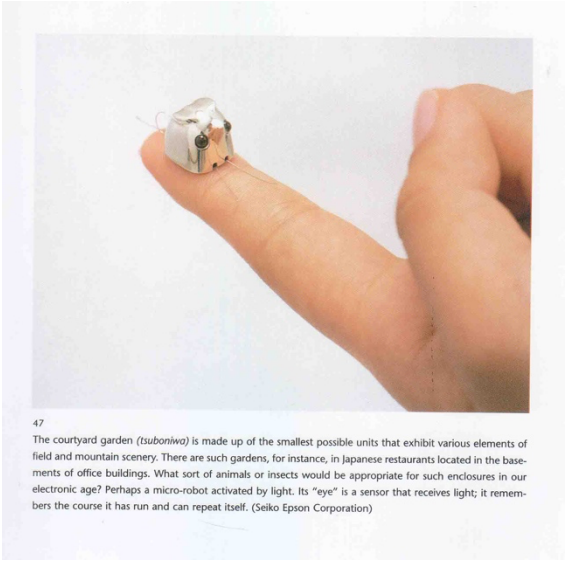
Critical Steel and the Perfect Wave

From Visions to the Visionary

Steel Images, Helsinki 2001, Critical Steel 2006 ed. Esa Piironen.

roger connah



47
The courtyard garden *(tsuboniwa)* is made up of the smallest possible units that exhibit various elements of field and mountain scenery. There are such gardens, for instance, in Japanese restaurants located in the basements of office buildings. What sort of animals or insects would be appropriate for such enclosures in our electronic age? Perhaps a micro-robot activated by light. Its "eye" is a sensor that receives light; it remembers the course it has run and can repeat itself. (Seiko Epson Corporation)

"For a surfer waiting for the perfect wave out there in the ocean, there is such a thing as a critical wave. This is the wave that might not be perfect in form or shape. But it is a wave that allows the surfer to perform at the edge of the most challenging. Anything less would not satisfy the surfer and would not dignify the critical wave. It should be the same with steel." [1]

Images:

Hotel Rosendahl, Tampere, 1973 (Laapotti & Kukkonen)

Moby Dick House, Espoo 2003 (Tasa)

Sanoma House, Helsinki, 1999 SARC

Fire Station, Espoo, 1991Erkki Kairamo

Part One

Why Talk of Visions?

Valio Dairy, Oulu, 1983 Antti Katajamäki

Nokia Ruoholahti, Helsinki, 2000 Tuomo Siitonen

Why talk of visions when they can be so lightly milled, so gently scripted and then can improve or even damage our world? Why talk of visions if they only mean what we see right there in front of us? According to the New Penguin Dictionary (2000) 'vision' is the act or power of seeing. It is therefore a sight, even a special sense by which we perceive, for example, the qualities of an object.[2] But *vision* is always a wider, more fragile, ambiguous concept. *Vision* implies a supernatural apparition as it leads us toward and pulls us away from the power of the imagination. It is said that the manner of perceiving mental images often distinguishes the artist's visions from the architect's vision, so what then distinguished the architects' vision from the engineers' vision? Yet visions they all are. And when that special sense looks into the future and the past, is it at that precise crossing, intersection that we get the visionary? According to the same dictionary the 'visionary' is a strong discernment, foresight and imagination. In other words by invoking the 'visionary' we expect to see visions. By this we also anticipate the future though it is not always taken for granted. Lest we forget however, even the visionary is ambiguous and always allows us to slip between both the past and the present in order to fool us into a future. Or is it the other way round? We might be more disposed to daydreaming, to imagining the unreal, the impractical, even the utopian. We may, to use Arthur Koestler's phrase, be *sleepwalking* into the future with visions of the past. Or we might be doing precisely the opposite; sleepwalking with the past in order to reach a future already known. These are serious issues, when visions become visionary to return us back to where we began, back to Go! Or onto the perfect wave and critical steel.

Olavinlinna Canopy, Savonlinna, 2000 Erholtz and Paakkinen Agora, Jyväskylä, 2000 Sipinen

Many histories of Finnish architecture over recent years have chosen to follow the 'heroic' narrative. Individual architects embodied – or were thought to embody in their own person and work - the vision, fate and national destiny of the young Republic. With more recent critical developments emphasizing Alvar Aalto's singular role in the Modern Architecture Movement of the last century, especially in Finland, it has become important not only to re-assess the role of Modernism in Finnish architecture (the modern agenda and power games, the need for recognition from abroad, the assimilation, courage and opportunism) but also the 'materiality' and constructive vision within the culture. With this in mind, the sensual, social and humanist visions that both architects and engineers imagine from a material like steel now appear critically urgent. Can we also reasonably resist the temptation to be triumphant about the architectural visions of the last century in order to redefine the visionary of this century? Have we come full circle? Is the vision now constructed in the shopping malls and public buildings dotted all around Finnish towns and cities? Or has the *cool image* of Finnish architecture hijacked the productive and economic material values. Where concrete allowed the sculptural gymnastics of expression for a brief period in Finnish architecture from the 1950s onwards, the last two decades has witnessed a revolution in what we could call *the constructive vision*.

Restaurant Oasis, Helsinki, 2000 Juha Ilonen

Aided by developments in software, computer aided design and imaging systems, the control and precision offered by steel and its attendant partnership with glass is now beginning to confirm, even repeat, this *constructive vision* first scripted and 'envisioned' in Finland in the 1960s. The nature of clarity, precision and the unfussy is, if we are to believe the images presented here, triumphantly re-asserting itself. Critically and historically, there are advantages here. The current productive and social relationship to steel, so strongly felt, so contemporary, so cool and warm at the same time - along with glass and the implied notion of 'transparency' and 'lightness' - surely allows us some speculations and pointers to the 'visionary'. So let us, for the moment, leave aside any constant desire to seek guidelines for the future from statistical models. Let us also forego production figures to measure ourselves and our countries against and opt for a braver, even speculative enquiry. Whether these speculations and fragments hint at an alternative and as yet unwritten history of Finnish materiality, remains to be seen.

Media Centre Lume, Helsinki, 2000 Heikkinen and Komonen

Visions belong the 20th century and the *visionary* belongs to the 21st century? Reasonable, if we are speaking about that mother of modern materials, *steel*? How are we to get past the current journalistic fetish for the visual? How are we to understand the desire to historicize images and repeat some of the more experimental buildings unachievable in the 20th century? Is this part of the predictable route from the vision to the visionary; a distortion of an accepted Modern vision with steel a victim?

Is this a development, a confirmation of past agendas, or a renewed engagement within architecture and its relationship with materiality, society, engineering and the market? The images we can assemble for a new collection of steel visions, new and old buildings within Finland, do suggest a strong historicist echo to the last century whilst they also seek new directions. Yet is there a way to understand these developments as a re-invigoration of a material that has become so heavily tied up with our contemporary existence?

Finnair Stadium, Helsinki, 2000 Atelier 23

More remarkably steel is suddenly tactile offering a warmth - even an intimacy - some may never imagine steel could possess. One has to wonder whether Peter Rice was correct when he said in his autobiography, 'An Engineer Imagines': "the engineer's own media fail fully to express the mystical excitement of the engineering challenge." Few besides an engineer like Rice could speak of the warmth of steel, the warmth of Beaubourg. "It is the details which control the reaction of the public and hence their perception of the scale and warmth of the building." Rice says. But these are no longer only learned conventions we can apply to steel. Steel has clearly offered more and gained new friends. And along the way a new romance, a new intimacy, even the spirit of nature offers the necessary social dimension. Steel needs constant research and development, constant re-invention, it is sometimes said, but contrary to the cool image, there is no doubt steel contributes to our understanding of just what it means to be contemporary today.

Such intimacy however is no longer only possible for an engineer like Rice who claimed for steel in Pompidou Centre, even the trace of the hand. “It is,” Rice exaggerated somewhat, “a return to the interest and romanticism of Gothic architecture, with its great scale when the ‘trace de la main’ is still visible.” Is this the visionary then for the new century – amidst all the development of software, cad and intelligent systems, the trace of the hand is still visible? And what of the trace of the hand on the console or the keyboard, or the stroke of the Japanese pen, the calligraphic slash; the building’s poetry in an unread, untainted line?

Viikki Information Centre Korona, Hki, 1999 Ark-House

We also know that high technology can be used in the service of some of the most conservative forces. Indeed, in many countries it has served this well. And we know the avant-garde was no less an uneasy domain in Finland in the last two decades of the 20th century as it is today. In Finland however the avant-garde has had very little place to turn. The ability of Finnish architects to think in and through the present yet return to a legacy within Modernism is beginning to have serious echo. These are the days of future passed. Without trying to exaggerate the role of steel in such a development, it is important to consider just what consequences this might for a material we might have expected to have penetrated a small society in so many inter-disciplinary ways. There is much talk today of partial destinies, of architectures remaining unfinished, an incomplete Modernism; yet this also implies architectures being completed after the architects and engineers have left. The consequences this might have for an established building material like steel are however as exciting as ever.

Baltic Square, Helsinki, 2000 Helin

Steel itself is robust and fragile, refined into the smallest chip, or the grandest ocean liner. One of the founding materials of Modernism, steel has now become inter-disciplinary, exploding as it has into theatre, ballet and film sets, sports arenas, exhibition and entertainment systems, personal theatres, kitchen, home cinemas, private islands other *event architectures.* If assembly is quick, if the touch is clean and unfussy, if the application is razor thin and precise, might one also expect steel to offer more inventive digitally fabricated, socially relevant architectonic interventions exploding as it could well do between theatre, film, sports, entertainment and life itself? Along with its contribution to the 'constructive vision' echoing the 1930s, has 'steel' also become a 'spatial product' without knowing it? Historically and critically it is worth a brief recap into this 'vision' of the last century, if we are to appreciate and understand the images and directions which now make up these 'steel visions' from Finland.

Part Two

The Constructive Vision

Art Academy, Turku, 1994 Pulkkinen and Pauno Narjus

Though much of the tectonic vocabulary in contemporary buildings in Finland still echo steel's potential for the 'constructive vision', can we now identify the similarity and difference to a *Constructivist* vision? And what exactly would we mean by this? Need we return to Naum Gabo's constructivist manifesto as we survey the visions of the new century in Finland to re-consider all this? In 1937 in *The Constructive Idea in Art* Gabo laid out the ground rules for a movement that was to explore the notion of a socially engaged art and architecture which emerged from the phrase 'Science teaches, Art asserts: Science persuades, Art acts'.[3] In the collection *Circle* (1937) edited by Gabo along with J L Martin and Ben Nicholdson, Gabo wrote "The constructive idea is not a programmatic one. It is not a technical scheme for an artistic manner, nor a rebellious demonstration of an artistic sect; it is a general concept of the world, or better, a spiritual state of a generation, an ideology caused by life, bounds up with it and directed to influence its course."[4] Did the general concept become even more general and become the spiritual state of a generation of architects?

IVS Landscaping Poles, 1995 Antti Nurmesniemi

Constructivism became an ideology used by the developing independent nation to better direct its social and cultural course. Independence and economic reality made a 'functional' utilitarian approach to architecture, engineering and planning necessary in Finland during the 1920s. At the same time the bureaucracy essential for a small country, the municipal and civic approach necessary for expanding the nation and implementing a central government policy, was established. The autonomy allowed under Russian rule throughout the 19th century, the infrastructure already in place because of this, could be strengthened. It is no surprise that the newly independent state during the 1920s turned for its civic and planning models toward Sweden, Scandinavia and Europe and away from the power that had governed it, Russia. For a necessary and rapid building programme of schools, housing, civic buildings and churches, which would accompany new programmes on child welfare, preventative school health care systems and maternity benefits, a *constructive vision* coincided with the necessity for utilitarian production in architecture. The result was an emerging pragmatism that allowed architecture to balance style and engineering within an independent civic structure. Finnish identity was forming.

Data-Technology House, Espoo, 1998 Brunow and Maunula

Vuosaari Metro Station, Helsinki, 1998 Piironen

For the Finnish professionals this was an architecture utilising the virtues and mentalities of a profession already established in 1900. Architecture was to represent the authentic act of 'national' building. A romantic functional-constructive vision defined mostly by Le Corbusier's five principles of Modernism slowly seeped into the country in the 1930s. By no means all architecture however conformed to this vision.[5]

Renewed attention to this period begins to reveal not how the country was literally covered with a sound, practical and inventive Modern architecture, but how the modern flat-roof white internationalism became a useful social and political tool. A selected version of Modernism also became the ‘signature’ of the expected modesty, clarity and authenticity of the national ‘style’. The same to some extent is undoubtedly true today with the plethora of grid and line, column and façade constructive steel ‘visions’.

Huvila Tent, Helsinki, 1995 Roy Mänttäri

When viewing the steel visions in Finland in the new millennium it is this echo that needs to be re-considered, along with Gabo’s narrative: “This idea has not come with finished and dry formulas, it does not establish immutable laws or schemes, it grows organically along with the growth of our century. It is as young as our century and as old as the human desire to create.” It becomes obvious if we wish to re-trace the shape of ‘modernism’ in Finland how linearity fails us, how isolating architecture from its social, cultural and political context distorts its history. The timing of Modernism and the architectural profession’s constant recourse to an ideological position and response to the Modern Movement invites us to skip years. To understand Modern Architecture in Finland is however to understand why today it is now ambiguously shaped more than ever by the works of Alvar Aalto. Curiously enough ‘steel’ is not outside this narrative. The almost total professional rejection of Aalto’s critically humanist works within Finland – a period which lasted three decades - has become one of the most difficult episodes in the country’s history. The Constructive vision was the force so often used to combat Aalto’s works.

Dance Hall Extension, Yläne 1968 Laiho

Academic Bookshop, Helsinki, 1969 Aalto

For a significant part of the 20th century, to the 'Constructivists' (if we are allowed to group them momentarily) Aalto signified a more engagingly heroic, more reckless, but *less modern, less visionary* architecture. To understand this is also to understand why for so many Finnish architects, with his overtly 'romantic' projects like Villa Mairea, Aalto betrayed what has become Finland *architettura minore*[6]. Is it only now we are we returning to understand the social dimension within these visions, within these ideologies and materialities caused by life, within the role played by an eminently assemblable and dismountable material as steel? Buildings in the last decade have begun to display an eclectic mix of the present, the past and the future; devices and architectural message blur into a curious state of the contemporary – almost a 'temporary contemporary'!

Murikka Metalworkers´ Union Course Centre Helin and Siitonen Teisko, 1977

Santasalo Gears Ltd, Office extension Kai Wartiainen Karkkila, 1996

This is worth stressing, for it is the key to the stylistic gaming in Finnish architecture which is often critically supported by the professional consensus of simple tectonic grace and restraint, the ideology-and-vision-to-come. It is true of the versions of Art Nouveau just as it was true earlier of the turn of the century architects like Gustaf Nyström and Armas Lindgren's own approach to Classicism. This would also be true of Aalto's more 'expressive' internationalism in the 1930s as he introduced yet tamed the freer form within his architecture, as to some extent did Reima Pietilä in the late 1950s and early 1960s.

Exuberance and flourish did not need resisting so much as they needed control and discipline to produce unconventional versions of a known architecture. The controlled agenda and the tectonic clarity within the *functional-constructivist vision* appealed to many architects for understandable reasons; it also collided with the move towards abstraction, that duelling experiment in control which was going on between art and science especially from the 1950s onwards.

Paper Mill Varkaus 1977 Kairamo

Bio-Centre Helsinki 1996 Löfström

This is the control claimed of the later 'lyrical' Constructivism of Erkki Kairamo in the 1970s and 1980s. His refined steel and glass aesthetic avoided the robust dynamics of more extreme examples of Neo-constructivist architecture and pre-empted the immense undervalued output and contribution of steel and glass production to Finnish housing in the 1990s. Further into the 1990s, with younger architects refining this idiom within a more general and confused mediatisation of architecture, the control and discipline recognised this Constructivist approach and re-stated the subtlety of assimilation and echo.

Residential Block, Tampere, 1990 Mikko Kaira/8 Studio

Tampere Hall, Tampere, 1990 Sakari Aartelo and Esa Piironen

Steel and the mediatisation of architecture return us to the 1950s. The shape of the *constructive vision* would go in parallel and often seems inseparable from these developments. The 1950s in Finland coincided with the need for architectural mediation. Journals, magazines, research and new books would continually re-interpret the work of the pioneers and the Modern Movement. The 1950s also built on an international interest in re-directing a lost Modern architecture and this offered Finland a unique chance to contribute both to the local and international arena. Exploiting the early white functionalism of the 1930s, architects would be seen as importers of an 'expressive' modernism. Any number of housing districts and civic developments, carefully designed usually in concrete, superbly but simply detailed, inevitably sited within the all-available forest, signalled a national agenda. Architecture began to represent once more a 'nationalist' drive. Architectural achievement took its place alongside wider industrial and technological progress. Influenced by CIAM, studies into housing, planning and - what was to become later a concern for Team X - 'clustering' emerged. All this expressed a sensitive exploration of the private and the public; despite the developments of home-gadgets and modern devices, steel had as yet though not yet entered the wider engineering or constructive consciousness. High-technology and the movements in Britain in the 1960s were of course yet to come.

Rautatalo, Helsinki, 1954 Alvar Aalto

Domino Housing System, 1966 Kallio-Mannila and Koivu

The narrative connected to steel in Finland belongs to the 1960s. The interest of critics, and others, in an architecture that could be more humane, more accessible than the 'white functionalist' cubic forms began to satisfy other appeals to 'realness'. Prefabrication, standardisation, Buckminster Fuller and the development of industrial design, the awareness of environmental concerns all shifted the young architect-activists toward social activism and change. The good life, the artistic life, the cultural life, Marimekko and red wine coded the era. Provocation was irresistible; steel became part of this development. The 1960s would see emerging differences between a more flexible but controlled 'nationally romanticised' Modernism and a more universal, normative Constructive Mmodernism played out in the emerging technology potential within a material that could be rapidly conceived, planned, assembled. Steel offered results to the impatient, vibrant, often visionary aspirations of the young. A building could suddenly take on the aesthetic of a refrigerator.

Dipoli Student's Centre, Espoo 1966 Pietilä

Congregational Centre, Hyrylä, 1967 Mikkola and Pallasmaa

Though calling the 1960s decade 'revolutionary' might seem a touch dated today, there was however no doubt about the thrill, the solidarity, the activism and confused militancy of the period. Whether this was an avant-garde at all requires urgent research; its echo into the new millennium is however undeniable.[7] The events in Paris May 68, environmental fears, ecological doom, Vietnam, famine in Biafra, Bob Dylan and The Grateful Dead, an anti-technology backlash; all issues reinforced a generation gap, an oedipal terror.

The growing protest movement in Europe and the USA would collide with the necessity of the young students and Finnish architects to establish once again their own difference with those Finnish architects who had become recognised in the late 1950s. Steel played a role in this. The architectural juries were swayed too. Plurality was bypassed; the replication of Miesian architecture almost taken for granted. The *constructive vision* deepened – at first the social dimension was uppermost, later the visual signature of it all led to the acknowledged mediocrity and thin architecture which had remained unrevealed in the heated era.[8]

Private Swimming Pool, Turku, 1967 Piironen and Pulkkinen

Valio Factory, Vaarala, Vantaa, 1972 Mäkinen, Löfström and Katajamäki

We now know, the early 1970s in Finland played out versions of a borrowed, deflected and muted Marxist-Leninism in its political and cultural circles. Young architects and enlightened engineers were not separate from this. Constructivist art had also played its part. Gabo's agenda, against his own proclamation, had indeed become programmatic. The activism that resulted in architecture may have started with an intense and passionate enquiry into sensitive, system building and the experiments into a serialised, democratic production for architecture. But it also ended with a thin diagrammatic architecture of mediocre validity. A Constructivist aesthetic was inevitably spawned as both activism and prefabrication helped realise earlier urban and mega-planning schemes. Why, some were to ask later, was the modern agenda so trimmed as to produce such sterility? Why had the alleged unselfish act of creation and the progressive thinking of the constructivist architects suddenly gone so wrong?

University Library, Jyväskylä, 1974 Sipinen

Kouvola Church, 1974 Laapotti

Steel was not necessarily to blame for this. Brutalism too made its brief appearance in the mid to late 1960s, and for some reason apparently seemed more suited to church or civic centre. By the 1970s concrete, through the development of standardisation and heavy prefabrication methods, made a return to the Finnish landscape; the suburbs were urbanised by high-rise, imperfect replications of other solutions in other countries. Industrial minimalism met prefabrication and higher visions; the Finnish concrete suburbs were born. The lightness of the constructivist vision implied in the agenda, suggested in the steel building of the early 1960s, needed a re-think. Despite the jewelled cubes and boxes, the metallic facades, the striped-ribbed lines, the Miesian detailing, time itself was not on the steel industry's side at that moment.

Two-family House, Helsinki 1973 Pallasmaa

Marimekko Oy, textile factory, Helsinki, 1974 Lahtinen and Kairamo

In many ways steel and the steel industry got involved with the backlash and reaction to the sculptural mostly-concrete 'expressive modernism' that had brought Finnish architecture and individual architects to world attention. Whilst these 'heroic' architects (Aalto, Pietilä, Siren, Penttilä) were awarded international commissions that would take them through this period, the younger architects began to question the very modern agenda they had used and the increasing dullness, as they saw it, of the profession. Technology, steel, lightweight even impermanent structures had offered instant salvation during the 1960s. Ideas borrowed from other countries and industries began to appear. Plastic too combined with steel but the expressive urge was controlled.

In critical terms and in some of the better works from that period we can identify a ‘constructive’ retreat. Though the *constructive vision* was less revealed, hidden within these buildings was the same rigour, the same clarity and at times a convergence on accepted ‘constructive’ resolutions. Even if the aesthetic control of these buildings often appears to be graphic first, tectonic second, plastic third, there is an obvious critical and historical point here. Imagine these same buildings in glass and steel. Imagine these forms now trimmed with neoprene jointing, seamless technology, coated glass developments, structural glass walls and the same images begin to appear before one’s eyes. These are the visions that perhaps jumped material; the heaviness of the 1970s and early 1980s suddenly gained by the advances in steel production and experiments in glass. Suddenly buildings conceived in mass and void, following the semantics and vocabulary of post-modern games, were trimmed; buildings like the Nokia Headquarters in Espoo and Sanoma Talo in Central Helsinki are clear examples of this development.

Nokia Headquarters, Espoo, 1997 Pekka Helin

Extension of Nokia House, Espoo 2001 Helin

If the young Constructivist Finnish architects of the 1960s championed - loosely or not - a systematic assimilation of a framed-and-gridded architecture from elsewhere (Mies, Corbusier, Japan, De Stijl…) we must not forget how the diagrams presented turned - in the 1970s, as it did in many other European countries - into a bland, schematic architecture. Earlier mega-buildings like Kaivotalo and Makkaratalo began to present the image of a somewhat heavy and lost internationalism.

The self-same architects speak now of the grim architecture of the time resulting from authentic and admirable experiments of systematic module thinking. But it was steel that would gain from this realisation. The huge upset of the 1980s heralded by Post Modernism became an antidote to the 1970s. As the steel industry gained momentum, the emerging buildings in the 1990s became the logical extension of the architects' desire for a 'constructive' systematization. The profession however did not always help the industry. Discourse remained closed, privileged and coded. The conflict between quantity and sophistication remained un-discussed and the activism and high ideals for a socially active, 'democratic' architecture were not translated to the public at large. This made 'steel's' self image difficult.

Radiolinja Building, Espoo 2001 Tommila

Biocenter 3, Helsinki 2001 Jokela

Research now indicates that the degree of excellence and experiment applied to less monumental modernist projects was later to be re-applied to the industrialisation of the steel construction industry. However, without being let into the secret 'deep structure' of Modernism, the 'constructive vision', the public understanding of architecture plummeted. During the late 1980s, steel buildings also became involved in the brief but fashionable Deconstructivist period in Finnish architecture. The diagonal, the slanted form, the stagger became familiar devices, more easily constructed in steel than concrete. Influenced by thinkers like Baudrillard and Bourdieu, Finnish sociologists like J.P.Roos and others however attacked this vision as an 'aesthetic rationalism'. Generally, architects denied the intervention of sociologists and other outsiders, whilst engineers began to come to terms with the new software programmes and imaging models.

Itäkeskus Shopping Centre, Helsinki, 1984Erkki Kairamo

Nokia Meripuisto, Helsinki, 1988 Ilmo Valjakka

World historical conditions may have changed and were about to change dramatically in 1989, but in professional terms the image of an ideological Finnish architecture would proceed predictably toward the end of the 20th century. With one difference: the steel and glass buildings were about to re-state the *constructive vision* embedded within the Finnish 'psyche'. In the media, in engineering and architectural circles, this constructive Modernism would be strongly presented as an unchanged yet strangely rediscovered 'tradition'. What some may refer to this as 'Late-modern', the constructivist echo is doubtless strong as emphasised within the visions set out before us. But younger architects have begun to recognise the trap. Like the works of the Russian Constructivists, the social and poetic dimensions can be imprisoned in visual fetish and sideline the serious tectonic development. Influenced by developments in single, double, multiple glass wall facading and steel jointing, meshing and detailing, structural double-glass *rabbit-hutches* (nicknamed aquariums or 'mink-net' architecture) started to appear at the end of the 20th century.

Kone Building, Espoo 2001 Siikala/SARC

Futurium House, Turku, 1988 Antti Katajamäki

If this implies the new architecture was not so obviously architecture of social reform then we can now understand the route and why the *constructive vision,* aided by the detailing and engineering potential of steel took hold over the Finnish architectural profession. In many ways steel has stepped in; it has begun the renewed search for a representational 'constructive' form that would not only echo the traditions of 'modernism' but once again imply nationhood, social progress and permanence for the Finnish society. It is this 'vision' within the steel buildings which often stand in for other architecture. Awarded buildings do that. And it is possible that within this triumph, Finnish architects, both old and young, see once again their architecture associated with, inseparable from the Finnish mentality and the narrative that takes us back to Naum Gabo. This is not an arbitrary stylistic choice but a sincere, underlying echo back to an agenda for social change with a built-in cultural status. Steel now appears to have the major role.

Office Building Hammareeni, Tampere, 1986 Antti Katajamäki and Maria Pesonen

Hansasilta, pedestrian bridge, Helsinki, 1986 Sakari Aartelo and Esa Piironen

Aviation Centre, Teisko 1987 Antti Katajamäki

The Constructive Vision is re-defined: transparency and lightness begins to be read alongside the 'natural' spirit that creeps into some of the new steel and glass visions. Slowly hybrids too are suggested. Here we must recall Le Corbusier's manifesto in the 1920s for an engineered architecture of harmony and unity. The constructive vision implicit in many of the examples of award wining Finnish architecture appears momentarily to have won out. We have come up to date.

It is quite easy today with a *photoshop* skill that we think of a photoshop architecture in a photoshop world. This of course does not do justice to the Finnish architectural practices who persist with their spatial engineering and their experimental research and detailing. Is this where something we used to call architecture becomes a spatial product. Yet the more we read and scan the publications, the more difficult to celebrate the vision of a material – steel - that must now go much further than it has ever gone before. Is it ridiculous to say a material has a responsibility? What if steel is now more than a spatial product? What does this mean? Is not the steel industry responsible along with the architects and engineers for the social development and expressive potential within this material? Must not this begin to take Finnish architecture and planning further than it has gone so far? And if the expressive nature of steel and revised conditions of engagement are implied in new thinking about steel engineering, research and development, what about the architect in relation to the expressive engineer?[9] Do Finnish architects usually have a problem with wider collaboration? Can the Finnish architects let go of themselves as self-promoted heroes and involve themselves in serious collaborative ventures? Sometimes it appears to the engineer that architects exert a control over images - a *constructive vision* flattened into images - that is often stronger than the desire to use steel more inventively. Finnish architects and engineers are beginning to look at the material technology and experiment laid before them and inventively refine for their society's use. The future is clear if not transparent: a quick informal survey is needed.

Metso Main Library, Tampere, 1985 Raili and Reima Pietilä

Heureka, Finnish Science Centre, Vantaa, 1989 Heikkinen and Komonen

Part Three

Transformers

A quick informal survey helps us look at the moment. The Finnish Constructional Steelwork association – has always been enthusiastic in publishing the development of steel, its achievements and its latest pin-ups. All these are immaculately implemented, immaculately photographed and just as immaculately appear to fit straight from the Francois Truffaut film set of *Farenheit 451*. The FCSA continues to triumph this development in publications like Stainless Steel in Architecture, Metal Facades in Architecture. *Terasrakenne*, the steel journal continues to disseminate the market of steel if not its adventure. Steel cannot of course avoid the democracy of taste.[10]

Helsinki-Vantaa Airport, Middle Terminal, Salminen Vantaa, 1999

Visiting the Finnish Building Information Centre and publishing house, in amongst the industry around Aalto and the desire to consolidate trends but not make trends, there is a new phenomenon. New publications include a couple of pamphlets on Digital Modelling, one a philosophical approach to Information Technology and its relation to architects and the other, a manual on Product and Data Modelling (*Tuotemallintaminen rakennushankkeessa*).

Speaking to those in the Information Centre I am told with some humour that “this is the next ‘rock and roll’”. I took this to mean that this is where it is going to be in the next five years if not right now in Finland. This doesn’t surprise me. Finns have excelled when they have had to collate material and come up with innovative localised versions of the grander model. They did so during the war with the Buildings Standards Committee. And there is now a new challenge.

Airport Terminal, Rovaniemi, 1992 Heikkinen and Komonen

The search is on to standardise informational technology, digital modelling, data transfer and software systems. This will affect engineers as much as architects; it will also affect the development of steel both within the country and the growing export market to the previous Eastern Bloc and the old Soviet Union. Increased building production is likely to follow but it is not at all certain that the poetry of building, the social dimension, spatial dynamics or eco-awareness will necessarily improve. Without a concerted effort to collaborate, to increase research and development, to instigate new visions, the visionary may suffer. Is this part of the current efficiency game? Are we prepared to acknowledge just how much coherence we make and apply to a consumerist world which is slowly undoing itself and misdirecting itself at the same time it imagines these steps into the future, the visionary?

Pikku-Huopalahti Multipurpose Hall, 1997 Esa Piironen

Cultural Centre, Espoo, 1989 Arto Sipinen

In regards to Auto CAD, Microstation, Rhino and other software systems, most students know more than their professors as to what limits each system produces and what parts can be hacked to re-invent the process whether steel beam design solutions, floor/area loading, design columns, beams, slabs, walls, joists and connection in one integrated environment. Some programmes now recognise the need for step-by-step hand calculations of all formulae. The result is clear. Every engineer's desktop can be every architect's desktop and vice versa. Students and younger architects are also aware that in such systems standardised protocols can be discovered to allow these systems to work together. Many also know that the wonder – the *visionary* we might call it - is probably not in the way these systems can be collapsed on one another to produce an industry standard, but in the space created by the difference in these systems. I irreverently recall the David Bowie line in Diamond Dogs: "this ain't rock and roll, this is genocide." Yet experience needs to be gained and application may remain thin without an understanding of how the constructive vision within Finnish architecture needs to be intellectually re-positioned within the landscape and urban environment.

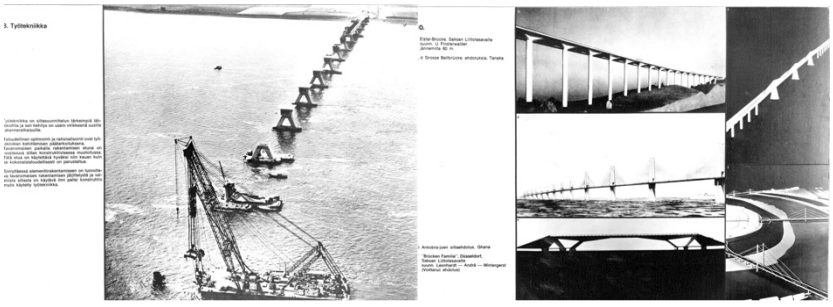
Tampere University extension 4, Tampere 2004 Katajamäki

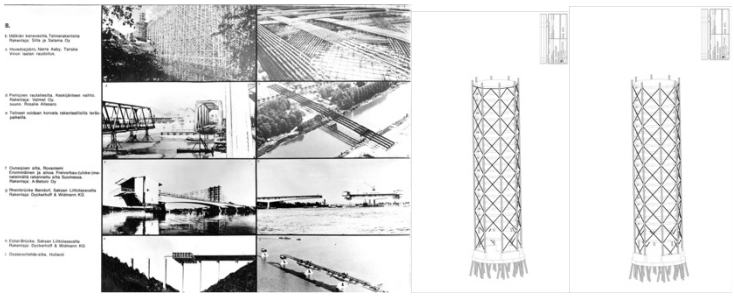
In conversation with a visiting American professor, I was informed that the developments in sustainability and environmental awareness are more easily taught and accepted in the Engineering Department rather than the Architects Department in the Technical University of Helsinki. Is this true? This may be the gossip of eternity between engineers and architects but I do wonder what value we can ever put on anecdote when much of the history of the last century is condemned to gossip, albeit rather refined.

But as if to confirm this, in conversation with a leading practitioner and long-time professor of sustainability and eco-awareness, I learn the course on Sustainable Systems and Environmental awareness has been terminated at the Helsinki Architecture department. After 20 years such studies have been allegedly integrated into the Landscape Department. This seems a backward step for someone who has been teaching for 2 decades. The professor is however philosophical about it. Says sustainability and an eco-awareness will come round again but for the moment something political has reduced the issue to landscape, a soft science. More alarming is his fear which remains unvoiced. At the moment, sustainability and eco-friendly thinking are so international and obey the high technology of research and development, that architecture is irresponsibly adrift again. It pays but lip service to these ideas, the professor says between the lines. Personality clash, I was told was responsible for the change in the university. It was more serious: budget cut-backs and general well-being in the society produce a mysterious indifference to the very environment Finns like to preserve. Meanwhile, some 20 minutes outside Helsinki next to one of the best examples of an eco-aware house in Kilo designed in the 1970s by this professor, is a development of town houses pitch-roofed into the countryside. Rock is now dynamited, the space is flattened and any genius loci, spirit of place, contour sensitivity the architects possessed is being eroded by price wars and contracting madness. Yet this passes too. Nobody appears responsible for an oversight until it is oversighted itself.[11]

Saame Bridge, Utsjoki, 1993 Esko Järvenpää

In conversation with a leading Finnish engineer I had heard that roofs had collapsed in the last three or four years. Not one or two but many. Rumours, I ask. No not exactly, he replies. Not material related? No, he adds, steel, timber and concrete all suffered. Not enough to make a crisis then, I offered, but enough to suggest something amiss. He nodded without quite saying ‘yes’. Is it unreasonable to bring attention to this? But the cleverness with which this is re-directed remains untouched, he implies. No one is really to blame. The general flattening of contractual and production methods during this time of consumer dullness means the lowest common denominator. We all know what this means, he says. He didn’t continue. He left it, assuming I could work it out myself. Looking around at the Cartesian boxes and repetitive steel meshing, I wondered if he meant the slow commercial erosion in the unimaginative corporate malls that were attempting to urbanise the centres of many Finnish towns and cities. The constructive vision was rampant. More serious, I was told, it was structural discontinuity. Blameable not on anyone for there is no blame game, the engineer tells me, this is the result of quick, uncomplicated and cynical building practices, contracting and production procedures. Apparently, no one cried ‘ouch’. Apparently, no one has cried ‘ouch’ in Finland for years. On his face, a particularly wise smile that suggested this had happened before and would happen again. Big boys don’t cry, he seemed to say, nor do the big engineers or the big architects!





Matti Ollilla – Bridge Exhibition and Naantali Tower

With all this building, with all the advances in technology, digital modelling and software, especially the push in steel manufacturing and innovation where then, we might ask, does this leave the natural habitat? Awards pile up for the best constructional steel work of the last five years, many of them well deserved and pioneering. Though glistening as many of these new 'spatial products' are, the undercurrent is one of quiet nostalgia. The Constructive Vision is both comforting and cold; it shares the world with the titanium *ibook.* Looks good to carry around but where is the 'dwelling' within, where is the social depth that can contribute towards the everyday? Within the calculation and efficiency, is the visionary starting to look a little 'poetry-light'? Perhaps there is an impasse. To go by the journals and media the 'visionary' projects in steel development might just be happening elsewhere than Finland. More and more Finnish architects and leading engineers seek to work and ply their trade in the former Soviet Union, or more favourably in China and the Far East. This begins to leave us with an obvious question about the architecture back home? Where is the development in social housing, sheltered accommodation, high-rise or low rise? Where is the housing that is not superbly detailed, functional and as sleek as the American double-hung fridge with an ice-making machine in the door?

Where is the future visionary house-for-living if that living itself has become a cliché in this the world of modern visions? Instead of the magazine Period Living we now get Modern Living where Modern is that period before the one to come. Where is the home for healing, for dwelling, for chaos and serendipity, for intimacy and the coincidences of everyday life? And what role steel, what role invention, what role the responsible architect and engineer in all this? Hard to say!

Part Four

Integrated Engineering

Ideas are advanced in one country, in one office to be disseminated elsewhere.[12] The on-line theatre of visual images makes sure of that. The gabion is developed and finessed in one leading office say in London, whilst its visual signature is hijacked for the hero architects and the image carnival.[13] Despite the avant-garde potential of new developments in steel and glass, in structures, jointing and detailing, in digital fabrication, in CAD, in cross-platform software programmes, the question we must pose to the steel industry, to the architects, engineers and contractors is whether Finnish architecture now comfortably appears to be safeguarding its own constructive vision.[14]

How long is this going to survive? In a country that has constantly monitored traditions and trends of a changing Modernism, the time will come surely when works and visions like this will not stand. What is now celebrated as a Decorative-Constructivism – interchangeable, colourful, and metal-adaptable facades - will come up against the desire for urban, social and civic change. The existential condition may then hit the profession of architects, engineers and planners. When it does caution; the society and town officials will be cleaning glass from those constant attacks called 'blinding'- spraying glazed buildings until those inside can no longer see out. The modern vision blinded, it will be time to look again. That this affects contemporary engineering as much as it has been architecture's success is beginning to be discussed. One only need note the interest with which Finnish engineers and architects monitor leading architects and new developments around the world. Attention is paid to an architect like Frank Gehry when he begins to speak and explore a building made entirely of glass. Removing the need for any structural support system, the spectre is exciting and blasphemous. Do only heretics or hysterics talk about the end of steel?

Kamppi Shopping Mall, Helsinki 2006 Pallasmaa

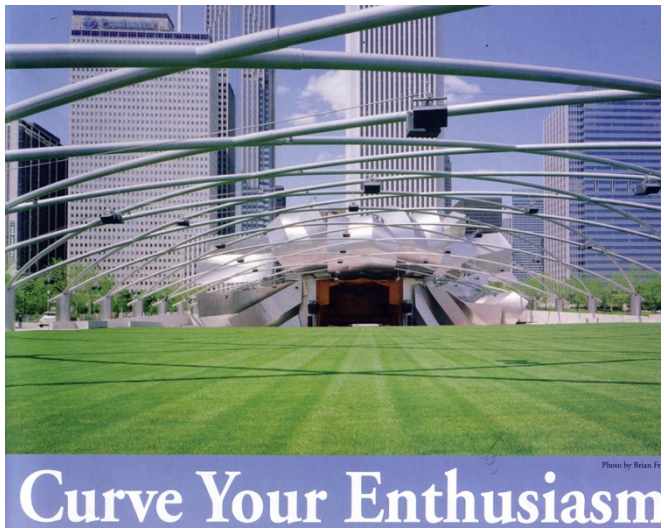
Yet somewhere out there an anonymous architect is working with scientists and engineers to create that vision. G*lass may do it,* they say*, but steel is not far behind.* Are steel and glass inevitable and inseparable partners? Buildings unachievable but not unimaginable in the 20th century are now being built in front of our eyes. The strange trade fair and world fair exhibition buildings of the 20th century begin to re-model the 21st century. Yet have we lost some of the astonishment we used to give such imagination: has the digital age turned the enigmatic building into the commonplace?

As if the paper images, the sketches now so readily accessible when digitalized into zeros and ones, become the buildings they should not have become. Strange reversals are going on today and if we dare speak of a ‘vision’, we should also speak of the ‘visionary’. Regionalising the international idiom was a theme picked up by many Constructivist Finnish architects in the last century especially when it offered opportunities the architectural profession had been waiting for. Is this true today? How are the Finnish architects and engineers going to meet the new material developments and research will also dictate how steel contributes to a new social dimension in Finnish architecture. It is not that these images or visions distort a more ordered ‘internationalism’ but how it will re-invigorate the regional idiom.

McDonald´s HQ, Helsinki, 1997 Heikkinen and Komonen

In this, the first decade of the third millennium, we note a challenging paradox. Whilst steel is still associated with all that is ‘cool’, contemporary, it is becoming inseparable from the spirit of nature. Yet as we have traced, steel is also strongly associated with material correctness, with honesty and the ideals of the ‘constructive vision’ and the ‘modern movement’ in architecture. And by nature of its manufacturing process, its pouring, rolling, milling, spinning and finishing, steel is necessarily a controlled material. The artificial rusting qualities of Cor-Ten are usefully symbolic; they become fashionable precisely because the ‘deterioration’ is pictorial and its representation can be predicted. To an architect Cor-Ten is an acquired taste, to an engineer ‘rusting’ is perhaps merely a trick of chemistry.

To the public, we get endearing, and sometimes less so, of a ‘rusty tine box’. Steel ages with difficulty, sometimes with ease. And unlike the ruins of a concrete building, only timber ages with similar predictability. Timber is soft, paternal, tactile and points ahead of steel in the taste war. Yet steel, surprisingly, is catching up. The trend for transparent plastic containers, from the kitchen and bedroom through to the schoolroom or workplace, echoes the trend for a metallic finish. The more stainless-steel objects reach cult status, the more simple things like a Filofax or a personal computer can be wrapped up in thinning steel, metallic plastic or titanium. The latest Apple Macintosh laptop is the Titanium model. The more the ‘metallic’ taste for steel alters, the more high-tech imaging also shifts to alternative technology. Even the concept of ‘plastic steel’ or ‘green steel’ becomes manageable. Let us remember this is a time when running shoes and athletics wear, an eau de toilette or an after shave, can all conceivably be branded ‘High-Tech’. Yet we must pause and acknowledge the ambiguity of this desire. We must separate the desire to label something ‘high-tech’, and the actual innovation, intelligence, alternative thinking, social relevance and production which goes into making something a development of *high technology*.



"When it came time to turn Frank Gehry's inspiration into reality at Chicago's Millennium Park, Skidmore, Owings and Merrill turned to Chicago Metal Rolled products for solutions to the challenge of curving pipe for the trellis that supports the speakers and lights at the Pritzker Pavilion." So runs the advertising blurb for Chicago Metal Rolled Products in the American steel journal.[15] Software has become more accessible as we notice newer collaborative practices. *Digitalisation* becomes more widespread. Shared software skills necessary for any designing imply a renewed status for engineers. Invention is shifted, allowing engineer and architect perhaps to become more responsive, even more imaginative. There is talk amongst engineers that these software developments will mean architects having to catch up on some of the skills they felt traditionally fell outside their discipline. But it works both ways. As quickly as architects bring in their CAD machines and master software programmes like Maya, these same software programmes are already opening up engineering to those engineers already creatively prepared for the tools offered. Risks are no longer ruled out by calculation and lack of vision. Frank Gehry's Bilbao Guggenheim can be applauded for its grand use of 'cheap' available titanium from Russia, whilst titanium itself has already reinvented the intimate machine, Macintosh's Titanium World. Abu Dhabi will get the next Guggenheim, and the New York Times will produce a user's manual in their How To Sunday supplement: *Make a Frank Gehry Building* (Alex Marshall). As if a Gehry is now a quirky, enigmatic short novel like those Richard Brautigan used to write: So the wind won't blow it all away. *1 turn the cardboard model into virtual reality and then back to cardboard. 2 Ask the computer how to build it. 3 Makes contractors do things they've never done before. 4 Put the puzzle pieces together. 5 Don't make a single mistake*.[16]

Is this unfair? Is this what constitutes a vision or the visionary? When the modern visions come together to produce a collective triumph – *the engineered constructive vision* - we may no longer need the architect. Perhaps this is Le Corbusier's vision fulfilled 80 years on: the engineered product has triumphed. An architecture of professional consensus has no more to offer the engineered product than it does the poetry of any soul. Of course, the steel structure will compete for years to come. Whether these structures are clothed in digitally fabricated surface nets, meshes, grills or grafts remains to be seen. But if it is a vision we are to celebrate, it is also the visionary we must anticipate. In the future, as these modern visions run their course and repeat scenarios already written in science fiction and horror book, the *visionary* might not be drawn along the lines we see so clearly now. The visionary also requires of us to relate in a completely different way to the responsibilities we have, to the readings and information that we can no longer keep up with. So, yes, let's celebrate the remarkable consensus in the way steel has participated in building the image of the post-war informational technology Finland, yet let's also be realistic about the achievement: the days of future past are over. That said the visionary is required of us all.

Finnish Broadcasting HQ., Helsinki, 1993 Ilmo Valjakka and Pervin Imaditdin

The signs are more general: we use clichés but behind them we are aware of the changes. The 'cutting edge' is here in front of us, in the research and development, in the laboratories where steel extends its own potential. Seamless work in architecture – the visions imagined from this material - and software suggest we can speak about a new intimacy. Many Finnish architects and engineers realize their contribution to the development of society and industry means they must expand their collaborations to take this on board; a shared practice becomes a critical practice as can be seen from many of the new steel buildings produced over the last five years. Clearly some of the more successful uses of steel in Finnish architecture are represented here. Yet we should say a word for those not included. New works suggest innovation which even the industry may not be quite sure of yet. [17]

The National Library of Health Sc, Helsinki,1997 Olli-Pekka Jokela

There are certainly other architects and engineers who do not always receive recognition in the current moment of it all. There are others too that may fall outside our model of a steel building or who remain anonymous falling short of the promotion necessary for such recognition. Always when presented with the award winning images, the visions before us, we need to acknowledge the wider, gentler picture: the generous plea, an invitation, for those works that are also pushing steel, its humane ideas and engineering a little further.

We do not always recognize these so quickly. They may even not present themselves as architecture right now. They may lack immediacy, prove vague and fall outside our categories. Yet there is a social dimension of steel which exists within unrecognized architecture. No less so in Finland. Those inventive and responsive Finnish architects are not only those who know the future of software tied in with the future of steel and engineering strategies through topological patterning or weaving programmes.

Office Building Hammareeni, Tampere 1986 Katajamäki and Pesonen

Let's come right up to the present. The mediatization of architecture and the IT Revolution are once again forcing Finnish architecture and steel to take a journey. The *Constructive Vision* is there for all to see. Yet now this vision ideally places the engineer and architect in collaboration with the steel industry to take this engineering even further. As we applaud the immense talent of tectonic finesses of many of these buildings, let us also see it as an invitation; to architects, engineers, artists, contractors, scientists and builders. It is also collaboration that is key today. Not only do architects move to work with others, but the whole building industry, including its research and development could collaborate toward new creativity.

Kaisaniemi Metro Station Platform Hall, 1995 Esa Piironen

The way practices collaborate, loan and extend expertise is already redefining the professions of architect and engineer. Again, Finland is ideally placed to take a lead on this. Perhaps in the last five years few places have seen steel so finessed, so detailed as to invite - and I say this carefully - a warmth, a tactility.

That is a rare achievement. It doesn't always happen, nor perhaps should always happen. But when it does, steel will be spoken about as intimate, as fragile sometimes as it can be robust. The future needs to be light, optimistic and healthy. Are there immediate contradictions? Not quite. With such a heavily nuanced modern material as 'steel', and the vision it implied in the 20th century, the image of the 'cool' offers caution. The steel industry is aware of the direction necessary and must fight to allay the cool and encourage the humanism within the whole development of the material.

Itäkeskus Shopping Centre, Helsinki 1984 Erkki Kairamo

Too much may have been written and claimed for materials, for architecture, and for all the correct languages of expression imagined by architects throughout the last century. Yes, architecture is now more diverse than it was, richer even than it may have been. Yes, the social and ethical concerns of the last century shaped it but we have to ask to whose benefit, to what ends? Yes, the robust materials of timber and concrete have more recently been overwhelmed by the developments in steel and glass. Yes, rapid construction, lightness and adaptability offer new and quicker methods of production. But at the same time ecological awareness and *Globalism* invite more seriousness and commitment about sustainability and saving the earth's natural resources. Responsibility as engineers, architects, as team members within a vibrant industry increases.

Part Five

From Visions to the Visionary

So should the visionary follow the correctness of material form and the constructive vision, or will this century answer back to the last? With the rapid developments in steel and glass, with the use of new materials, problems may no longer be technical. The structures of the future might be thin, gossamer or veil-like, or as transparent as our politics is supposed to be and as our language invites us to be, but is this some fitting intellectual response to the spiritual crisis man has entered since the turn of the new millennium?

Analysis and meaning may turn out to be hijacked once more, in the service of those who wish to emerge triumphant, in the service of those egos who wish to see their cities answer the realities of the age. But what if the realities of the age include illusion, deception and disenchantment? Is this why we have the grand illusion of anti-gravity, spatial products beyond architecture's control, and a rock-star architecture circuit fuelled by some of the public enigmas that have become architecture in the last 10 years? An architecture of flying forms, meta-buildings, hybrid constructions, engineered products; spatial productions that transcends architecture's reach and transcends the reach of material and form to become truly impermanent? What role does steel play in these visions? Meanwhile, there is so little advance in the home, in environmental psychology, in the health and well-being of our constructions that prove the tobacco manufacturer's fear: *Architecture kills*.

Innopoli Technology Centre Otaniemi Espoo 1991 Löfström

Or is there another direction for this century that will distinguish it from the last? Is it a direction not seen in architecture, but a vital one concerning the dwelling, the home, that misunderstood pun from the French - 'machine for living in' - as Le Corbusier described it over 80 years ago. Which machine-age have we reached now? The third, fourth or fifth and which new paradigm do we seek to reward ourselves for progress? The machine may be ubiquitous, illusory and a chameleon. It might also be strangely unanimated, un-dramatic, firm and lacking in the spirit required of it. The Modern vision? Was it rational, mathematical, constructive, objective and style-less? Or was it secretly labyrinthine, dynamic, mystic, socially relevant and open? And where does a non-renewable resource like steel fit into this equation? If 60% of steel used in Finland is recycled, is the future vision still made of steel?

Nokia Meripuisto, Helsinki 1988 Valjakka and Imaditdin

Though some of the public still hold onto the idea that the potential of Modern Architecture which must include the ‘image of steel’ and the constructive grid, could destroy the spirit of place, in the last two decades an extraordinary global development in technology has once again invited the outside world in. Young collaborative, inter-disciplinary practices look ready to take this responsibility and experiment with a material like steel further. Resistance to the seduction and globalisation of images may have proved difficult so far, but perhaps the fetish is over. As trends gather pace, personal mythologies and a personalized poetics of space can narrow into a new symbolism, confirming old hierarchies. But there are other routes, other narratives as these speculations identify.

Valio Dairy, Jyväskylä, 1980 Mäkinen & Katajamäki

The shape Modernism within Finland can now take is no longer only a question of identity and representation, it is a question of whether architecture can reach and surpass what it set out to reach at the beginning of the Modern Movement and the social dimension uppermost in its constructive vision. Some see the achievement of the Modern Movement in Finland as a brilliant national placebo to international failure. This is probably not far from the truth. Finnish architecture to a great extent is still recognised visually, however ambiguous this might seem. But toward the end of the last century the profession also entered the world of the ‘obvious. It became enough to say ‘we are Finns, we make good architecture’. Tectonics and clear but elaborate detailing led the way. They still do. But to make a difference, the visionary now awaits. Can steel save our souls? Perhaps not. But when the architect and the engineer collaborate, when their vision is supported by the contractor and builder within the industry, there is every chance that that little piece of wax, that little bit of play-do, or the transparent coating on steel will be transformed into unknown, unforeseen vision.

Gas Station, Nastola, 1981 Juhani Vainio

It is also quite possible that the critical history we can trace through a material like steel belongs more generally to the history of modern architecture. In this way the vicissitudes and patterns probably obey the rules of trend and taste more than they represent the depth of steel production and its economical and structural position within the society. However, concentrating on the accepted 'cool' image of Finnish architecture which naturally includes steel may be useful critically, but it can skew the current relevance of the material. Clearly, we cannot and must not accept that all steel contributes to that which resembles the cool glass and steel boxes referred to in Finland at present as *'sanomatalo*-architecture'.[18]

Innopoli Technology Centre, Espoo, 1991Kaarina Löfström

Indeed parallel exercises and research go on. We are seeing an interest in new enigmatic warped, morphed and re-framed architecture, in crossover architecture, in partial architectures, in hybrid architectures, also in collaborative architecture. What is now called Generous Material Architectures (no longer only a steel building or a steel and glass building but a Generous Material building of which steel in merely a part) appears to be an architecture seeking both social and tectonic performance. This is an architecture that does not shy away from closing on a 'modern vision' but acknowledges the social and humanist dimension now lost within that vision. Is this a social dimension all but buried in the fanfare and media circus seen in the proliferation of a thin gratuitous contemporary architecture as lifestyle? This is important in Finland too; the paradox is here with us. The denial of Modern Architecture is growing just as it looks able to reconfirm itself in the 21st century. That said, we need also to celebrate how some of the new younger practices are taking some distance from this cool vision and seeking a more human and hybrid vision for architecture and steel.

Housing, Terästammela, Tampere 1990 8 Studio/Mikko Kaira

House Into, Espoo 2001 Tasa

We are at a new frontier in so many ways. And steel is undoubtedly part of that frontier, part of what it means to be contemporary. There is in steel the history of in-completed, un-built and un-drawn works. It is likely that both architects and engineers using steel are re-opening this debate. Industry will collaborate with architects. It can happen. Architects will have credentials respected and engineers will also strike back. It does and will happen. Steel and glass, glass and steel: a sound vision, not merely a 'cool' vision, or cool image.

roger connah ruthin, north wales n11.9.2006

[1] Roger Connah *Critical Steel*, Steel Images, Helsinki 2001, ed. Esa Piironen.

[2] The New Penguin English Dictionary, London, 2000.

[3] Though intending to study medicine Gabo was more attracted to mathematics and science. The Munich of Kandinsky, Klee and De Chirico took him toward the arts. After spending the war in Oslo, Gabo returned to Moscow and joined the Movement called Constructivism writing with his brother the main statement from that time the 'Realistic Manifesto (1920). Facing the reactionary currents in the 1920s he then worked in Germany, France and England and went to the USA in 1946.

[4] Taken from Modern Artists on Art, edited and preface by Robert L. Herbert, Prentice-Hall, 1964. Gabo's text begins a collection of writings which includes Moholy-Nagy, Massine, Gropius and Mondrian. Gabo's essay remains one of the most important explorations of the relationship between modern art in its developing abstraction and science. It was a relationship which would heavily involve almost all architects and became urgent in Finland during the 1960s when Constructivist Art made a strong appearance in the cultural program of the country.

[5] The 1930s picked up on this pragmatism in industry and building as it merged with the 'new architecture' from abroad to become a national 'Finnish' Functionalism, known as *kansanfunkis*. At the height of the more controlled 'constructive' vision emerging in Russia and Europe, a new type of Finnish architecture issued from absorbing, imitating, then locally adapting – brilliantly - versions of an architecture already forming in central Europe. In fact, *Funkis* in Finland was to become a familiar sobriquet and eventually a tacit world. It might not concern steel directly but the tectonic rhetoric within these works would eventually resonate with steel architecture later in the century.

[6] see Connah, *Finland*, Reaktion Books (2005)

[7] for more on these links ibid Finland.

[8] This development can also be read in parallel with Critical Steel, in Steel Images (Helsinki 2001).

[9] For example, what role then is there for the engineer, if not as an 'expressive' artist like Matti Ollilla, a number-crunching *informalist* like Pekka Helin, or 'inventive' creators like Jyrki Tasa? And where do the younger architects and engineers fit within these scenarios?

[10] In a recent issue of Terasrakenne 2:2006 a renovated Disneyfied shopping centre in Kouvola with remodelled facades sits alongside a remarkable development in China, the Dong Feng Automobile Co. HQ and Exhibition Hall by one of Finland's leading 'steel' architects Pekka Salminen. The latter demonstrates some of the clarity of vision and 'bigness' that is as yet to be explored within Finland, whilst it is also a building pushing its sustainability agenda with solar panels, absorbent metal surfaces, louvres and other details to aid energy gain in the heating and cooling of the building. The former represents project which the industry would prefer to ignore in favour of the higher profile work. However, the humanism issue lies somewhere between these two projects.

[11] See the development nearby Bruno Erat's House in Kilo.

[12] Images taken from MSC, Chicago, 2.2006

[13] Besides the private radicalism and invention of something like the architect Jyrki Tasa's 'stair' in House Into, research and development can appear limited if the architects remain closed within the accepted cool imaging of their own constructive visions.

[14] The apotheosis of this is the Kamppi Mall of Finland; a decorative constructive mega-vision loaded with an intense constructivist repertoire and rhetoric but closed on a rather unimaginative urban and social poetry; a quiet pyrrhic triumph.

[15] M*odern Steel Construction*, February 2006, Chicago.

[16] Make a Frank Gehry Building, Alex Marshall, New York Sunday Times, March 2004

[17] See the current buildings in progress: the ICT building in Turku and Kotka Museum by Lahdelma & Mahlamäki; Hämeenlinnan Verkatehdas, JKMM architects; Huvila Tuulentupa in Nastola by Helin Architects; Ratamestarinkatu 7, Helsinki by SARC and the award winning Kristiansand Concert House (Norway) by ALA architects currently in the planning stage. (References courtesy of Petteri Lautso.)

[18] The name comes from the Sanomatalo building, the headquarters for the big paper concern Sanoma Oy, designed by Sarc architects, 2000. Previously this 'cubic' form was pejoratively called 'laatikko'-architecture after the Finnish word for a 'box'. The Finnish architect Reima Pietila referred to this 'trend' in 1979, a trend - not of course only represented within steel architecture- as 'rabbit-hutch architecture.' (Ark:1979).