooms.

While the home rooms of the upper school form a less individualized community of rooms, the upper school rooms with greater individual character and distinct gesture are the purpose built specialist rooms, whose gesture arises out of the specific subject area as is the case with the science laboratories.

The unifying qualities:

What is the overall difference in architectural design and atmosphere between the lower and upper school and what are the unifying qualities?

The lower school is characterized by the maturation of the etheric body and the development of the imagination. Constitutionally the lower school child lives in the rhythmic system. This calls for forms that that are more flowing, rhythmic, musical and symmetrical in character. In anthroposophic terminology we have a predominance of "sound ether forms" and the WATERY element.

The upper school is characterized by the maturation of the astral body and the development of the faculties of thinking, analyzing, synthesizing and understanding. In the lower school we learn by doing, in the upper school we learn to understand what we already know. The faculty of imagination, which developed in the lower school, is now able to transform itself into a capacity for creative thought. This suggests that what is needed in the upper school are forms that create interest and curiosity and are able to stimulate, awaken and enliven the capacity for lateral thinking. This should not come at the expense of rhythm and warmth of soul, but in addition to it. It is the element of LIGHT which lives in the straight line and which forms interesting and lively angles and dynamically balanced symmetries that stimulates our thought and awakens interest and alertness of mind. The anthroposophic term for this quality and force is "light ether". In practice this means that roof lines are sharper and less curved, fascias are not round but segmented and there is a higher degree of complexity and less symmetry in the angles of floor plans and spaces created between buildings. The whole question of symmetry is further explored in the following.

Symmetry and Individuation:

As human beings we are both, symmetrical and asymmetrical beings. Our inner organs are not arranged symmetrically but our overall bodily shape is. This is the case in most living creatures. However, even the symmetry of our body is not a strict symmetry. We speak of the right and left side of our brain, which are different, and we are either right or left handed, even the right and left side of our faces are slightly different. The fact that we have two eyes which are both looking in the same direction means that we receive two sets of impressions which have to be combined as one in our brain. This helps us to perceive depth of field which we would be unable to do if our eyes were located to the side as is the case with birds and many other animals. Human beings also walk upright which allows them to use their two arms and hands for skillful movements and work. We instinctively move with both arms in the same way as we speak or run but we can choose not to. It is an interesting exercise to try and move one hand clockwise over your stomach while moving the other hand anticlockwise above your head. This is something apes could not freely do because it requires conscious control.

Wherever there is right and left there is choice, which implies judgment and a sense of balance. Ultimately it is the human „I' or ego which enables us to be self conscious beings capable of making judgments and maintaining balance. The process of maturation and education elevates our capacity of making judgments from an instinctive and emotional or

self centered level to an ever more conscious and independent level. If the world did not require us to make judgments we could not develop as ego beings.

The development of our (selfless) ego, which is the basis for finding our centre and achieving balance in our lives, is a slow process that continues throughout schooling. It is not until age 21 that we enjoy a full ego presence. This is also the age when we traditionally celebrate the arrival into adulthood. However, before we can find our centre in our life we have to find and establish it in our body. This is the work of the lower school child. Children who have difficulties with balance and with distinguishing right and left may be dyslexic or have other learning difficulties. Steiner education specifically focuses on the healthy development of balance through specially designed physical movement and form drawing exercises.

All of this has a bearing on the question of architectural symmetry. The class rooms in the lower school must have a right – left symmetry if they are to support the process of finding one's centre and balance. What would be the point of practicing movements and form drawings that help the child incarnate into the right and left halve of the body if this process was to be disturbed again through an asymmetrical class room shape? There is, however, a progression of development between the lower and upper school which suggests a different approach for the older students. Perhaps an example may illustrate the difference.

For a plant to be able to grow it requires water and light and the right soil and conditions to thrive. If there is an absence of water the plant withers in the sun. It the temperature is too cold or the winds are too strong it also cannot thrive. A young plant needs tending and nurturing. However, once the plant has been able to establish itself, strong winds or dry conditions cause the roots to grow deeper in search for water. In this way many plants have been able to adapt to extreme mountain or desert climates. How does this relate to our theme?

After a while too much or too strict a symmetry may no longer be appropriate. What gave the young child security and balance becomes boring and predictable for the teenager. In other words, in the young child we want the room to help find one's center, in the teenager we want the room to provide a degree of challenge finding one's centre. There must of course still be artistic balance otherwise it would have a disconcerting effect, but the balance is no longer geometric, it has become dynamic. What is dynamic balance as different to geometric symmetry? From a design point of view it is much easier to create symmetry. When the symmetry falls away the right and left halves of the room are no longer the same. However, if they are to be in a dynamic balance the shapes cannot be arbitrary but must be artistically balanced. If we succeed in this, the resulting shape creates interest and movement, if we should fail, the shape may become awkward at best or „painful and sore' at worst. From this point of view it is much safer to stick with symmetry than to risk being offensive. If we strive for dynamic balance it is important to take time and allow the creative process to remain fluid so the design can „cook' over a period of time.

What is the best point in time when we change from geometric symmetry to dynamic balance? The answer is to be found in the developmental process of the child. Steiner once remarked that when we step into a room our astral body energetically explores the room and calculates all the angles. He referred to the astral body as a "geometer" in this context. If the angles are simple and predictable it sends the astral body to sleep. If they are complex and unpredictable it keeps the astral body active and we experience this as creating interest and feeling more alert. The right time, therefore, to introduce greater complexity and dynamic balance is when the astral body begins to emerge which marks the transition from the lower

to the upper school at age 15 in class 9. The class 9 & 10 rooms therefore have been the first rooms in the school which are not symmetrically balanced but seek to achieve a dynamic balance. The other rooms that are not depending on geometric symmetry are the kindergarten buildings. However, the absence of symmetry here is not connected to complexity and unpredictability of angles, but arises out of the watery element, which gives rise to a different dynamic asymmetry as evident in spirals, vortices and many organic shapes. In the Kindergarten the absence of geometric symmetry is connected with the curved line and the element of water. In the upper school, the absence of symmetry and presence of dynamic balance is connected with "light" or "light ether" and the realm of thinking and increasing individuation.

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Whilst in the lower school we focused on the architectural characteristics relevant to each individual year level, in the upper school it was more appropriate exploring the architectural context and principles pertaining to the age group as a whole. A brief summary of points relevant to classes 9&10 and classes 11&12 follows below.

CLASSES 9 & 10:

As referred to above, **CLASS 9** is characterized by the emergence of a new emotional intensity which marks the birth of the astral body and which causes the teenager to live in a world of sympathies and antipathies that are black and white and are in need of developing colour and different shades of grey. The onslaught of puberty brings a strong physical focus and releases powerful forces which the curriculum channels into increased sporting and other physical activities. During this year the students have many out door camps, including a two week farming camp. The emotional and physical changes that are taking place at this time are very powerful and it is often difficult to motivate students to do academic work around this time. A teaching colleague once remarked with dry humor that the studs should all be wearing a sign around their neck saying: "house under renovation – nobody home".

By **CLASS 10** the students are already much more settled and must now re-focus on academic study and developing the study habits that they need in order to do well in the senior school. There is still an outdoor or, more accurately, an out of school focus which has the students go on a surveying camp and do work experience at different places of work. In a way the focus is shifting away from the testosterone driven physicality of the boys and the self conscious emotional preoccupation and vulnerability of the girls to a new focus that is able to engage more with the outside world and academic pursuits.

In class 9 the atmosphere is more physical, intense and black and white, in class 10 there is more refinement and the students find it easier to focus and concentrate on academic work. This difference is reflected in the floor plan of the two rooms. In class 9 the angles are sharper and there is a stronger concave element as the world is pressing in from three sides. There is also a stronger visibility of the structural element as the internal columns that carry the roof are exposed. In Class 10 on the other hand we see a stronger inside force pushing back into the world. The angles therefore have become softer and there is only a hint of a concave element on the back wall. Overall the class 9 shape is more crystalline and physical, the class 10 shape is more refined and organic. Both shapes are asymmetric, dynamically balanced and challenge the young person to greater ego presence in that they are actively called to center themselves each time they are in the room. The fact that this centering activity occurs on an unconscious level does not diminish its power and effect.

Figure 11-0-2: Classes 9&10 front entrance, with Faculty Room in the foreground on the left

Class 9:

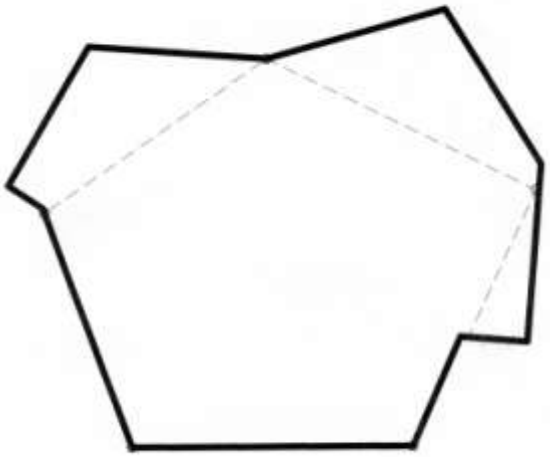

Figure 11-0-3: The Class 9 Floor Plan has a more "boney", physical character.

Class 10:

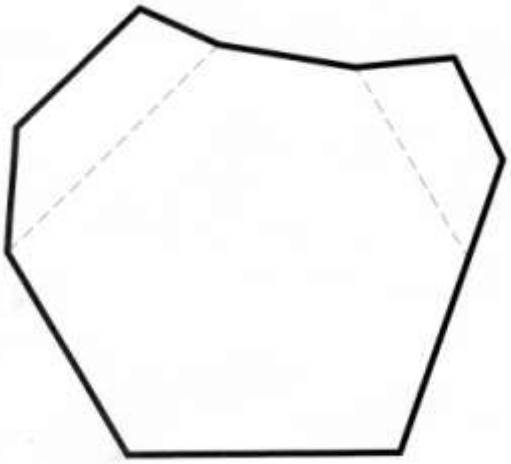

Figure11-0-4: The class 10 Floor Plan begins to be more rounded, pushing out from within.

Figure 11-0-5: Class 9 & 10 back entrance view from sport oval

CLASSES 11 & 12:

The class 11&12 buildings have not yet been designed. As is explained in chapter 13 (see p.91 „The temporary class 11&12 building'), the current designated class 11&12 building represents the best possible compromise able to be achieved during difficult times. The building is still in need of completion and once a dedicated class 11&12 campus is built, there are many other appropriate functions the current year 11&12 building will be able to accommodate.

The senior school represents a flowering of all the seeds that were planted during the many years of schooling. Classes 11&12 therefore deserve to be a very special building complex. As explained in chapter 12, class 12 has a curious relationship to the young child in the preschool. The class 12 student is connected to the preschool child in the way a flower is connected to the seed. For the preschool child the world is good and whole. During the course of education and the process of growing up the world splits into countless segments, facts and subjects. The world for the class 12 student should be able to again come together and become whole and true. It is the faculty of synthesis which enables this step.

The class 11&12 complex will therefore benefit from echoing some of the organic and watery elements of class 1 and of the preschool. However, it will at the same time have to embody the complexity of angles and multifaceted surfaces typical of "light ether" activity and be able to stimulate interest, lateral thinking and the development of consciousness soul.

In the section about class 6 we briefly summarized the architectural journey from class 1 to class 6 as the gradual transformation of the cosmic circle into the earthly square, foreshadowing the reverse process from class 6 to class 12, by which time the circle and the square have inter-penetrated each other.[1] This is not to be taken literally but is a symbolic way of saying that the warmth, life and spiritual connection of the little child, which expresses itself architecturally in round and rhythmic gestures and forms, is again present in the young adult, but now it is present on a conscious level, supporting a lively interest in the world and a creative capacity that is able to make informed and astute judgments. The young adult's ability to be free and independent, to synthesize information and make effective and worthwhile contributions to the world represents a flowering of what was prepared in the young child. Architecturally this comes to expression through a conscious and upright ego gesture through the building structure and a balance and play between the roundedness and rhythms of "sound ether" forms and the glistening angularity, unpredictability and interest created through "light ether" forms.

[1]The same point was made in the concluding remarks about classes 6 and 8 on p. 47 and p.51

12) All the Class Rooms together as an interconnected, metamorphosing Whole

The principle of starting from the Whole

When we want to understand something we can look at the detail or try and see the whole. From the detail we learn something about the immediate circumstances we are confronted with, from the whole we learn something about their meaning. The individual cogs may teach us about mechanics but it is the whole motor that tells us what role they perform and what they mean within the whole. The individual cells and organs of an organism all play their part but again it is the whole that gives them meaning. The cut off toe nail or the discarded nut and bolt have no longer the same meaning once they are separated from the whole. Meaning arises through the relationships that the parts have to each other and these relationships themselves only have meaning within the context of the whole.

It is one of the principles of Steiner Education to begin with the whole wherever possible. In class 1 the first and greatest number we introduce is the number 1. It represents the undivided whole, it includes everything. The number 2 already implies a separation and so on. When we perform a task we begin with the end in mind, that is we have a picture of what we want to achieve, which is a picture of the whole. If we don't, we have no idea where we might end up. Sometimes it may be nice to just flow and not worry where the stream or the activity will take me but that is only the exception and cannot be the rule if we want to be self responsible adults that are in control of our life.

In the realm of Art these days we don't like rules and almost anything goes, but not so in a Steiner School or within an anthroposophical environment. There we come from the principle that "what goes in, will come out". In other words, quality, ideals and values, or their absence, all have a spiritual reality that lives inside the work of art and is just as real as the picture frame or the podium it stands on. Just as I can get hit over the head by a picture frame I can get hit in my soul by ugliness. They are both realities. This means one important value in a work of Art, leaving aside the quality of its production or execution, lies in the nature of the imagination or idea that inspired it. A true imagination or inspiration is always a whole. A work of Art that has transformative power and value always contains more than what superficially meets the eye. A good comparison would be to take a mantrum. A mantrum is a simple group of words or a sentence which as we contemplate and meditate upon it gradually reveals its power and insights. The initiate or sage that created the mantrum must have known the whole before he could condense it into the seed. The supersensible reality of the whole plant existed before it could become a seed. This leads us back to the question of the process by which we access the inspiration behind a work of art, before it becomes physical form. This "Creative Process" was described in chapter 6.

Now when it comes to create an artistic environment which has transformative power it is important to also see it as an integrated, interconnected whole, which gives meaning to its parts. The document that links Anthroposophy to the Master Plan (see TMP&A), as well as the current document are an attempt to bring many different facets together so the whole comes into view.

We have seen that there is one unifying idea that constitutes the whole and gives meaning to the parts. Now the curious fact is that the parts themselves in many cases contain a picture or imprint of the whole. The iris for instance contains information about the health of the whole body, which is what iridology is all about. Palmistry sees the health and characteristics of the whole person in the lines of the hands, reflexology finds the several organs of the body corresponding with points on the soles of our feet, the human head is a miniature representation of the metabolic and limb system (the jaw), the rhythmic system (breath) and the nervous system (senses, brain) and even each small cell, through what we have come to know as the DNA, contains within it certain information about the whole of the organism. From an architectural point of view what this principle teaches us is that once we have been able to find the idea or generating principle of the whole, we can then allow the same principle to begin to reveal itself within the parts. An example of this would be the shapes of the classes 1-3 blackboards, which were shaped out of the generating principle of the rooms, (The other rooms will follow in good time), or the benches of the work stations in the Science Labs.

The major component of any school environment is the series of class rooms that house the students during their journey from Kindergarten through to class 12. If we wish to surround the students with physical spaces that have the power to nurture the soul and strengthen the spirit, they must be conceived artistically and they all must be able to be part of a greater whole. The moment spaces get duplicated like clones they become like a repetitive pattern and can no longer be part of an artistic whole. A repetitive pattern can have no life because if it did, there would be no repetition but only metamorphosing shapes. A plant is a series of metamorphosing shapes united by the idea of the whole.

Just like the consciousness of students grows and evolves from year to year so must the class rooms change to reflect and mirror back these changes. This is what creates life and relevance and introduces transformative power. Now just like the different developmental phases of the child are not arbitrary but are meaningful steps within a whole, namely, the goal of mature adulthood, so must the evolving metamorphosis of class room shapes also be able to form meaningful and interconnected progressions which metamorphose towards an end point and which are united by a single idea of the whole . In other words, we can look at the detail of how each classroom relates to the age or consciousness of the child, which equates to looking at the whole within a smaller context, or we can take the next larger context and view the series of class rooms as an interconnected whole, which is the subject of this chapter.

However, before we go further it is necessary to briefly look at two fundamental principles of inter-connectedness in time. One is **"*mirroring*",** the other is **"*rhythm*".**

The principle of Mirroring Cycles

It is not the place here to demonstrate this phenomenon in different contexts so the reader can gain an insight and deeper understanding of it. The reader will therefore have to take it at face value and go to Steiner's work for deeper understanding and clarification.

In Anthroposophy there are many examples of developments which mirror each other over time. Some of these have been referred to in TMP&A. Wherever developments occur in cycles, there is a common pattern that emerges, regardless of the magnitude or length of the cycle. When a cycle begins, the initial steps move in a linear upward progression until the halfway point is reached. The halfway point introduces the new active principle or purpose of the cycle, which then becomes the pivotal point and principle which, during the second half, transforms on a higher level, what was prepared in the earlier half.

An example of this was given in TMP&A: there it was explained how the human being consists of 7 members. The three lower members are: physical body, etheric body and astral body, which we have in common with minerals, plants and animals. In the middle stands the Ego filled Soul, which during the course of world evolution has the task of transforming the three lower members into three higher, spiritual members, which currently only exist as unconscious seeds.

Over an evolutionary period that occurs in 7 great cycles the 4^{th} and middle principle arises in the 4^{th} cycle. It then becomes the transforming principle which takes up what was achieved in the 3^{rd} cycle and transforms it on a higher level during the 5^{th} cycle. In the same way what was achieved in the 2^{nd} cycle is transformed in the 6^{th} cycle and the achievements of the 1^{st} cycle are transformed during the 7^{th} cycle, at which point the purpose of the evolutionary or developmental period has been achieved. This principle repeats itself within many overlapping developments and timeframes. Again, in order to gain an understanding of this principle the reader is referred back to Steiner's work. The reason why it was necessary to briefly mention the principle of mirroring is because in the following we shall use this principle as the interconnecting link that runs invisibly though the various year levels.

Mirroring Class and Age Relationships:

Viewed from a mirroring perspective (this is one way of looking at it, there are many other ways) we see the following progression of consciousness. In the Kindergarten consciousness is still dreamy and connected to the cosmos. Then begins the descent to ever more earthly day consciousness, which is reflected in the Curriculum. Class 1 represents a contraction from the openness of the Kindergarten environment into a formal learning space. We begin to look at the world through archetypal stories and images and make contact with numbers and letters etc. through the vehicle of the imagination. By class 2 the children's interest has expanded towards the phenomena of nature and the 4 elements. In class 3, side by side with the threshold experience of the discovery of Self, the children delve into the hands-on physical world of the trades and house building. In class 4 the expansion into the world continues with new subjects coming in such as animal study and geography. In class 5 the capacity for conceptual thinking awakens and the children can now, for the first time, begin to be independent observers and study history and science from a phenomenological perspective. The developing intellectual capacities are able to give expression to the child's growing sense

of personality and individuality in class 6, a process which can easily slide into selfishness and egotism if it is not met in class 7 with moral impulses and cultural refinement such as through the study of the Arthurian stories and the wonderful works of art from the renaissance. Once the individuality awakens, it must increasingly take responsibility for its actions, which is what the development into mature and self responsible adulthood is all about. There is a brief window in time when class 8 students are able to experience the universality of "renaissance man", which in a way the class teacher represented for a while, before they say good bye to their teacher and fully plunge into puberty and the physicality of the class 9 outdoor program. During the height of puberty the physical body is thrown into great turmoil and it isn't until some time in class 10 that the students are able to again begin to settle down and get on with their studies. By class 11& 12 the young adult begins to emerge and if real seeds were planted in earlier years they are now able to flower and bear fruit.

The whole progression is from an unconscious dream consciousness descending to an increasing awareness of ever larger aspects of the world, until the individuality can begin to take hold of itself through and within the intellect, which happens around age 12 in class 6. Thereafter the individuality has the task of increasingly learning to understand what the little child knew instinctively. The descent into day-consciousness, physicality and matter then is again reversed into an upward direction through the moral development and the impulse towards self responsibility and independence. This is where the word education has its name from: „educere' is Latin for „drawing out'. The process of education draws out the individuality and leads it to free and responsible adulthood. (The full individuality does not emerge until age 21, when the ego wakes up within the intellectual soul. Age 21 then marks another pivoting point which mirrors the three previous 7 year phases during the following 21 years to age 42.)

Thus we get the following mirroring relationships of age groups and classes:

Age 3 (Playgroup)……..…….Age 21 (adulthood)
Kinder/Prep……..…….....Class 12
Class 1…….……Class 11
Class 2……Class 10
Class 3……Class9
Class 4…….Class 8
Class 5…..……Class 7
Class 6

Having looked at the overall progression of consciousness, we can now focus on the specific mirroring relationships which are summarized in the following table: In each case the right hand achievements or conditions represent a mirroring and transformation of the left hand conditions, with class 6 marking the pivot point which releases and redirects the transformative impulse.

Kinder: WONDER ("The world is good")……	**Class 12: SYNTHESIS ("The world is true")**
Class 1: CURIOSITY / IMAGINATION…….	**Class 11: INTEREST / ANALYSIS**
Class 2: EXPLORATION of THE ELEMENTS……	**Class 10: EXPLORATION of SUBJECTS**
Class 3: DISCOVERY of SELF……	**Class 9: DISCOVERY of PHYS. BODY**
Class 4: HEART of CHILDHOOD – TRANSITION	**Class 8: UNIVERSALITY - TRANSITION**
Class 5: ABSTRACT THOGHT: INDEPENDENCE	**Class 7: REFINEMENT: RESPONSIBILITY**
Class 6: INTELLECT: INDIVIDUALITY	

In the following the individual relationships are described in more detail.

The Kindergarten & Class 12:

For the Kindergarten child the world is "moral and good" and therefore presents an unquestioned unity. During the subsequent course of education and process of growing up the world is broken up into many different bits which need to be learnt and understood. It requires insight and skill to integrate and synthesize knowledge so the world once again becomes whole and loose ends become unified. This capacity for synthesis in class 12 students is the transformed quality of having experienced the unity and goodness of the world as a little child.

Class 1 & Class 11:

In the Kindergarten the environment is relatively open and unstructured and the children can meander and roam. In class 1 the class is gathered in front of the teacher and blackboard and the focus is on creating imaginative pictures through which the children are introduced to drawing and understanding the letters and numbers. This is the beginning of the faculty of imagination which becomes the general medium for learning throughout the lower school. Class 1, therefore, marks the beginning of formal structure and of using the imagination for learning. The development of a sense of structure and the ability to form inner pictures is the basis upon which the class 11 student can place one thought after another in a structured and

logical way. The faculty of "analysis", therefore, which is a typical class 11 skill, represents the flowering of a seed that was planted in class 1.

Class 2 & Class 10:

The class 2 children love to play with water, dig in the dirt, make fires, build cubbies outside and so on. In other words, what is of immediate interest to them is the natural world which reveals itself in the 4 elements. In class 1 the children hear about an archetypal image such as „the witch in the forest', in class 2 they want to explore the forest. The Celtic fairy tales which are told in class 2 are full of images connected with the elements. Through the images and experiences of the natural world the children acquire the sense experiences, imagery and vocabulary they need to keep exploring ever increasing slices of the world.

Whilst the class 9 students are too occupied with themselves or the opposite sex to muster much interest for concentrated study, by class 10 they usually have sufficiently matured to again take an interest in the rest of the world, which in this case is the world of contemporary Culture and the Humanities, Arts and Science represented in the palette of subjects taught as the Curriculum. The interest with which the little child explores the natural world transforms into the motivation of the teenager to explore and understand the cultural and academic world. The class 2 child cannot yet explain but loves to explore. In the same way the class 10 student cannot yet fully analyze or synthesize but is acquiring the vocabulary and concepts to do so in the following years.

Class 3 & Class 9:

In Class 3 the children go through what is called the "nine year old crossing". Previous to this the child felt at one with the world. The crossing is a threshold experience by which the child discovers his and her separateness from the world. It is a discovery of Self accompanied by much anxiety and worry. Awaking to your own separateness is a scary thing. The child realizes: I could die or my parents could die, ultimately I am alone. The Curriculum compensates for this process on the one hand by providing the security of predictable authority and consequences, and on the other hand by focusing on hands on and reassuring practical experience. Through house building projects, physical work and learning about the different trades and how things are made, children's confidence in themselves and the world grows. In other words: a new and fragile sense of self is reassured through physical activity, predictable authority and through making new connections with the physical world.

Class 9 students also go through a difficult year which demands of them to come to terms with their physical identity. Puberty and sexuality become powerful forces and the Curriculum channels the surplus physical energy into strenuous physical activity, work, sport and lots of outdoor education. In class 3 the children gained a strengthened sense of self through practical work. In class 9 the students are thrown out of balance by the forces of puberty and regain a degree of balance through strenuous activities and physical work, which gives them a sense of their physical identity.

Class 4 & Class 8:

Class 4 is a very lively year. Gone are the worries associated with the previous year's threshold experience and at the same time the children's „head forces' are still dormant, which means they are able to live fully in the middle realm, which is the realm of rhythm, music, art and beauty. This is the heart of childhood, the final flowering before it must make way to the awakening of conceptual thinking and the intellect, which begins in class 5. The class 4 Curriculum allows the children to roam and expand out into the world. The study of man and animal gives them a connection to the living natural world and through the study of local geography their world is becoming bigger.

Class 8 marks the culmination of the class teacher period. For 8 years the bulk of learning was presented to the children through the person they have come to know intimately as their class teacher. By class 8 the students will have heard about the ancient cultures and have arrived in the modern age. Their consciousness can now encompass the whole world as they learn about the age of explorers, the age of enlightenment and the industrial revolution. But all the time the clock of pre-pubescence is ticking away. Just like class 4 marks the climax and in many ways the end of childhood, so is class 8 the climax of the lower school and is offering the students a last glimpse of beauty, culture and the type of universality represented by Renaissance man, before it all slips away and goes underground , only to reappear again in the senior school. Both, class 4 and class 8 are a culmination point and mark the end of an era, both mark the transition to a completely different way of seeing the world.

Class 5 (& Class 7):

As already mentioned, class 5 marks the beginning of the capacity for abstract, conceptual thinking. This enables the children to become independent third party observers, which means they can now do history and science in a new way. Instead of just listening to the stories, they can observe and reflect about the historic pictures or phenomena of nature, in addition to living in the experience of them. The intellect bestows a sense of self sufficient independence which is beautifully portrayed in Odysseus, the hero of the age of intellect, who overcomes his adversaries not so much through courage and strength as in the case of the older heroes, but through cunning and the power of the thinking mind. The story of the Trojan horse, which was his idea, is the obvious example. With the new sense of independence the children enjoy flexing their intellectual muscles. They like to argue their point and they delight in telling fibs, even lies, which the teacher must not make a moral judgment on but must see it for what it is: the flexing of their intellectual muscles.

Before we are able to draw the connection between class 5 and class 7 we must first consider class 6.

Class 6:

The further strengthening of the intellect in class 6 gives rise to two concurrent developments. On the one hand this development of the intellect allows the Curriculum now to become more formal and conceptual. Amongst many other subjects the children do natural science, acoustics, light, electricity and magnetism, geology, geometry etc. On the other hand, however, what awakes within and through the intellect is a growing sense of identity and personality. In Class 5 the children learn about ancient Greece, in Class 6 they study ancient Rome. Both cultures have a connection with the respective consciousness of the students in those years. We can see the beginning of conceptual thought in Ancient Greece through the rise of science, geometry, philosophy, even democracy. In Ancient Rome the development of the intellect continued but instead of philosophy and science it was directed into law and empire building. In ancient Rome the freedom of the Roman citizen was for the first time enshrined in law. Rome saw the emergence of the individual, it also saw the excesses and decadence that came with the unrestrained personality cults of some of the Roman emperors. If Greek Art and Culture displayed a sense of balance and grace, Roman Culture represents military might and law. In other words, from a spiritual point of view, Greek culture was in balance with the earth, Roman Culture was dominated by physicality and was tied to the earth. This descent into deeper physicality is mirrored in prepubescence through a burst of growth in the bones. The grace of childhood disappears as the children outgrow their clothes and become clumsy in their movements. At the same time their sense of individuality is heightened.

(Class 5 &) Class 7:

As the students come into class 7, the danger is that the emerging personality turns in on itself and becomes selfish, inconsiderate and egotistical. What prevents this from happening is a real and lively interest in the world, which redirects the personality to an outward focus. This is the time to appeal to the children's sense of justice and fairness, to surround them with beauty and share contents with them that have a selfless and moral quality. The Curriculum introduces at this point the Arthurian stories which portray a refinement of the lower instincts and a focus on higher ideals. In this way a devotional element comes into class 7 which lifts the emerging individuality out of selfishness and directs its focus into the world.

We can now see the link to class 5. The development that needs counter balancing in class 7 started with the birth of the intellect in class 5. What started out as a harmless ability to tell fibs, and a flexing of intellectual muscle in class 5, becomes a tendency towards egotism and self absorption in class 7, if left unattended. Class 6 represents the pivoting point. In class 6 the active principle of individuation emerges. Focusing the forces of the intellect into a wholesome direction in class 7 is the first thing the emerging individuality has to deal with as the ascent towards self responsible adulthood begins.

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Having considered the various inter relationships of age groups and the descending and ascending progression of consciousness, we are in a position to understand the metamorphosing class room shapes in fig.1 further below.

Qualification:

The relationships of class room shapes from a mirroring point of view is **ONE** way of looking at it from the perspective of the whole. It is important to bear in mind that there may well be as many other ways to tie the rooms together into a whole as there are schools. From an artistic point of view what is important is that there **is** an overall uniting principle, but there is no rule that says **what** this principle should be other than an expectation of relevance. Not only can you have different unifying ideas but each unifying idea itself could potentially manifest different sets of class room designs. Every school and situation is different and it would be a mistake to allow the notion of "one solution fits all" become an excuse for shackling artistic freedom and creativity.

Another way of looking at age and class relationships is through **Rhythm**. This is the topic of the next section and the same qualification as the one just given applies.

Class and Age Relationships based on Rhythm:

Every living organism, even the smallest one, is a very complex structure of interconnected parts and systems. In a living body everything is connected to everything. No single portion can exist in isolation and if a part does isolate itself it becomes cancerous and causes illness. The human body of course is the most complex of all systems.

However, the interesting point is that when we wish to understand the whole we must not forget that we can never see the complete manifestation of the whole in space alone. We must include time in the equation. Living organisms change and metamorphose over time. The seed, bud, stem, flower and fruit stage of the plant follow each other in time, yet all belong to the one whole. Similarly, human beings grow up progressing through different stages of consciousness and physical development. Just like the individual parts we see in space are all interconnected, so are the different stages of development which occur in time also inter connected. What was described in the previous section as "mirroring " is one example of connectedness in time.

Another way of looking at the interconnectedness of stages of development is through "Rhythm". Rhythms, like the waves on the water, can exist side by side and exist within many different timeframes, all interpenetrating each other. Its like throwing different sized stones at different times into different spots in the water and watching all the little and big waves forming rhythmic patterns of their own, each wave impulse being able to freely expand without being in any way impeded or thrown off course by the other waves. Imagine what sound waves would be like if this wasn't so, that is if waves were not independent of each other. It would mean that as I am listening to the cello, the sound would immediately get distorted the moment the violin starts playing. We know of course that this is not the case and that the more instruments, sounds and waves there are, the fuller the sound gets but the individual sounds don't interfere with each other.

Now as we watch the children growing up and going through the process of education, we recognize the various rhythms and changes of consciousness and Steiner Education is known to adjust its teaching methods and Curriculum in accordance with these stages of development. There are many rhythms which class teachers make use of in the weekly, monthly and yearly cycle. However, two of the most important rhythms are the 1 year and the 7 year rhythm. The 1 year rhythm is of course tied in with the rhythm of the school year and the yearly curriculum. The 7 year rhythm relates to the seven year cycles which divide the years of schooling into pre school, lower and upper school, as described further below. Are there other rhythms? 2 year, 3year, 4 year rhythms etc.? What about other timeframes and rhythms set by astrological factors? The point is that in a living entity as complex as the human being there are likely to be countless different rhythms, all working together to make up the whole.

By looking at the yearly change of consciousness in the children we were able to gain valuable insights about class room design (see chapters. 9&10). If we could supplement these insights by observing other rhythms occurring in different timeframes, this would give us new perspectives about how the different age groups connect with each other. This in turn would be a big help to learn to see all the individual class room designs, both, in their respective inter-connectedness and as one integrated whole, which is contained in every part. This is the artistic aim.

In the following we will look the different classes and ages linked through 1 – 7 year Rhythms. As mentioned earlier on, the distinctions we are creating here are not the only ones to be made and others may approach it from a totally different point of view. The point is to create **some** relevant criteria that bind everything into a whole, so the whole can begin to enliven and inform the individual parts, rather than having **none at all** and end up with clones or disconnected arbitrary shapes which have llittle artistic and no transformative value.

For a summary of rhythms and relevant classes see the table provided further below.

The 1 Year Rhythm:

The 1 year rhythm obviously is connected with the natural and seasonal rhythms of the year and as such is an obvious one we take for granted. Many Class teachers take the seasonal changes into account when planning their main lessons for the year and in the type of activities they plan for the children.

However, within the architectural context of characterizing the parts that form a whole, this rhythm is the same for every class and does not distinguish or suggest different qualities or characteristics associated with different year levels. It is therefore of limited relevance in this context.

The 2 Year Rhythm: ***"Expansion – Contraction" or " Outward – Inward Focus"***

This may of course not be the only two year rhythm but there does seem to be a rhythmic change in the direction of focus in the children every year, resulting in two sets of alternating two year rhythms for odd and even classes. One year the focus is more outward and expansive, the next year the focus is more inward and contractive.

The **Kindergarten** is a very open and less structured environment and the children live in a more dream type consciousness. The move into **class 1** represents a contraction into a more structured environment and through the faculty of the imagination a new inwardness begins, which allows the children to form new pictures of the world.

By **class 2** the children's focus begins to be directed to experience the 4 elements and the natural world, which has been described on a number of occasions and which represents an expansion and outward looking focus.

In **class 3** the children go through the threshold experience of the discovery of Self which is an intensely inwardly focused experience and is accompanied by a lot of anxiety. Even though the Curriculum creates a sense of security for the child through the self confidence gained through experiencing physical work and the different trades, which represents an outward focus, what happens on a deeper level of soul, which is the discovery of Self, is very much a contractive inward looking focus.

Once the threshold experience has been gone through the child is ready to expand again and focus outwardly, which happens in **class 4.** The fact that class 4 is a very social year, that it represents the movement and grace of the heart of childhood, the fact that the children begin to do animal study and geography and so on all point to the expansive outward focus in this year.

By **class 5** the newly emerging faculty of conceptual thought, which gives the children a new sense of independence, points to another contraction and greater inward focus. Again of course it could be said that there is always an outward focus as well through the study of history and science and the various subjects. However, what we are looking at is what happens on a deeper level of soul, where the mere fact that children can begin to reduce imaginative pictures to abstract concepts represents a greater mental focus and a contraction which they experience as independence.

By **class 6** this new independence gives rise to a stronger sense of identity which allows again greater outward focus. The stronger and the more centered a person is, the freer he or she is to expand and direct the focus and interest outward. The study of acoustics, optics, electricity and magnetism and the phenomenological approach which demands skills of observation, is an example of a new outward focus. Also, the students' burst of growth into the limbs which occurs at this age is a constitutional expression of expansion.

It has been mentioned further above how, when we come to **class 7,** the impulse towards greater personality and individuality is in danger of becoming egocentric or egotistic. This is a contractive inward focus but it is not a healthy one. It has to be balanced with a refinement of soul and a moral, devotional element coming into the curriculum which directs the focus again outwards in the form of interest in other people and the world. This interest then leads to the next expansion.

Class 8 is when the students are in a position to experience universality. Together with the explorers of old their consciousness is now able to embrace the whole orbit of the world and their knowledge has come as far as their class teacher was able to take it over the last 8 years. It has reached the temporary maximum of expansion and we are due for another contraction in class 9.

One of the characteristics of teenagers and most of all at the height of puberty in **class 9** is the students' increased sense of self. This does not mean they are particularly conscious of themselves or their actions but they are highly sensitive to criticism, comments about their looks, peer pressure and their physical appearance. It represents, in fact, such an obsession that not all that much schooling can be done and the year is better spent in educational outdoor programs, physical work and sport. Compared to class 8 and class 10, the inner state of the class 9 student is a more self-absorbed and contracted one.

In **class 10** the students are again able to expand their interest and re focus on the range of subjects offered by the Curriculum. It is in this year that they are expected to settle down and discover the discipline of academic study which they need for the senior school. Some of their studies such as the surveying camp and work experience are taking them out of school and into the field. All in all it is an outwardly focused year.

As mentioned above, the keyword for **Class 11** is "Analysis". If the students have acquired the right study habits in class 10 they are now able to go into themselves and devote much of their mind space to the thorough investigation and analysis of topics associated with the various subjects in the Curriculum.

"Analysis" represents a contracted state that comes before "Synthesis", which represents again an expansion of consciousness in **class 12**. When you look at `the class 12 project, the flowering of the young person's skills and confidence and the final good bye to school, the expansive outward focus of class 12 is very obvious.

The alternation of ***"outward – inward focus"*** is also reflected in the Curriculum through an alternating ***" Exploration of the physical World",*** followed by a ***"Focus on the Inner World",*** as summarized again in the table below:

Exploring the physical World:

In the **Kindergarten** the children live in the "will" and learn by doing. They imitate wholesome physical activities such as feeding the chucks, baking bread, acting out stories and they absorb the outer world around them through their movement and senses.
In **class 2** the outer focus is the natural world represented through the four elements which are also reflected in the Celtic fairy tales.
In **class 4** the outward focus comes through the study of man and animal and the introduction of Geography.
In **class 6** there is an increased focus on science, including geology, and on phenomenological observation.
In **class 8** the consciousness expands to encompass the physical world at large as discovered by the explorers and reflected in the age of enlightenment.
In **class 10** the Curriculum has a new focus on the exploration of the scientific and cultural world around us. The students do work experience and are taught to go out in the field and work and measure with precision, such as in the surveying camp.
In **class 12** the physical world becomes an integrated whole. The students choose a project which lies outside their range of school subjects and reflects their interests and outward focus in certain fields.

Focusing on the Inner World:

In **Class 1** the children live in such archetypal images as depicted in the Grimm Fairy Tales.
In **Class 3** the children are confronted with the experience of being separate from their environment and the discovery of self as referred to above. The curriculum supports the experience of "crossing the threshold", from the cross stitches in craft and the crossover form drawings to the stories of heroes, of leadership and of rules and consequences, as in the old testament stories.
In **Class 5** the beginning of the capacity of abstract thinking enables a new approach to history, mathematics and other subjects. As already mentioned, the apparent outward focus is a consequence of the new inner faculty of abstract thought, which the children delight in and which represents a new inner stance and capacity.
In **Class 7** the impulse of pre-occupation with self and potential selfishness is balanced by an impulse of refinement through the study of noble love and fighting for a higher cause, as depicted in the Arthurian stories, as well as through the sense of devotion and refinement which is characteristic of the religious art of medieval times and of the Renaissance.
In **Class 9** the students' preoccupation with their own physicality and the intensity of their emotions, which tend to be black and white, are being channeled into the outer world through physical activity and the year 9 outdoor program. Again, the seeming outward focus is really the result of the intense inner emotions and changes experienced by the students.
In **Class 11** the students' focus contracts to master the discipline of study itself. While the breadth of main lessons still encompasses the full range of subjects, outside the main lessons the Curriculum narrows, allowing the students to focus on specific subjects and the analysis of specific topics and themes.

The 3 Year Rhythm: *" Individuation – Ego impulse"*

As part of the various descriptions given above we have already spoken about the particular individuation or ego impulses typical or prominent in some years. The point is that they seem to occur within three year rhythms as given below:
Class 3: Threshold experience: Discovery of Self
Class 6: Emergence of Personality and the Individual
Class 9: Preoccupation with physical Self or Identity
Class 12: The emerging self confident young adult

The 4 Year Rhythm: *" Culmination- Maturation"*

By definition, the 4 year rhythm falls in with the respective years of the 2 year rhythm, which was described as being expansive and with an outward focus directed to the physical Earth. In addition to this quality in the 4 year rhythm there seems to appear an element of Culmination, when the maturation process has reached the end of one phase and a change or metamorphosis occurs which elevates the next phase to a different level.

In **class 4** we see the culmination of childhood, which is the end of an era. Once thinking sets in class 5, the world will never be the same.

In **class 8** we recognize the Culmination of the Class teacher period and the theme of universality which characterizes the year. Equally it is the end of an era and once puberty is in full swing in class 9 the world will never be the same.

Class 12 obviously represents the culmination of all the years of school and the transition to self responsible adult hood in the following years.

The 5 Year Rhythm: *" Transition into Thinking"*

The 5 year rhythm only covers two school years, classes 5 and 10, the third 5 year cycle falls outside school on to age 21. What seems to connect these three points in time is their relationship to the element of "Thinking". In each case there is a transition from a prior state where thinking wasn't the dominant ingredient to a new phase where it is. We have mentioned the capacity for conceptual thinking in **class 5** on numerous occasions. The emergence of a new thinking in **class 10** is not so immediately obvious. It is easy to see, however, when we place the emotional state of class 9 students into focus. 15 year olds are emotionally charged, preoccupied with their own view points, they tend to see the world in black and white and are not ideally placed for producing objective thoughts. Coming into class 10, therefore, marks another transition where the students are expected to reawaken out of intense personal emotions into a more objective life of thought through which they can connect with the world. This new impulse in thinking begins again in class 10 and is of course carried further in classes 11 and 12, in the same way as it was carried further in classes 6 and 7 during the previous 5 year cycle.

Five years later, as we come to age 21 (to add this bit for the sake of completion), there is another impulse going into thinking, as briefly alluded to further above. At 21 Steiner speaks of the first real emergence of the ego. However, the ego isn't yet integrated fully into the whole personality. For the ego to be fully integrated within the thinking, feeling and willing soul it must go through another three 7 year or one 21 year cycle, which brings us to age 42. The first of the 3 seven year cycles (age 21 – 28) is characterized through the ego incarnating into independent thinking, during the second cycle (age 28 – 35) the ego incarnates into independent feeling and during the third cycle (35 – 42) the ego takes hold of the will. It is beyond the topic of this document to provide a closer explanation of these relationships. Mention is only made to see why age 21 is connected with thinking and links in with the 5 year cycle which seems to surface during the years of schooling.

The 6 Year Rhythm: *" Independence - Completion"*

Again by definition this cycle overlaps the 3 year cycle, which was connected to Individuation and ego impulses. There are only two school years that fall in the 6 year cycle and both of them, **class 6 and class 12** are connected with the individual and with independence as we have seen before. However, the additional characteristic that appears in the 6 year cycle is the element of completion. This is different to culmination. The latter implies a state of flowering or coming to fruition, the former marks an end point. Class 4 marked the heart or culmination of childhood, but not the end of it. Childhood and the lower school ends with class 6. Classes 7 & 8 belong to the Middle School and are characterized by a pre- pubescence which separates them from classes 1 – 6. Therefore, the 6 year cycle marks

the end of the preschool when the child is turning 6, the end of the lower school and childhood in class 6 and the end of schooling in class 12.

The 7 Year. Rhythm: *" Birthing new capacity"*

7 Year cycles are the deepest and most powerful cycles. Steiner speaks about cycles occurring in seven steps within many other contexts. The number 7 seems to have a special connection with cycles of time and certainly dominates the major cycles of human development. In this context of human development the 7 year cycle points to the birthing of a new member of the human being or a new capacity every seven years until the human being is fully incarnated. This is a difficult concept to grasp. The physical body gains a degree of independence at birth but the etheric body isn't independent and the astral body and ego are still deeply dormant. The system of life forces during the first seven years is still tied up with bringing about organic growth and doesn't become independent or free to be used for other work, such as imaginative thinking, until age 7. Steiner speaks of the etheric body being born at this age. The astral body is not born until puberty or age 14 and it is the birth of this body that brings about all the changes we observed with class 9 students. The ego emerges to a new independence at age 21 as referred to above and so the development of the human being continues to unfold in 7 year cycles well after the initial stage of adult hood has been reached at age 21.

Summary:

These are the Rhythms with their suggested characteristics, including the relevant classes and ages as set out in the table below:

The 1 Year Rhythm: alternating *"Expansion – Contraction" & " Outward – Inward Focus"*

The 2 Year Rhythm: *" Exploring the physical World – Focus on the inner World"*

The 3 Year Rhythm: *" Individuation – Ego impulse"*

The 4 Year Rhythm: *" Culmination - Maturation"*

The 5 Year Rhythm: *" Transition into Thinking"*

The 6 Year Rhythm: *" Independence - Completion"*

The 7 Year. Rhythm: *" Birthing new capacity"*
Ages:….6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21.
Classes:
1 yr. Rhythm: P, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12,

2 yr. Rhythm: P, 2, 4, 6, 8, 10, 12.
3 yr. Rhythm: P, 3, 6, 9, 12.
4 yr. Rhythm: P, 4, 8, 12.
5 yr. Rhythm: P, 5, 10, age: 21.
6 yr. Rhythm: P, 6, 12.
7 yr. Rhythm: 1, 8, age: 21.

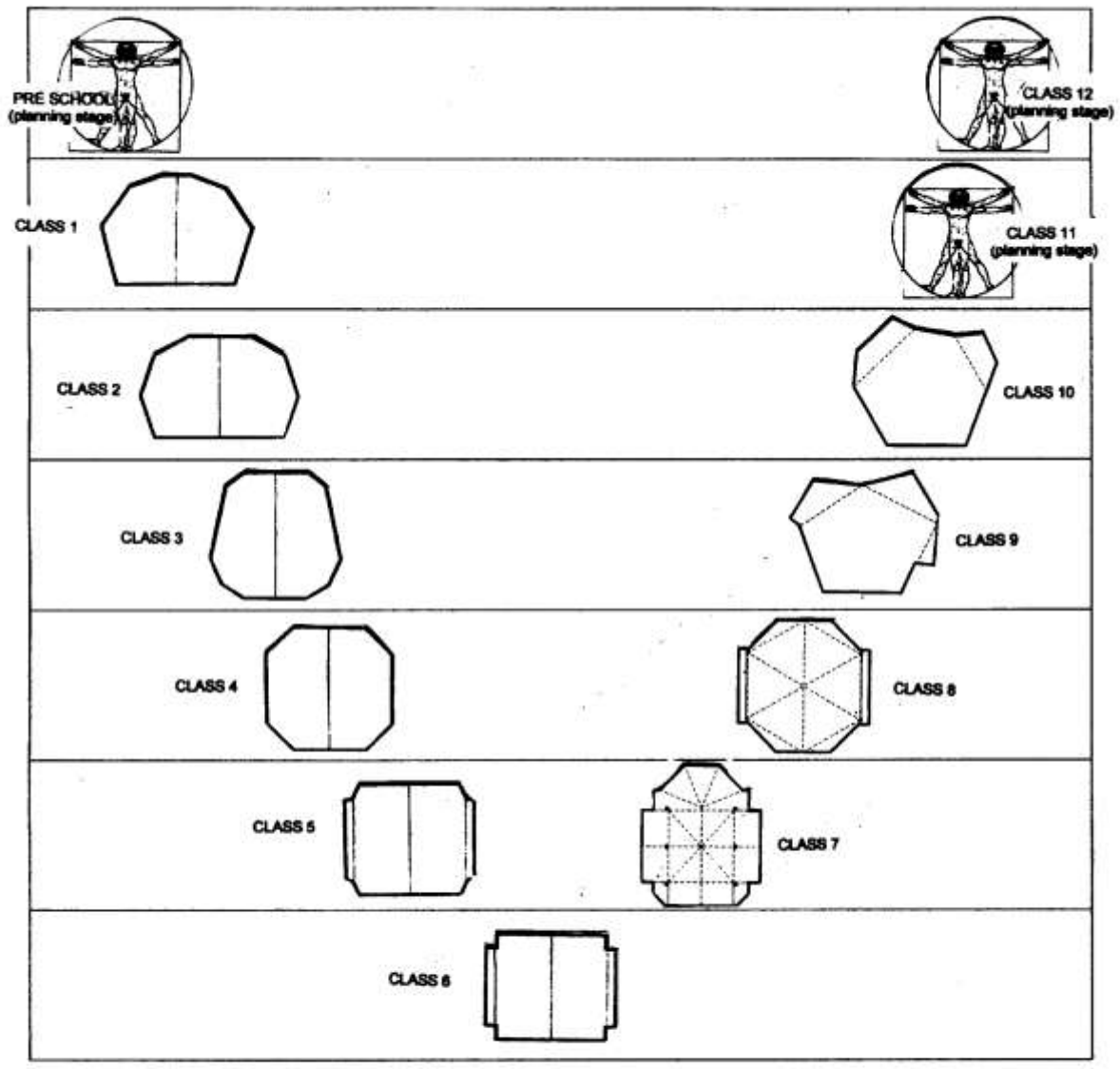
Each rhythm vibrates with a different characteristic and we can see from the above that the prep and class 12 year are connected with nearly all of the rhythms and therefore capture most of the characteristics. In other words, the seed contains all of the plant's potential and is again present in the fruit, after completion of the growth cycle.

For the first six rhythms we started with the 6 year old in the pre- school or prep year, and of course for the 7 year rhythm, we must start with the 7 year old. All except for the 4 and 5 year rhythms could theoretically be traced back to birth. However, the degree by which the various rhythms are intrinsically connected with the child's changing stages of development and consciousness, or arise more out of the Curriculum, or both, is not for us here to determine. The main thing is to establish inter-relationships which reveal the whole from different perspectives.

Illustrations:

The following 4 pages give a graphic picture of the interconnected rhythms and relationships described in this chapter.

Figure12-0-1: "Mirroring" Floor Plans

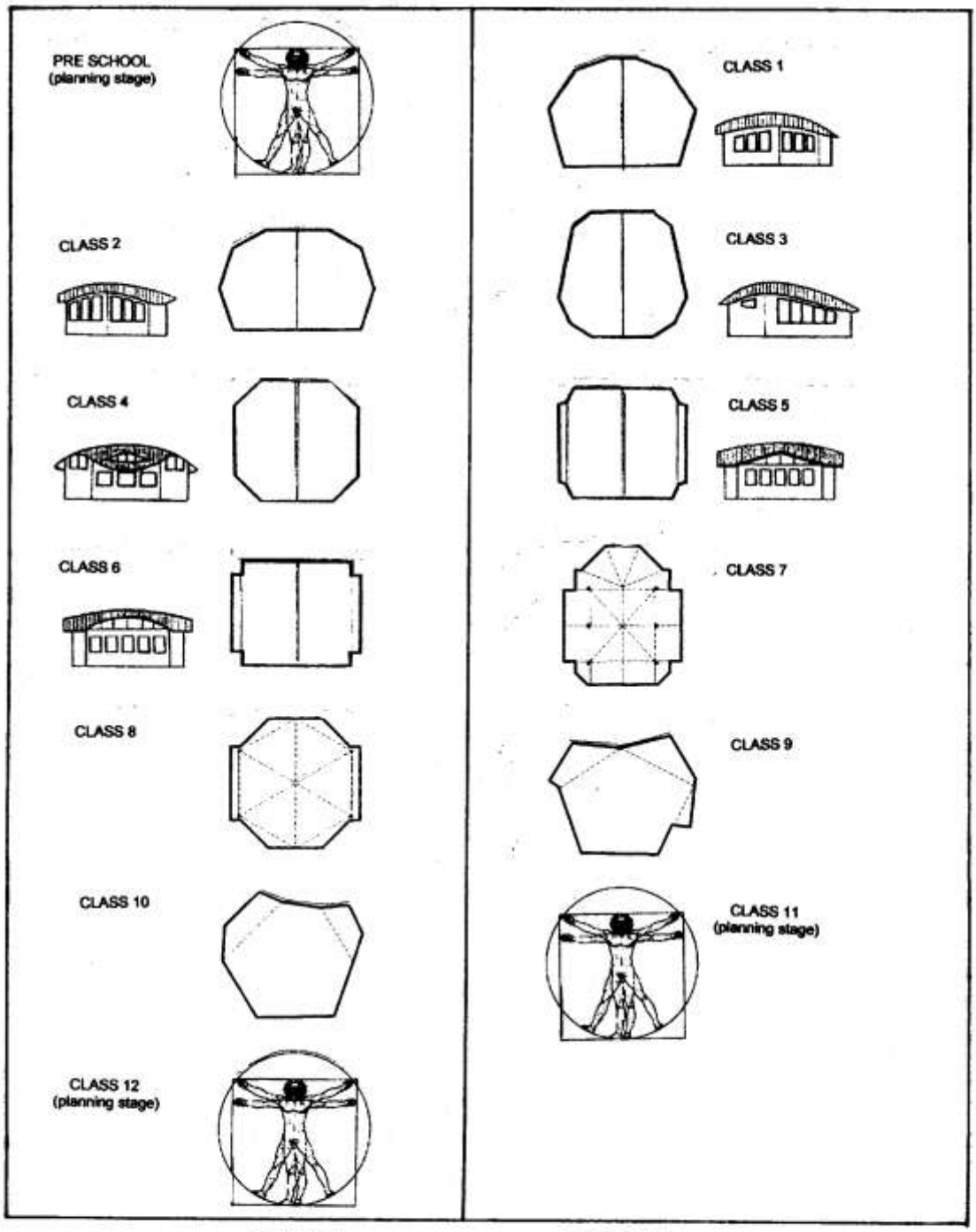


Descending Stream **pivot point** **Ascending Stream**

Earth bound **Freedom**

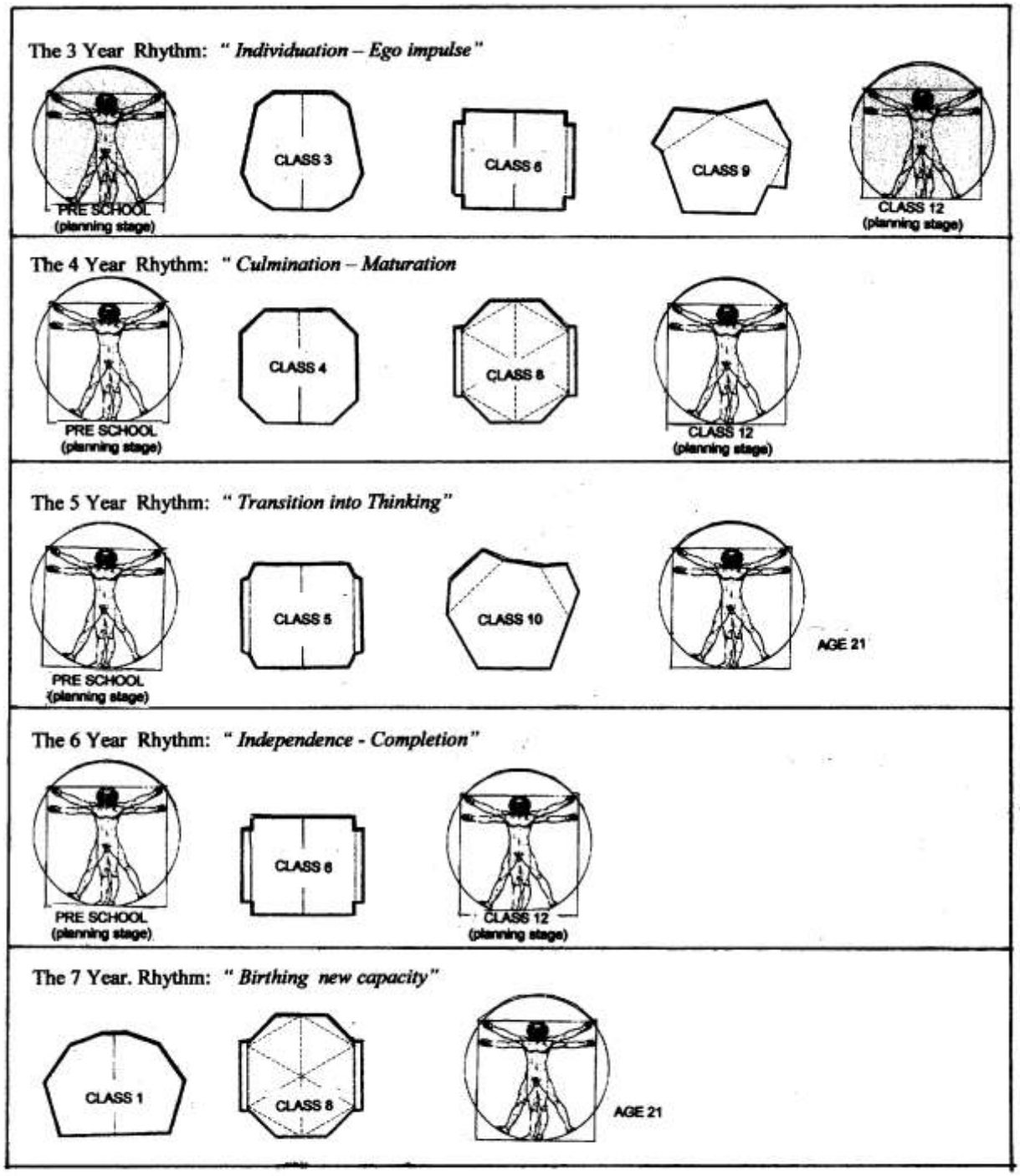
Pre School and Class 11&12 Floor Plans are still in the planning stage

Figure 12-0-2: Floor Plans linked through 1 and 2 Year Rhythms



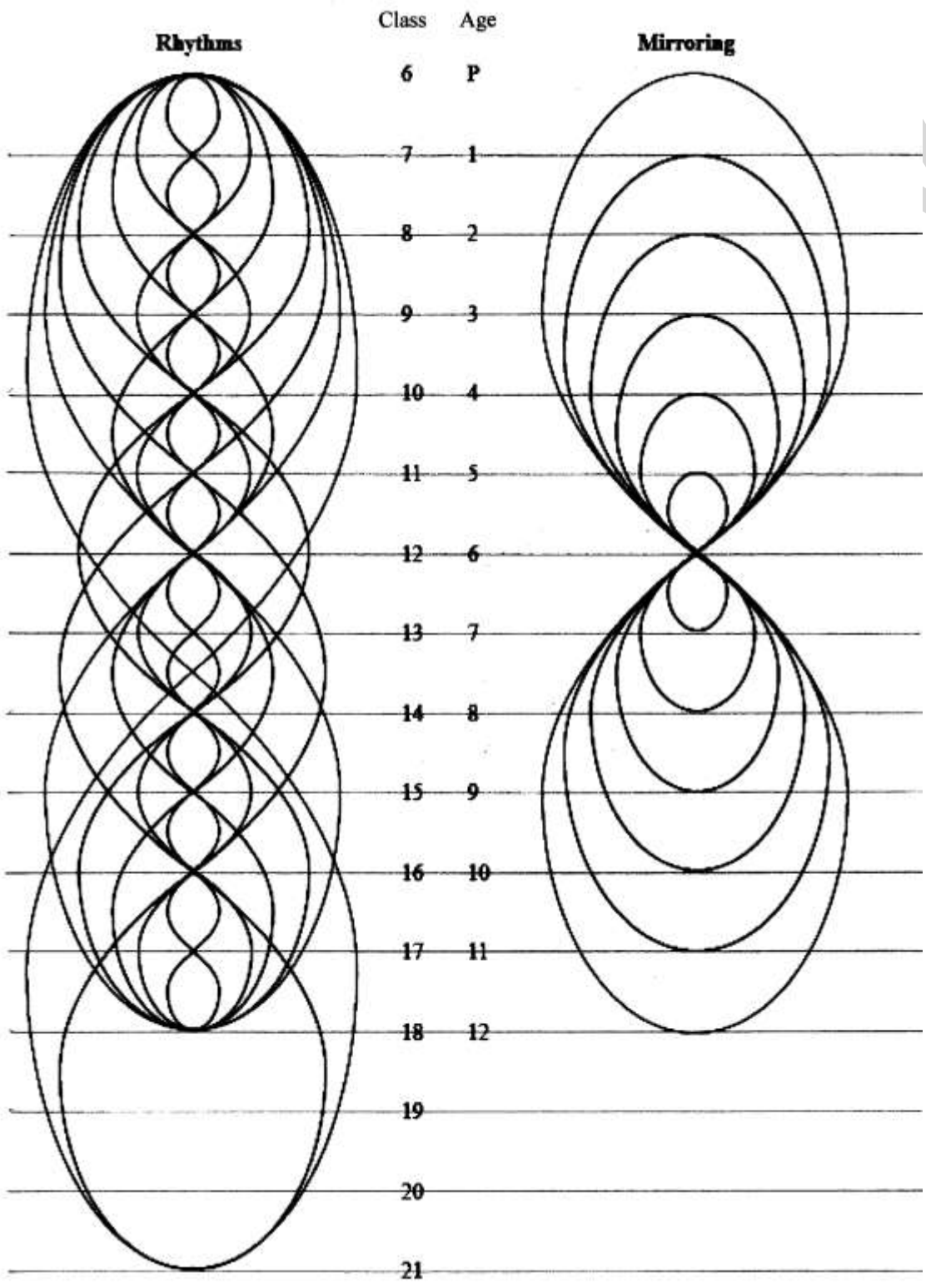
Pre School and Class 11&12 Floor Plans are still in the planning stage

Figure 12-0-3: Floor Plans linked through 3 – 7 Year Rhythms:



Pre School and Class 11&12 Floor Plans are still in the planning stage

Figure 12-0-4: The Beauty and Complexity of the Whole:



13) Specialist Rooms and a few glimpses of School History

The Library & Administration Building

The Library/Administration building was built in 1991. However, the search for the design for the school's first purpose built building already began in 1989, prompted by the tremendous excitement of moving the "old Portable", our first class room on site in the spring of that year. Monday, the 23rd of October 1989 marks the day when the first composite class 2&3 had their the first day of school on the new school property. The Kindergarten and class 1 remained back at the Wesburn Hall and would join them on the new property near the start of the following year. Interestingly, Friday, the 23rd October two years earlier marks the day when the contract to purchase the land was signed in 1987 and again two years earlier it was on the same day when Sandra Busch was asked and agreed to be the first teacher for the school.

The extraordinary beauty of the new property demanded something special from the first purpose built building on the land. In addition to the beauty of the surroundings there also were other important considerations around the new school's identity. To bring a portable class room on site is relatively straight forward. A new building on the other hand begs the questions of design and identity. Who were we? What is seeking to come to expression on the new property? A relatively large new building in such prominent position would make a strong public statement. Would this statement reflect the school that was to come into its own and grow to maturity on the new land?
What were the general qualities that characterized the new school, quite apart from the specific qualities which arise from the function and use of the building? The following quote from an article about this very topic summarizes these questions:

"Location and Geography add one important ingredient, people and the community using the land bring the other. By the time the school moved to the new property, it was already 3 years old, there was a small and vibrant school community, we had celebrated our first fairs and open days in the Wesburn Hall and were establishing a presence in the valley. Most if not all of our events and celebrations were filled with music. In 1987, when the first class 1 started, teachers, parents and friends met in the Wesburn Hall and sang the Schütz St. John passion on Good Friday for the first time. This would become an Easter tradition for the next 12 years. The love of celebration and music and the buoyant, lively nature of the young school community were in fact not unlike the qualities of the happily meandering "bubbling brook" that flowed past the school property. In addition, there was the expressed intent that whatever gesture we would find for the school, it should be enlivening and inspiring but also be an open and friendly one, an invitation to the world to come in and visit, and if you liked it, stay."[1]

Working out of the boundless enthusiasm present in a young school and with a great deal of naivety, the design for the new building in all its complexities and complications was more or less worked through and resolved before we knew where the money would come from and who would build it. The beautiful 19 m long laminated ridge beam and the columns, made in New Zealand, arrived by semi trailer and had to be stored away for two years before being put to use.

[1] "*Thoughts on Lot 1*", 2004 LYSS magazine

The original thought was to construct the building with voluntary parent labor. Then the opportunity presented itself to successfully apply for a Commonwealth Capital Grant. Then a new family arrived at the school who were professional builders and who loved to get involved with the school. Jan Gorman became a class teacher and her husband Mike became the school's builder. This would mark the beginning of a very fruitful 10 year collaboration between Johannes and Mike, without whose reliability, support and commitment those initial buildings could never have been built in the way they were. Mike and Johannes enjoyed the trust and good will of their colleagues and the Library/Administration building, classrooms 1-6 and the Science building were the result of this partnership and established the foundation to the school's architectural impulse and signature. By the time the Science building was under construction in 2001, the Gormans had already moved on to find an appropriate school where their children could continue to year 12. However, Mike who earlier on had taken much interest in the progress of the design for the Science Lab, agreed one last time to tender for the project and ended up supervising construction of the Science Labs from the distance.

Before the building work on the Library/Administration building began builders and teachers gathered in the morning for a blessing ceremony, a ritual which would be repeated for the subsequent building projects.

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The Library/Administration Building is located in the middle of the central ridge that represents a geographical divide between the lower and upper halves of the school. At the same time it marks the entrance into the heart of the school. This building therefore has an important central position both, geographically and functionally. As administrative center it serves as the „eyes, ears, and voice' of the school. It is the first point of contact for visitors to the school. It is the communication link between different parts of the school and it also is the spot where external services such as electricity, phone, and gas come in before spreading out to the other parts of the school. In this role the building's function is like that of a „head', which is the part in an organism where most of the sense organs are located. Like a head, the Building has a clearly defined back, where the roof is lowered, and a face with a high roof and tall windows opening into an entry lobby that greets the visitor and looks out on to the central entrance road that comes into the property.

Figure 13-0-1: Library Administration Building: Front Entrance

The analogy that compares the administrative sphere to a „head function' is also appropriate in regard to the building's second purpose, that of the School's Library.

We think in our heads. Thinking as an activity is what ideally a library building might wish to support and encourage. Thinking, however, has many a shape or form, from being „hard', „rigid' or „calculating' on one end of the scale to flightful fancy or illusion on the other extreme. The inspiring motive for the Library/Administration building was to create a space where thought might be fluid, creative and lateral and where the cool logic of the head is warmed by forces from the heart. To this end, the floor plan of the building is many sided, the angles complex and unpredictable, ceiling heights are varied, the structural skeleton a feature of the building and the symmetry dynamic. All such elements have the intent of supporting a lively interest and alert wakefulness. The curves of the roof introduce gentleness, warmth and movement. The rise and fall of the eve lines mirror the movement of a lemniscate, the right and left halves of the roof are placed into a dynamic symmetry, hovering like outstretched wings over the building, barely touching and leaving the impression of a bird in flight.

Figure13-0-2: Library / Administration Back Entrance (and "east wing")

Figure 13-0-3: A Library is a building for "winged Thoughts" ("west wing")

On a practical level the building was designed to be multifunctional. Initially, when the school was small, it housed 4 classrooms and a small office. The internal walls could be removed, creating an open meeting place for plays and concerts. As other classrooms were built, the building became administration, staff room and a small library. Eventually it will be entirely devoted to administration and library as was the original purpose for which it was designed. Having had a central multifunctional space at the beginning of the school's life was very useful and served the school well.

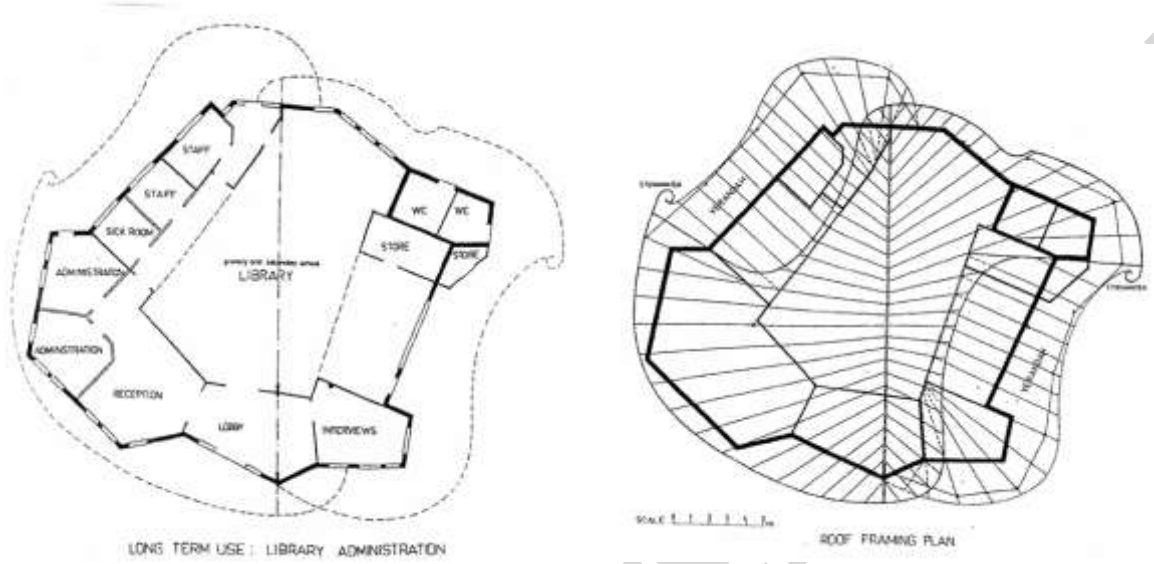

Figure 13-0-4: Library Floor Plan (left) and Roof Plan (right)

Figure 13-0-5: The "wings" are taking shape

The Science Building

The first purpose built building at the school was the Library / Administration building built in 1991. Then came the Primary School Class Rooms 1 – 6 which were built from 1993 – 1998.

The Science building was designed and received approval for partial government funding in 1998, but couldn't be built until 2001. The reason for this delay was the school's difficult financial position at the time, caused in the main by its attempt two years earlier to expand into the high school without the availability of recurrent government funding. The so called „New Schools Policy', which had caused this situation, was to be abolished soon afterwards through a change of Commonwealth Government.

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After the establishment of the primary school class rooms, the school felt that a new Science building would best support the school's second attempt at expanding into the high school.

This posed a new design challenge. Whilst the practical function of a Biology and Chemistry Lab and Class Room was clear enough, what wasn't obvious was the spiritual identity or purpose for a science building. Without a deeper purpose we are left with practical functionality alone, which can be resolved quite easily through good design, but the results would be utilitarian with little inspirational power or value.

In the case of the previous buildings it was straight forward. It is easy to see the link between a Library / Administration building and the qualities of „Thinking' and „Sense Perception'. It is also easy to relate the changing qualities of the lower school class rooms to the changing states of consciousness in the child. But what might be the appropriate essence to incorporate into a Science Lab? It couldn't be the consciousness of the students since the rooms were being used by many age groups. For a while qualities such as „interest and curiosity or observation' seemed to suggest themselves until, in conversation with a colleague, the idea of „Life forces' came up. This instantly made sense. In the sister document (TMP&A) attached to the Master Plan and referred to several times above, there is a separate chapter about Life forces or the so called „etheric body'. To quote a passage from there: *"It is a tragedy that main stream materialistic science has been unable or unwilling to establish the reality of etheric forces. Etheric forces keep the body alive and whole. Physical Forces cause it to fall apart, rot and decay. Considering the nature of physical forces, there is little wonder about the effects produced by a science and technology that is exclusively based on these forces. However, there is much research in this field happening to day all over the world and in many branches of science, although not within conventional main stream science. But then genuinely new developments and discoveries rarely originate within conventional thought, which is easily threatened and routinely resists them until the momentum swings the other way."* In other words, if the qualities of the „Etheric Forces or Life Forces' could be made to be the inspiring idea for a science building the spaces created might contribute to provide the inspiration for a future science that is supportive of life and in harmony with the natural world. Once the overall „essence or purpose' had been found, the actual design process could start.

The idea was to treat each Lab slightly differently. The Chemistry Lab has its strongest connection to "Sound Ether" which is also referred to as "Chemical Ether". The Biology Lab, in dealing with „life' as the name implies, would focus more on „Life ether' and the totality of all four ethers together, which characterize every living creature.

The quality of **Sound Ether** could be summarized as the force of "movement and ordered division". It behaves very much like music, hence the name sound ether. Music has to move in time and it exists within complex systems of ordered intervals. Similar systems of ordered intervals and combinations also exist in Chemistry, hence the name „Chemical Ether'. The role of this ether within a living organism is to create the countless ordered separations and divisions which appear as cells, arteries, blood vessels and organs. The opposite to sound ether is the physical force of „mass, weight and gravity' which arrests movement and dissolves order into undifferentiated chaos. A beautiful example of sound ether in action is cell division. Sound ether is also associated with the element of water and we can see this link in the natural tendency of water to meander. Looking at an aerial photograph of the meandering courses of a stream, river, creeks and rivulets reminds us of the branches and divisions of a living plant.

Figure 13-0-6: Meandering river system (Mississippi delta) left, and living plant (Gum tree) on the right

The quality of **Life Ether** is to bring wholeness, to bring purpose and meaning to the divisions created by sound ether. Within Life- or Purpose Ether lives the wisdom of the design, which locates every detail in space and gives it meaning. The fact that each cell in the body "knows" where it is and what it has to do to is as a result of Life ether. When this communication and awareness of he whole breaks down and cells reproduce in isolation from

the whole, we get cancerous growths. The opposite physical force to Life Ether is the force that seeks to reduce the whole into its smallest possible parts. These are the forces of death, decay and disintegration.

The overall gesture of both Science Labs is the upward thrust of the domed roofs, breaking through the lower roof sections like the new bud breaks through the bark of the tree. This upward movement carries within it the quality of levity and lightness, without which the sap couldn't rise in the tree and living creatures could not move and defy gravity.

Figure 13-0-7: Science Laboratories

The space inside the Biology Lab is whole and undivided while in the Chemistry Lab the walls expand and contract in a rhythm as if to divide the room into separate cells. The work benches in both rooms are crafted out of thick timber and are shaped in a meandering form out of which the various work stations emerge.

Figure 13-0-8: Chemistry Lab Interior

In the Chemistry room the work stations are fewer and larger and continue the image of cell division suggested through the contracting walls. In the Biology Lab the workstations are more numerous and form smaller intervals in line with the stronger internal force and the dominance of the whole over its parts.

Figure 13-9: Biology Lab Interior

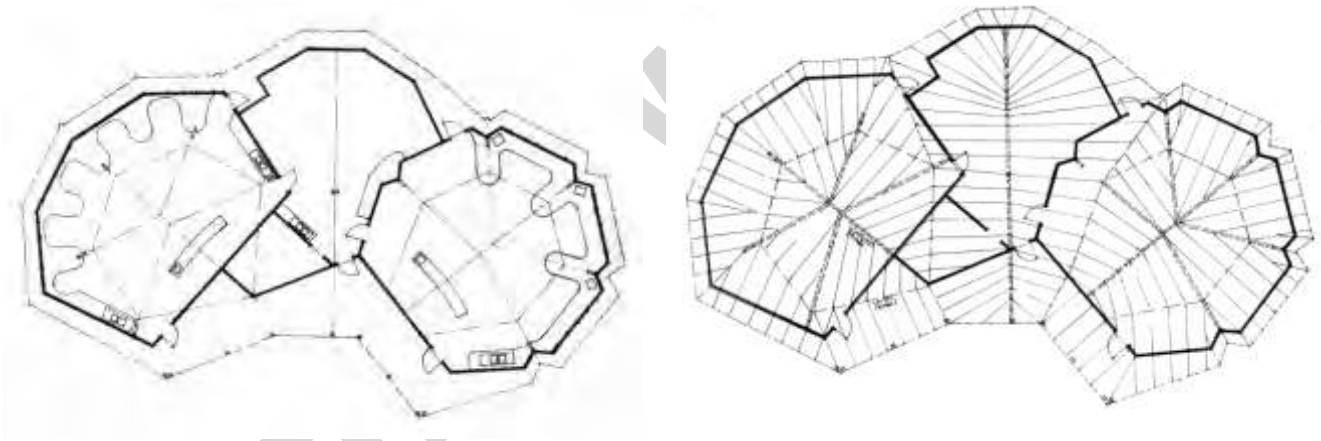


Figure 13-10: Science Labs Roof and Floor Plans

Unfortunately much of the building design had to be simplified and parts of it abandoned completely as a result of a blow out in costs. This was due to the fact that Government funding was based on 1997 cost guidelines and by the time the building eventually went to construction 4 years later in 2001 it coincided with the introduction of the GST, which at the time caused an enormous hike in building costs across the country. In the end, after making all possible cuts and in spite of the support of the builder we were still 10% or some $45.000 short. To bring the building back into budget, the internal curved beams which were to rise up and form the domes, were replaced with straight sections and a generous lobby was abandoned altogether. In the original design the two curved ridge beams of the two domes were to rise out of the centre lobby floor, break through the lobby ceiling and roof and continue to arch over the two class room labs. The different lower roof sections of the seven

sided rooms were also differentiated through the movement generated by soft, undulating curves in the roof sections, reminiscent of flower petals.
After making the above mentioned cuts and alterations, the building was finally brought and completed within budget.

In addition to the financial restraints, the years 2001 and 2002 probably were the most difficult years in the history of the school, characterized by much dissent and political strife, a complete loss of warmth and a temporary loss of trust in the school's directors and pioneers. There were widespread misunderstandings and lack of understanding for the school's building program among numerous calls for more efficiency and cost cutting. Fortunately we were able to resist suggestions to put a flat roof over the two Science labs and be done with it. As a result, the Science building was able to become a building that has maintained its overall integrity, although it never became what it could have been, had it been built in different times.

Below are the sketch drawings showing the original, uncompromised design of the Science Building.:

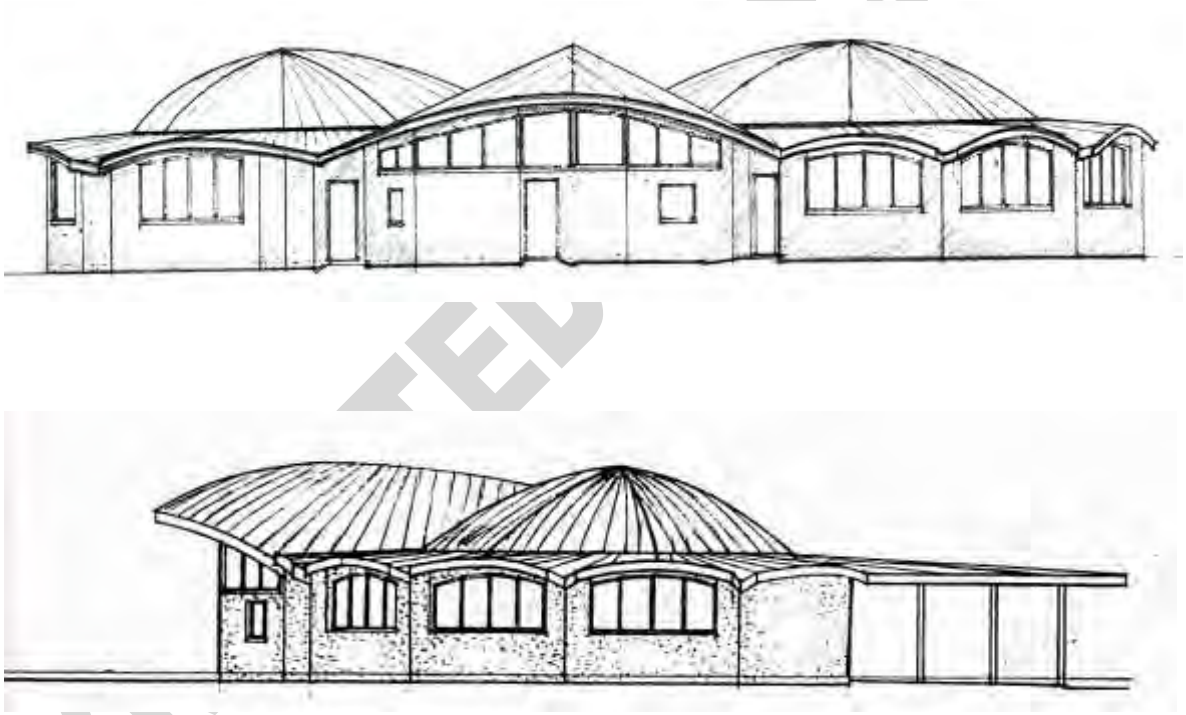


Figure 13-11: Elevations of the original design with curved petal shaped lower roof sections and Lobby

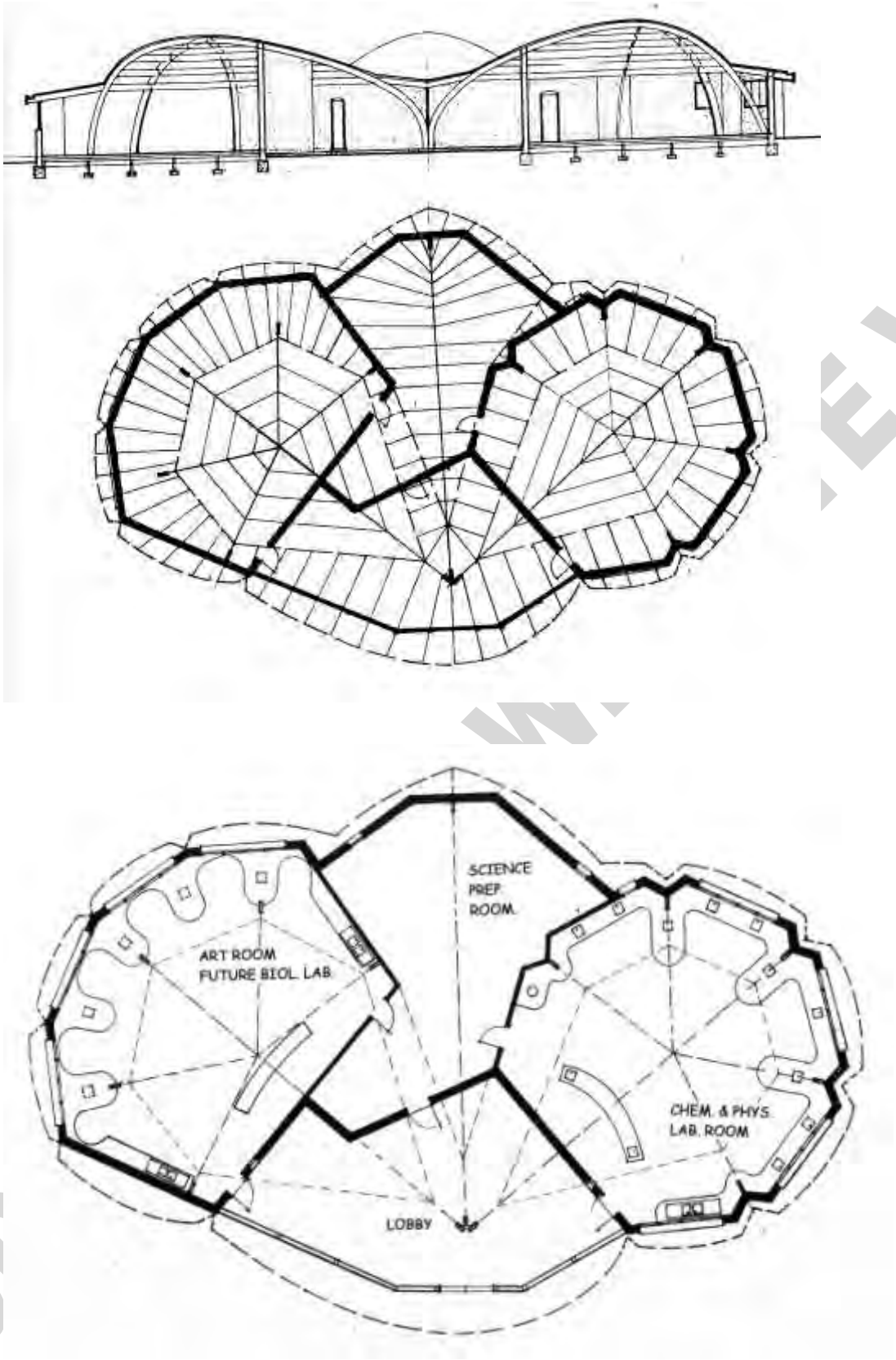


Figure 13-12: In the original plan the three curved ridge beams rose from the central lobby

The "temporary" Class 11 & 12 Building

Historical Comment:

In terms of organizational development the crisis of 2001/2 reflected the school's struggle to change from the pioneering phase, which it was outgrowing, into a post- pioneering or „organizational phase'. The temporary loss of trust in the directors and pioneers by sections of parents and staff meant that for a while the school was faced with a leadership vacuum and the College of Teachers was being facilitated by external consultants. By 2003 those most disaffected had left and the school had again the breathing space to move. New structures were able to be implemented, the role of Administrator was finally be able to be split into two new positions, one with a focus on business administration, the other on educational administration. By 2004 the school was again united and on course and was able to celebrate the success of the first class of students reaching year 12.

The class 11&12 building has the interesting destiny of being birthed in the middle of those years. Conceived and designed in 2001/2 and built in 2002/3 it became one of the political stumbling blocks. Johannes Schuster continued to be involved with the design and management of the building program while an agreement was reached to change architectural firms, which led to the appointment of Alvyn Williams from "Soft Loud House". This change would proof to be the start of a successful collaboration between Alvyn and Johannes which included work on the class 9&10 Project and the Master Plan. Johannes ceased his involvement as design consultant partway through the design process of classes 7&8 and after completion of the school's Master Plan.

However, back in 2001 the situation was very different. The design phase and building process of the class 11&1&12 building took place through a facilitated committee structure. The atmosphere was characterized by mistrust and an absence of social warmth. None of this was ideal, yet everyone did as best they could and the outcome, although not ideal, was the best that could be expected in the circumstances.

One of the casualties of these circumstances was the abandonment of the architectural impulse that produced the metamorphosing class room shapes from class 1 – 6. Fortunately this was only a temporary situation and a few years later, while the Master Plan was being finalized, classes 9&10 were able to be designed and built within the original biosculptural impulse of metamorphosing class room shapes, together, this time, with the added professionalism and leadership provided by Alvyn Williams.

At the same time the preliminary designs for the class 7&8 project were being prepared, although at the time of writing and for a variety of reasons it is uncertain whether the biosculptural impulse is able to be fully realized for the class 7&8 project.[1]

[1] see *A personal note* p.7

About the Building itself:

The qualities underlying a class 11 & 12 building ideally are connected with the perceived qualities and state of consciousness of the students in those years.

What was **"good"** and **"beautiful"** and worthy of exploration in earlier years is starting to become **"true"** for the students in the senior school. What in class 10 might be still characterized by **"exploration"**, has become **"analysis"** in class 11 and **"synthesis"** in class 12. The last two classes in the school, and in particular class 12, are like a flowering of all the seeds planted in earlier years. To allow the independence, initiative and creativity to come to the fore and be tested in a practical way, the year 12 project is introduced.

What was the aim that went like a golden thread though all the years of schooling? To support the individual identity of the student so it is able to grow in strength and balance to enable the growth towards freedom and the capacity for good and self responsible choices. The qualities sought to flow into the year 11 & 12 building therefore were a culmination of "courage, uprightness, self-confidence, creativity, sensitivity, good will and independence".

The ‚majestic' position of the building with the panoramic views, the high ceilings and tall windows and the roof which grows in height as it moves above class 12, were all intended to evoke the above qualities. However, as alluded to above, the abandonment of the principle of individually metamorphosing class room shapes opened up other possibilities such as putting an operable wall between the two rooms and creating the possibility of a large space in which the school could meet and have functions, which is what happened.

After the building was put to tender and prices came in too high, a seminar room and the entrance lobby had to be cut out to meet the budget. These spaces formed an integral part of the whole gesture and without them the building still has an unfinished and thin look about it.

A few years later, in connection with the work on the Master Plan and after having worked on the metamorphosing designs for classes 7 – 10, the question arose whether it wouldn't be possible to eventually take the impulse of metamorphosing class room all the way through to class 12. If so, what would the current 11&12 building be used for? There are many possible uses and only the future will tell.

The ‚noble' and elevated position of the room near the centre of the ridge line gives it special character and places it into the heart of the school's cultural spaces. By the time a seminar room is added to complete the building, it could become a senior school or staff library, a meeting room for the College of Teachers or similar. In any case, once finished and reallocated to a different use, the building could end up being very special and shake off the compromise it set out to be in more difficult times.

Figure 13-0-13: The uncompleted building, currently used as School Library

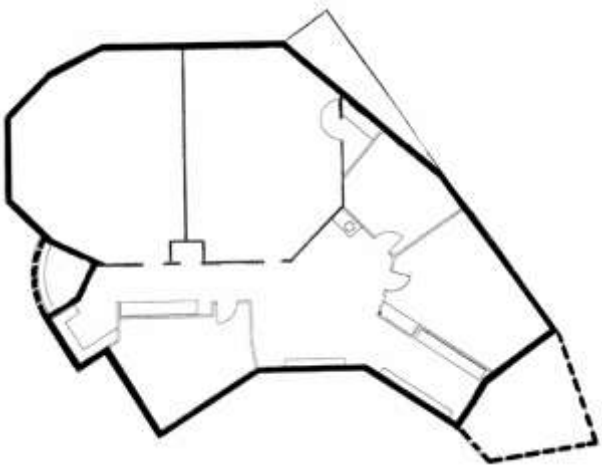


Figure 13-0-14: The original floor plan of the building, including seminar rooms and entrance lobby

The "Travelling Old Portable" – the school's "Foundation stone"

This small portable class room has an interesting history and really is like a foundation stone for the school. Located now in the Arts and Crafts precinct is its 4th resting place. Originally the room was purchased for very little money and transported to Alan Earl's original land in Tarrango Rd. There it waited, the cows using it as shelter, until it was transported next to the Wesburn Hall in 1988 where it housed the composite class 1&2 class during that year. In 1989 it was transported to the new school land where it became the first building on the land, located in the vicinity of the present class 3&e4 building. It remained in this position, waiting to be incorporated into the new Library/Administration building in 1991.

Figure 13-0-15: The "Old Portable" adjacent to the Wesburn Hall (with class 1&2, 1988)

This building was conceived originally as the old portable with the two halves placed at a distance apart to increase the size. Then, during the design process, the building kept growing in size and complexity until the two halves of the portable were reduced to become the two side wings of a much bigger building. The design had been worked out in such a way that the two halves of the portable could be slotted in on each side of the new building.

It wasn't until construction of the Library/Administration building was well advanced that the decision was made to build the side wings new and relocate the portable down near the mud brick shed. It was relocated for the 4th time where it rests now and its two halves were spaced apart as was the original plan to increase the size. In 2002/3 a storeroom was added and everyone felt the little building had finally become a permanent structure, looking back on a proud pioneering history.

However, within the master planning process and because of the location between the auditorium and the music precinct, the site where the Portable now stands was being reallocated to an outdoor amphitheatre type performance space. So the "Portable" will yet again move at some point in the future to what hopefully will be its final resting place.

Figure 13-0-16: The "Old Portable" moving to the new land (in the left corner the Kindergarten) and (below)in its current location . In the background the Library/Administration building of which it originally was planned to become a part of.

The Manual Arts and Crafts Precinct ("Arts and Crafts Village")

The Arts and Crafts Village began with the so called "Mud Brick Shed", which was built by parents early in the history of the school. Because of its conventional, non purpose built design it was located away from the heart and to the periphery of the school. Over time, as the school had need for other spaces, other portable rooms were placed near or adjacent to the mud brick shed. This had a number of advantages. Firstly, by placing non purpose built structures away from the areas where the purpose built rooms would eventually be built, the school did not have to compromise its long term vision and ideals. Secondly, the school's need for extra rooms when it did not have the funds to build purpose built rooms was able to be met. Thirdly, by placing all the buildings of conventional design together in one area, the inappropriate mix of architectural styles was avoided and the buildings are able to acquire their own village atmosphere, charm and character.

As a result of the closure of many State High Schools in Victoria by the Kennet government in 1998, the school was able to acquire a number of portable class rooms. In 1999, with the help of many parents and friends and many working bees, these portables were being attached to the Mud brick Shed to create rooms for the newly beginning secondary school.

Whilst some of the spaces are still used as class rooms, eventually all spaces in this area will be devoted to music and the Arts and Crafts. The newly built technology and music spaces of conventional design are contributing in a major way to the charm and village character of this precinct.

Figure 13-0-17: The "Mud brick Shed" and Art and Craft precinct

14) Major Future Projects

Gymnasium

The Gymnasium will be located adjacent to the basket ball courts. It will be big enough in size to house an indoor basketball court as well as gymnasium, toilets and washroom facilities. The Gymnasium will be expected to house the whole school community for functions and festivals. Having a space big enough for the community to meet eases the pressure for an Auditorium, which gives the school the extra time needed to prepare and raise funds for what will be the most ambitious and largest of all school buildings.

Hospitality / Dining Hall

The Hospitality / Dining Hall will be the social centre of the school. Accordingly, it will be centrally located and in close proximity to the future auditorium. This building complex may provide the facility to teach hospitality as well as providing warm and culturally attractive meeting and dining spaces for staff and students. The dining hall will have a close relationship to the central school court yard and will have out door terraces that take advantage of the magnificent distant views.

Auditorium

The Auditorium will be located near the heart and the entrance to the school and will form its cultural centre. It will be able to house the whole school community and be able to function as a concert hall and theatre. It is anticipated that its design and presence on the site will identify it as one of the most special and artistically transformative projects in the school.

Adult Education Facilities

Within a cultural and educational development as the one begun and planned on this property, the scope to provide adult education side by side with student education is enormous. The type of educational programs offered in the future will range from short term courses in the Arts, Crafts, Anthroposophy, Bio dynamic farming, Architecture, Steiner Education, Teacher Training etc. to courses that may provide accredited tertiary qualifications in association with other institutes or universities.

Artisans Village

There has always been a vision for an "Artisans Village" been associated with this site. Artisans practicing their craft in blacksmithing, glass blowing, furniture making, sculpture, painting etc. could provide a welcome opportunity for students to do work experience and see

and experience the work of artists in residence. On weekends the Artisans Village could become a tourist attraction which would give the artists the opportunity of economical support. Other events such as community markets, concerts and festivals could contribute to add colour, culture and profile to the local and wider valley community. The Artisans Village could have developed to become a modern, 21st century version of Mont Salvat in Eltham. However, through the course of the master planning process it became clear that the Artisans themselves and the wider community are better served if such a development was to occur in the township of Yarra Junction itself. To a minor extent, additional Artisan type activities are within the scope of the school's Technology area and „Arts and Crafts Village'.

Farm & Residential

A number of buildings as well as a degree of infrastructure will be necessary for the development of the Farm in such a way that farming activities are being integrated with the educational aims on the property and in order to serve the community.

Provision will also be made for a farmer's and a caretaker's residence in order to provide an after hours presence and security on the property.

Figure 14-0-1: The whole School property and lay of the land at 205 Little Yarra Rd.

Appendix:

The following discussion is taken from the revised sister document: *The Master plan and Anthroposophy*, which is also attached to the Little Yarra Steiner School master plan. It is being included again in this document because of its specific architectural relevance and in order to make available all the architecturally relevant sections in the one place.

Priority of Values:

Any design process involves decisions which, if they are to serve the organization, should be based on the values and criteria arising out of the vision and mission of the organization. Because Anthroposophy is such an important foundation which informs the school's core values, the present document was written and attached to the Master Plan.

Why do we need to prioritize values? Values tend to be universal and positive and everyone usually agrees with them in principle. The difficulties do not arise until different values compete with each other for time and resourcing. Time and resources seem to be always limited and so decisions have to be made what gets included in a project and what is excluded or has to wait. This is of course where the disagreements arise and where the ranking of values is essential so the decisions that are made are in harmony with the ultimate vision and mission of the organization. However, this is easier said than done.

It goes without saying that there is always a minimum standard that is non-negotiable. After all, facilities need to be weatherproof, livable and functional. Even here it is arguable what is an acceptable minimum and what is the "bare" minimum. However, assuming that the minimum standard has been met there are a whole range of desirable additions which demand prioritization. There are questions from the quality and quantity of furnishings and fittings, to the extent of landscaping that is to be included in a project, to the degree of acceptable structural complications arising out of a particular architectural design.

How are we to decide whether it is more important to cut back on landscaping so we can afford a timber floor instead of bare concrete, whether we should use organic paint in favor of commercial paint which lasts longer, or whether the available resources should flow into a more expensive structural design at the cost of an extra tutorial room and so on. Given that resources are usually limited, every project demands numerous prioritizations of this kind. Ultimately, once a certain minimum standard has been met, there are no right or wrong choices in an objective or absolute sense because every choice is either good or bad only in relation to which particular value we wish to uphold.

A further complication is that many values are age dependent and connected with the developmental stage and curriculum of a particular age group of students. A timber floor, for example, is much more important in the kindergarten, when the education of the senses is an important part of the curriculum, whilst a vinyl floor might be perfectly acceptable and perhaps more practical in an upper school science lab.

All of which makes it very difficult to come up with any guidelines. Yet it also seems inappropriate to relay entirely on the subjective or personal preferences of the various representatives of user groups of the day who may be involved with the preparation of the architectural brief.

Perhaps one way to tackle the issue is to look at the various architectural elements of a project and ask ourselves how they relate to particular parts of the human being. Perhaps this may give us a more objective basis upon which to prioritize one element of the architectural brief over another.

We know that human beings don't just consist of a physical body but are beings of body, soul and spirit. In an anthroposophical sense we could look at the various members of the human being in a nine-fold, seven-fold or four-fold way as is explained in Steiner's *Theosophy* and many other places. However, in order to keep it simple we shall focus here on the four-fold division into 1: body, 2: life body, 3: soul and 4: spirit.

1) **physical body**
2) **Life body** (etheric body)
3) **Soul** (astral body, sentient soul and intellectual soul)
4) **Spirit** (ego filled consciousness soul and higher members)

For the physical body, for example, it is important that a room is weather proof, heated and ventilated etc. but what color the walls are painted in is something that affects us in our soul and is of relatively low significance for the physical body. Yes of course if the needs of the soul or spirit are not being met this will definitely also have a follow on effect on the physical body but this is beside the point since we are looking at primary influences here.

The following summary is an attempt to relate the various areas of an architectural brief to the four parts of the human being[1]:

Physical Body	This includes physical function and the provision of physical shelter, including weather proofing, adequate heating, cooling and ventilation, the physical quality and durability of fittings and materials, as well as meeting health and safety requirements etc. What also belongs here is the serviceability of a building, which includes cleaning and the costs associated with general upkeep and maintenance. While these are not always directly connected with the physical bodies of the human beings using the room at any given time, they are related to the overall health and quality of the physical body of the organization, which must also be taken into account. This level is the one most easily understood and many of its components belong to the non-negotiable minimum standard, which makes a building habitable, safe and usable in the first place. For this reason many architects start here, when in fact a true creative process would start at the opposite end and gradually work its way down from

[1] For more details on the relationship between the human being and architectural form please refer to the sister document, *The Impulse for biosculptural Architecture,* as well as some of the other texts and previews available though www.biosculpturalArchitecture.com

	the spiritual to the physical level. (refer to the section on *The Creative Process* on p.38 as well as the sister document *The Impulse for Biosculptural Architecture,* which deals extensively with the creative process and its 4 stages of Warmth, Light, Movement and Form.)
Life Body	The etheric body is our "*vital*" body. Anything that makes us feel "*re-vitalized*" strengthens our etheric body and belongs here. This includes healthy air and circulation, ample moving space (spaciousness), the presence of the watery element in one way or another, for example through internal and external greenery, plantings and landscaping, non-toxic/natural materials and protection from excessive electromagnetic radiation. The etheric body is also intimately connected with sense perception: in this context what is of particular relevance is the sensing into the geometry of the architectural space, which takes place unconsciously in children and can become a conscious experience in adults. On a geometric level the element of WATER expresses itself through rhythmically ordered, rounded and obtuse-angled spaces, which generally have more movement and are more vitalizing or energizing than rectilinear spaces, although these effects are often below the threshold of conscious awareness. They do however impact us unconsciously at the level of our will. The opposite pole lies in the area of consciousness and thought, which is connected with the element of Light and belongs to the next section.
Soul	The soul is touched by the general ambience of a room, which is created through the type and variety of furnishings (carpets, curtains, furniture) color schemes and lighting. If the Life body is connected with the element of WATER, the thinking soul is attracted to the element of LIGHT. This includes of course color schemes, natural light, artificial light as well as the indirect effects of light and shade produced through the type of geometry or angles and the texture and pattern of materials. On a geometric level Light comes to expression through the geometry of the straight line and its resulting interplay of angles. The essence of Light, both in a physical and spiritual sense lies in its quality of reflection. Light therefore, in all its forms, has an awakening effect and should be considered relative to the age and stage of consciousness of the students. In as much as the *thinking* soul is connected with Light, the *feeling* soul is connected with WARMTH. Warmth in this sense includes both, physical warmth and warmth of soul. Soul warmth is being incorporated into a building through a generous and rounded or obtuse angled geometry and through natural materials and good craftsmanship, in preference over mass-produced or prefabricated factory items. It is the generousness of space and the human care, effort and creative substance and detail that is being expended in the making and

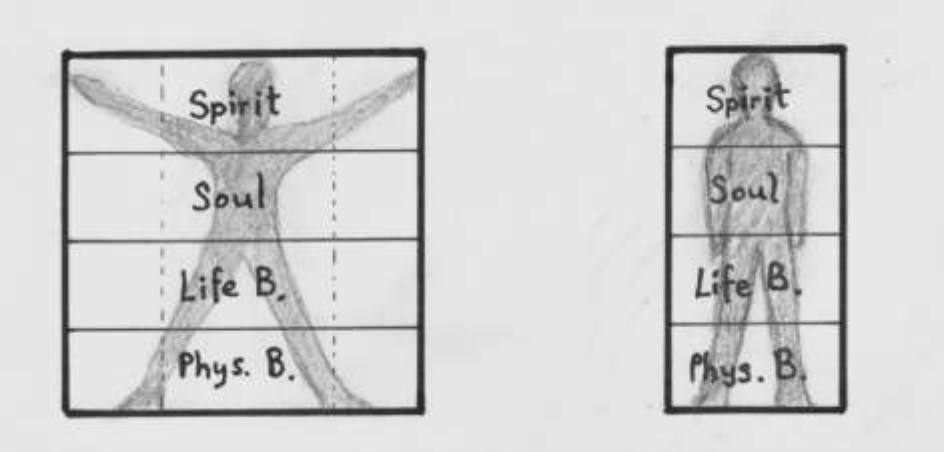
	maintenance of a building which lives on as an overall atmosphere of human warmth. Cramped spaces and an absence of natural materials, care and craftsmanship have a contractive effect on the soul.
Spirit	Up to this point no reference has been made with regard to the nature of the overall structure and form of a building. Apart from the brief references to rounded or obtuse angled geometries, most if not all of the elements listed in the first three sections could be accommodated in any design, from a square box to any other functional variation or shape. However, (and as is further explained in the previously referred to sister document *The Impulse for biosculptural* Architecture), just as the human spirit can only be accommodated within the human form as a result of the balanced form and beauty of the human skeleton, which distinguishes the human form from any other, so it is the overall structural form which imbues a building with an individual presence and a spark of life which contains its spiritual essence. In this way a building is either imbued with a positive spiritual value or content, or it is depraved of such a content in the absence of an individualized form and gesture. Just like much is expressed through the gesture and body language of human beings, in a similar way a great deal of a building's potential and spiritual substance is contained within its structural design and gesture. When we stand in the presence of great buildings such as the Sydney Opera House or Chartres Cathedral, what speaks to us and uplifts us most of all is their structural form and not their heating systems, energy efficiency, landscaping or furnishings etc. In as much as structural architectural forms can give expression to a genuine spiritual presence of being, we are being touched at the very same level of being within our spirit filled soul. The outer form triggers an inward response, which re-affirms that which is whole and good and lives as higher element within us. This is the very basis on which architectural forms can have an inherent power of moral transformation.

Obviously there are many more details and elements that are part of an architectural brief than the ones listed in the above. All of them however are likely to find their place in one of the above four categories. Now with the above categories in mind, let's graphically illustrate the different choices that can be made with regard to the prioritization of values and resources:

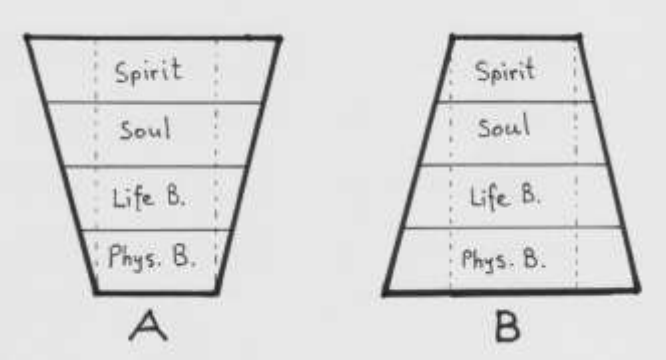
1) The ideal case and the bare minimum:

In the ideal case, depicted on the left below, every level of the design is amply funded and all decisions can be made in accordance with desired function and artistic merit.

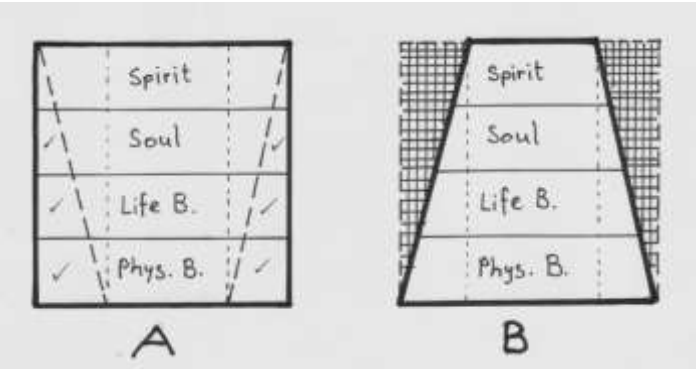
The bare minimum option, on the right below, represents the minimum resources that are a non-negotiable must for the building to be able to be functional and habitable.



2) Two very different compromise options:
On the left we have the compromise A which favors the upper, soul- spiritual components of the design, on the right is compromise B, which allocates the majority of resources towards the physical level:



3) The longer term perspective:
In this case we start with one of the two compromise options outlined above, in the expectation that some time in the future more resources become available to further improve and finish the project. However, the future options are not equal. There is an essential difference which it is wise to be aware of from the start.



Future option A:
In this option all the structural elements, which relate to the spiritual components of a building are already in place. It is easy to subsequently add other elements, such as landscaping, new color schemes, furnishings, better heating systems etc. over time, until eventually, bit by bit, we have arrived at the ideal stage of completion listed in 1) above.

Future option B:
In this case we are stuck with the limitations of the structural elements of the design, which cannot be altered short of tearing down and rebuilding major sections of the project. While we can grow from A to 1), it is impossible to go from B to 1). We can subsequently make additions to the lower level components such as improving fittings, adding more landscaping and furnishings, re-painting, even adding new spaces, velvet curtains and gilded door knobs if we like, but we can never turn a duckling into a swan or achieve the ideal option referred to in 1) above.
Whether we choose option A or B depends on our values. However, we must not assume that everyone would automatically go for option A. There are many people who would happily go with option B because on a physical and even, to a large extent, on a soul level option B is still able to deliver a perfectly functional, well designed and attractive looking building, with the added advantage that the final stage of completion is achieved up front. Option A on the other hand requires delaying certain components, reducing quantities and perhaps going for lesser furnishing or landscaping, all of which entails a degree of sacrifice. But even with inferior furnishings a well designed, structurally uncompromised building is able to project a unique, individual quality into the environment. In the ideal case such a building is able to inspire us on a deeper, morally transformative level. Exactly how this becomes a possibility is difficult to explain in just a short paragraph. More information about morally transformative architecture can be found on www.biosculpturalArchitecture.com

Sometimes it may also be possible to strike a compromise that sits somewhere between options A and B, although this may not always be possible. It is a bit like tuning an instrument to strike an harmonious chord. If I tried to find a "compromise" between two chords it might work and produce a new chord but it could just as easily result in a discord of musical intervals or, as in this context, a discord of architectural forms.

The important principle to be mindful of is that the structural elements are the ones capable of introducing a spiritual dimension to a building but at the same time they are the very components that are most permanent and least able to be changed later on.

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