

Award-winning Industrial Architecture

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This article presents industrial building projects which have won architectural awards. The point of the article is twofold: to reflect upon the concept of architectural quality and to discuss a few notions about design work with industrial projects.

Theme WORKSPACE DESIGN

WHAT IS THE CONNECTION between architectural awards and the buildings that win them? I assume that prize-winning industrial building projects represent architects' notions of desirable attributes. A jury comprises established representatives of the architectural profession. In the field of architecture, knowledge is traditionally developed and transferred through the use of examples and prototypes. The ability to distinguish good examples is regarded as a sign of educated judgment. That is why this article focuses upon industrial building projects which experienced architects refer to as good examples or model cases, or which they consider successful solutions to design problems.

I use the term "industrial architecture" to mean buildings with space for production of goods and services. The empirical basis of the article comprises fifteen industrial building projects in western and southern Sweden from the period 1979–1992 upon which were conferred *architecture awards*. Central to the analysis of these projects is the concept of architectural quality.

This study entails questions of judgment and design evaluation. What artistic values are assigned to award-winning industrial building projects? How is the concept of architectural quality used? To what extent can the value judgments in a jury's decision be tested against measurable properties? Other critical aspects include the effects of architectural awards on the mass media and the profession's use of awards to

expand its territory. The establishment of awards can be seen as one way for architects to strengthen their position in the market in order to increase the amount of work for the profession. Competitions and awards “sell” Architecture by enveloping it in a glow of exclusivity.

The review of award-winning industrial architecture has a direct connection to the development of knowledge in the field of architecture. References to typical cases and good examples demonstrates a kind of practical professional competency. The development of knowledge is predicated on one’s ability to formulate credible judgments about a building’s characteristics. This holds true despite the fact that our notions of what is – and what should be – the mark of competency in architecture change over time. The need for *infallible knowledge* therefore raises questions about what distinguishes good architecture, what the criteria are for “successful schemes”, and how judgments should be made. If architects are to provide a reasonable degree of credibility, we must base our knowledge on phenomena which can be verified from those buildings which have won awards.

Jerker Lundquist maintains that the architectural profession’s customs develop through the distinction of prototypes and good examples (Lundquist, 1992). This is one reason why a study of award-winning industrial buildings ought to be able to contribute to the development of the profession. The competency of architects is constituted through illuminating examples – archetypal cases – in which an underlying rule principle is articulated through practical application. However, since the principle in question may in fact be the product – rather than the source – of the design, the archetypal case itself (and not the principle) is of primary importance.

Donald Schön asserts that practical competency consists of the ability to employ a repertoire of examples in one’s reflections upon an issue (Schön, 1983). When architects are confronted by new problems, we rely on a

repertoire of personal experiences and archetypal cases – a practical body of knowledge based upon prototypes and themes. According to Schön, the contribution of architectural research should be to provide the professions’ practitioners with useful concepts, theories and methods. This implies that research in architecture should concern itself with building *a repertoire*, with the collection, description, and analysis of archetypal cases to help architects think reflectively during the entire design process – from idea to construction to management.

Evaluating industrial architecture

The architectural quality of industrial buildings can be evaluated from two fundamentally different perspectives. A study can be either descriptive or prescriptive (Rolf, 1993). *Quality evaluation* thus corresponds to attempts to formulate design judgments about existing industrial buildings. *Quality enhancement* focuses on the design process and its possibilities. The difference is that quality evaluation results in judgments which are based upon actions of the past, whereas quality enhancement looks to the future. The long-range goal can in both cases be the creation of industrial architecture of high quality, and quality enhancement measures should of course be based upon experiences from quality evaluations. They are, nonetheless, two completely different ways of understanding and appreciating industrial architecture.

This discussion reveals the importance of differentiating between evaluations of architectural quality which are done *before* completion of a project and those which are done *after*. A preliminary analysis attempts to show the conceivable consequences and probable effects of certain of the building’s characteristics. This type of testing can be applied to models of industrial buildings, the evaluation based upon drawings and descriptions of the project. By contrast, the analysis of a completed building deals with perceptions of the results of de facto design decisions.

The distinction between *prospective* and retrospective studies corresponds to a distinction between two different approaches to the concept of architectural quality. A prospective evaluation results in programs, plans, specifications, statements of policy and a basis for decision making. The retrospective analysis of a built environment results in a statement about the project's qualities, in empirically based conceptions of goal attainment, appropriateness, effectiveness, rationality, and aesthetic experiences or values. This particular study of award-winning industrial building projects contains retrospective evaluations. A subsidiary goal of the research has been to review quality evaluations made by established representatives of the architectural profession.

Architectural awards and winning industrial building projects

This study began with a delineation of architectural awards in Sweden, an inventory of both national and local awards. The point was to make available a broad pool of award-winning projects from which to choose. The method of analysis used was based on an empirical approach, utilizing project documents (drawings and descriptions), visits to the objects, and the value judgments found in the comments of juries. I have focused on the practical use of the concept of architectural quality.

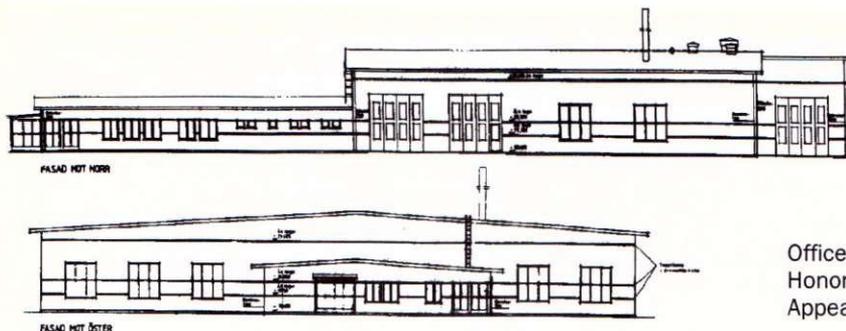
The inventory began with a review of national and regional distinctions awarded under the auspices of SAR, the National Association of Swedish Architects. The search continued with a delineation of local awards independent of SAR. A written survey revealed that ten out of eighteen randomly chosen communities awarded architectural prizes. The majority of these local citations had been established during the 1980s and '90s. The result suggests a newly awakened interest among community governments for rewarding quality in construction and architecture. One explanation for the recent establishment of awards lies in the criticism of building during the 1960s and '70s.

Architectural awards may be seen as an attempt at positive reinforcement of the building industry through the distinction of architectural prototypes.

The search for acclaimed industrial building projects involved the review and analysis of four different architectural awards:

1) *The Kasper Salin Award* was established in 1962 and is given out by SAR. The award has a high status in the architectural profession. The distinction is conferred upon "a Swedish building or group of buildings of high architectural class." According to its charter, the award is a way for SAR to defend "man's right to a good environment by promoting good architecture and good urban planning and by asserting the importance of the work of competent architects." The jury comprises four SAR members chosen by the organization's chairman. The award includes a citation in the form of a plaque which is mounted on the awarded building. [Examples of winning industrial buildings are: the Central Tram Storage and Maintenance Facility in Gothenburg by ABAKO Arkitektkontor, recipient of the 1985 award, and laboratory buildings for Astra Hässle in Mölnådal (a suburb of Gothenburg) by Gert Wingårdh, which won the Kasper Salin Award in 1993.]

2) *The Fine Building in Gothenburg Award* has been granted since its establishment in 1965 as a donation to the city of Gothenburg from Per and Alma Olsson. Of the funds donated, a minimum of 2000 SEK (\$325) goes to the individual or building committee which during the previous year commissioned one or more buildings which best satisfy aesthetic, hygienic, and practical criteria. According to its charter, the award is to be endowed by "a committee of five members with artistic sensibility". In 1992, the committee was made up of members of the Technical Society and of the Building Authority, a local government leader, and the Director of Museums in Gothenburg. The award includes, in addition to a bronze plaque to be mounted on the building, 5000 SEK (\$800) toward



Offices and Workshop, 1989
Honorable Mention, Award for
Appealing Industrial Exterior

decoration or equipment for the building. [Examples of industrial buildings which have won the award are: a truck factory for Volvo by AKOS Arkitektkontor, the 1979 winner; the Central Postal Terminal addition by White Arkitekter, awarded honorable mention in 1988; a fire station in Gårda (a neighborhood in Gothenburg) by FFNS Arkitekter, honorable mention recipient in 1989; and Röda Bolaget's workshop and administrative facilities by Arkitektlaget, a 1991 honorable mention selection.]

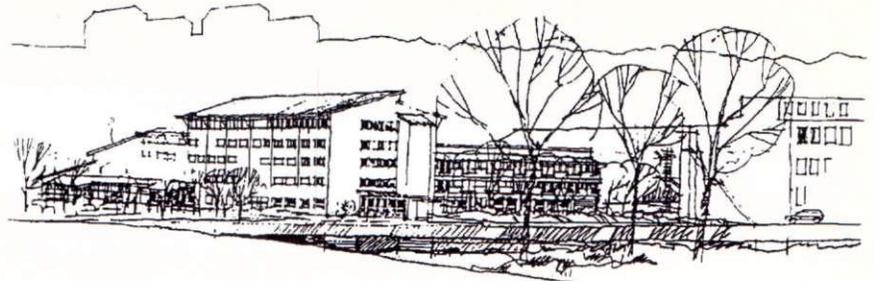
3) *The Fine Building in Malmö Award* was founded in 1982, the charter prescribed by the community government there. The distinction may be awarded for new construction as well as renovation or remodeling of existing buildings. It may be bestowed for entire residential developments and urban design elements such as facade treatments, exterior lighting designs, color schemes, or designs for outdoor spaces. The award is presented by a committee of eight which is elected for a three year term. This committee comprises members of the local government chosen by its administration, the Building Authority, City Planning Department, and Properties Management Department. In addition, the Malmö Builders' Union and the Union of Architects in Southern Sweden are represented. The award consists of a copper plaque and a diploma. [Some examples of winning industrial buildings are: the District Heat Production Plant in Limhamn by Samuelsson Arkitekter, winner in 1985, and the Canon Building in Malmö by Thurffjell Arkitektkontor, which was endowed with the 1987 award.]

4) *The Award for Appealing Industrial Exterior* was established in 1986 by the local government in Mölndal in order to "stimulate interest in taking greater care with the urban environment in the planning and construction" of places of work. A working committee from the government administration was assigned the task of selecting a winner from among projects nominated by the City Architect, the Director of Culture, and the Secretary of Business. Their goal is to reward each year workplaces which through "an appealing exterior contribute to a more pleasant atmosphere in the community". [Industrial buildings which have won first prize are: in 1987, an office and production facility for Antonsson Maskin AB by Kroon Byggkonsult; a building for ERA-produkter by Lyxell Arkitekt & Byggkonsult in 1990; and a printing works facility for Akribi Print by Erseus, Frenning & Sjögren won the award in 1992. Several industrial projects have won honorable mention: an office and service facility for ASEA-Skandia by Arkitekthuset Klippan won in 1987; a pharmaceuticals production building for Lejus by Skanska Arkitekter in 1988; some offices and a workshop for Kålleredsbussar by Projektplanering Arkitektgrupp won in 1989; an office and warehouse for Åby Elektriska by Löfqvist och Lundh Arkitekter in 1990; and a package freight terminal by Ellsinger Arkitekter won honorable mention in 1992.]

Jury Statements

The continuing discussion of the concept of architectural quality is based upon the statements of juries. In these documents, the jury

Fire Station,
Gothenburg
1989 Honorable
Mention,
Fine Building in
Gothenburg.



members characterize the winning projects. Their statements vary widely in format, content, and scope.

1) Central Tram Storage and Maintenance Facility, Gothenburg
ABAKO Arkitektkontor
1985 Kasper Salin Award:

The Central Tram Facility is a work environment with strong identity which also provides the unusual combination of care for the user with humor and charm. A skillfully executed concurrence of artistic embellishment and building form enriches the workshops, offices, and employee space of the interior as well as the beautifully designed and richly detailed exterior.

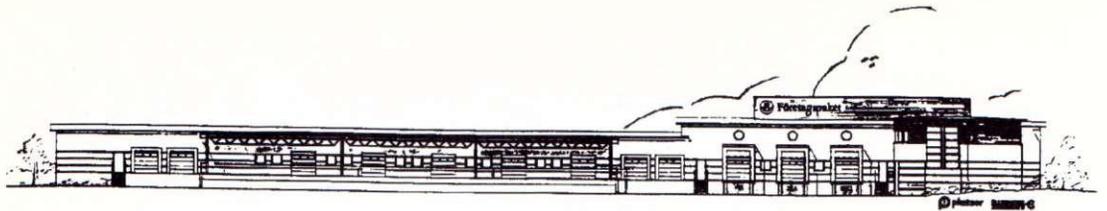
2) Laboratory Buildings for Astra Hässle, Mölndal
Gert Wingårdh
1993 Kasper Salin Award:

The first phases of a long-range expansion are now completed. In an older factory area, the architects have exploited opportunities for creating a facility which functions well during all phases of development by extensively increasing the density of the area: old and new buildings interlace like fingers with one another. A new, generous circulation axis covering several levels makes for short, effective connections between the various research units, laboratories, offices and employee dining hall. The general disposition demonstrates an unusual method of dramatically increasing the quality of a previously mediocre area. The

laboratory buildings are short, thick, and chubby. This impression is strengthened by the pronounced chimneys which emerge from the center of each building's roof. The effect is countered by a number of elements – the broadly glazed facades, refined use of sheet metal, sunscreens which recall airplane wings, and bowed roofs – which create a surprising vigor and lightness and a thoroughly original, slightly anarchistic character. The new work environment is rationally planned with a superior influx of daylight. The ventilation system, unique among laboratories, affords large, open work areas and the possibility of quickly responding to changing work demands. The choice of materials is often suitably simple in work spaces, becoming more sophisticated and expressive in common areas. Astra Hässle demonstrates that the architecture of the modern industry can be full of character, infused with high-tech precision and personal artistry.

3) Limhamn District Heat Production Plant, Limhamn
Samuelsson Arkitekter
1985 Fine Building In Malmö Award:

Limhamn's industrial quarter is dominated by a large cement factory. The facility today is used for repair and distribution, but no longer for production. Here the Malmö Department of Energy has built a coal-fired central heat production plant. A hot water plant basically consists of a technical works housed in a climate shell. Combustion plants are universally considered environmental polluters. This



Package Freight Terminal, Mölndal. 19992 Honorable Mention, Award for Appealing Industrial Exterior

image is reinforced by the often meager architecture of these facilities and by the dusty coal heaps that surround them. By contrast, Limhamn chose to invest in aesthetics with a consciously designed hot water plant; as a result, instead of burdening its surroundings, the facility has become a positive addition to the urban scene. In addition, disturbances to the surrounding area have been minimized by to a great extent enclosing the handling of the coal. The work environment is also well provided for. The District Heat Production Plant marks the birth of a new generation in the area. Its unique and distinctive form are the product of an untraditional conception of the facility's role in the city. Form and function are combined in an exemplary synthesis. The facility demonstrates that even this kind of building can be appealing and intriguing. The Committee has therefore resolved to bestow upon the Limhamn District Heat Production Plant the 1985 Urban Design Award for its valuable addition to the urban environment in Malmö.

4) Canon Building, Malmö
Thurfjell Arkitektkontor
1987 Fine Building In Malmö Award:

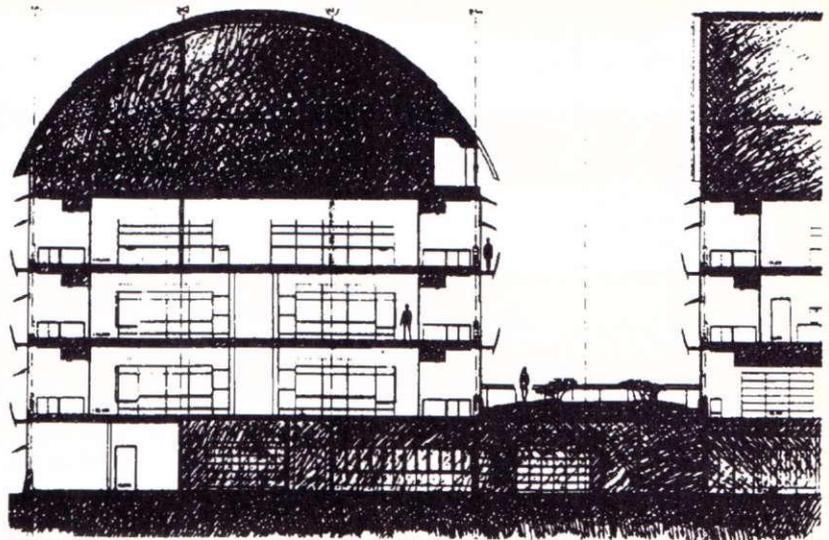
Areas devoted entirely to workplaces at the periphery of our cities are often fettered with a monotonous character. The possibilities for forming the buildings in such a way as to make a positive visual impression on visitors and passers by generally have been poorly exploited. Canon AB's new office and service building in the Stenkällan industrial area of

east Malmö is a delightful departure from this pattern. The design of this environment is based on a comprehensive idea which has found expression in both the building and the landscaping. The primary impression given is open, friendly and playful, all the while reflecting the company's technological nature. The interior is also characterized by light and openness. The Canon facility is proof that even industrial areas can gain an exciting urban image if companies explore the possibilities for architectural expression in their buildings. The Committee has therefore resolved to bestow upon the Canon Building the 1987 Urban Design Award for its valuable addition to the urban environment in Malmö.

5) Volvo Truck Plant, Hisingen
AKOS Arkitektkontor
1979 Fine Building in Gothenburg Award:

Volvo Truck Plant was built for the efficient inventory and distribution of truck parts. Its form and location are quite consistent to that purpose. The care and consideration taken for the work environment is apparent in, for example, the indoor winter garden, the employee facilities, and the health care department. The rooms are spacious and afford good contact with the natural beauty of the surrounding Hising Island. Amid the green landscape, the white metal building appears light, almost ethereal, despite its enormous size. In the Volvo Truck Plant, the requirements of an effective work environment have been met skillfully.

Laboratory Buildings,
Möln dal. 1993 Kasper
Salin Award.



6) Central Postal Terminal addition, Gothenburg
White Arkitekter
1988 Honorable Mention, Fine Building in Gothenburg Award:

The addition to the Central Postal Terminal provides an architecturally skillful finish to the western end of this extremely large complex. The facade of enameled steel in several gray-blue nuances shifts animatedly with the varying rays of the sun while posing a pleasing contrast to the previously dominant pink color. The building's interior character derives from modern technology. However, a humane and pleasant work environment has been achieved through the use of screening and the lowering of ceilings around the workstations in the larger rooms. The richness of the artistic adornment and the care taken with the rooms and places for rest from work strengthen the impression of consideration for the quality of the work environment, as does the light-filled employee restaurant with its roof terrace at the top of the building. The addition to the Postal Terminal is judged to be an exemplary solution to the large workplace, both functionally and aesthetically.

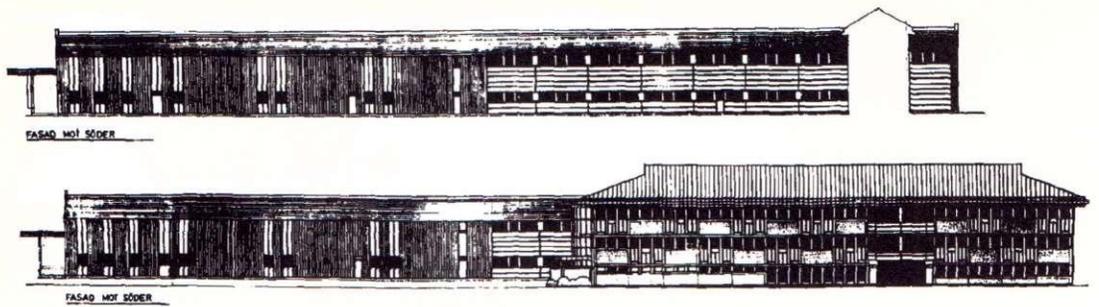
7) Gårda Fire Station, Gothenburg
FFNS Arkitekter
1989 Honorable Mention, Fine Building in Gothenburg:

The building satisfies the highest requirements for practical, rational solutions and good choices of material. The brightness of the interior, enriched with artistic adornment, contributes to a humane and pleasant work environment.

8) Röda Bolaget's Workshop and Administrative Facilities, Gothenburg
Arkitektlaget
1991 Honorable Mention, Fine Building in Gothenburg Award:

Awarded for two beautiful buildings in accord with the city and the traditional wooden architecture of the harbor. The massing is appropriately simple with spiritual details. The interior satisfies the needs of the users well and offers bright and pleasant workplaces.

9) Antonsson Maskin AB Offices and Production Facility, Möln dal
Kroon Byggkonsult
1987 Award for Appealing Industrial Exterior:



Office and production facility, Mölndal. 1987 Award for Appealing Industrial Exterior

Despite its size, the building has been given an interesting and exciting form. In this area frequented by many people, the nicely designed building is of great importance for the local environment.

behind a lower office building. The facades are simply composed, finely structured with convincing choice of materials and detailing. The building makes a strong contribution to a positive experience of this part of Lindome.

- 10) Lejus Pharmaceuticals Plant, Mölndal
Skanska Arkitekter
1988 Honorable Mention, Award for Appealing Industrial Exterior:

A solid and pleasantly formed factory facility for pharmaceutical production.

- 11) Källeredsbussar Offices and Workshop, Källered
Projektplanering Arkitektgrupp
1989 Honorable Mention, Award for Appealing Industrial Exterior:

An appealing building for a difficulty managed work process designed with great consideration for the surrounding residential neighborhood.

- 12) Window Factory for ERA-produkter, Lindome
Lyxell Arkitekt & Byggkonsult
1990 Award for Appealing Industrial Exterior:

It is often difficult to give industrial buildings an exterior interesting enough to compete with nearby buildings devoted entirely to offices. The window factory in Lindome is just such a rare building, and for its painstakingly designed exterior it has been chosen for this year's award. The building masses are well disposed, with the higher industrial hall

- 13) Åby Elektriska Office and Warehouse, Mölndal
Löfqvist och Lundh Arkitekter
1990 Honorable Mention, Award for Appealing Industrial Exterior:

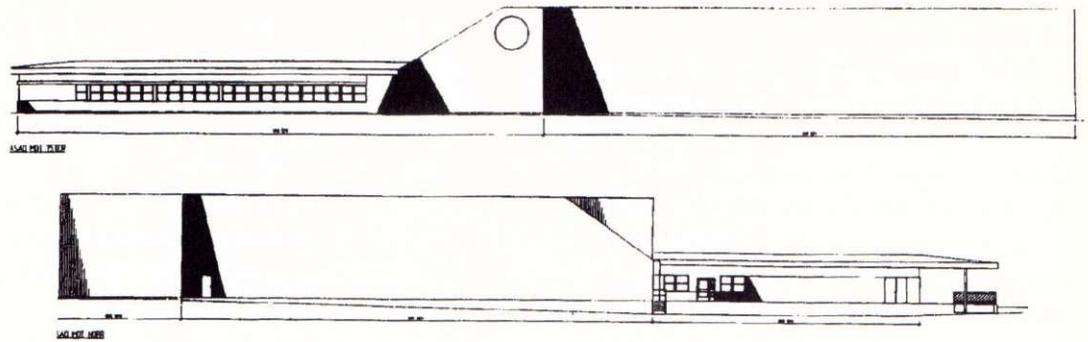
The building complements and concludes a small industrial area. The volume of the building is well designed. The facades are carefully formed and give the building an appealing exterior.

- 14) Akribi Print Works, Mölndal
Erseus, Frenning & Sjögren
1992 Award for Appealing Industrial Exterior:

Architecture which reflects the work it contains, well adapted to and open toward its surroundings. A fine integration of production areas with offices. On the whole a very appealing and sober exterior.

- 15) Package Freight Terminal, Mölndal
Ellsinger Arkitekter
1992 Honorable Mention, Award for Appealing Industrial Exterior:

The freight facility combines a large building volume for inventory and distribution with an office building. Choice of materials and architectural forms express the differing functions. The disposition of the buildings



Office and Warehouse, Mölndal. 1990 Honorable Mention, Award for Appealing Industrial Exterior

perpendicular to each other makes for a spacious facility. The freight terminal has a very appealing exterior.

A review of award-winning industrial building projects reveals that the juries' statements lack any clear and coherent structure. Their methods of evaluation and of formulating their opinions vary. Among juries, there is obviously no common technique for the analysis and demonstration of architectural quality. The statements often include references to other architectural awards. It may furthermore be noted that the opinions contained in jury statements reveal an underlying agenda for which attributes are desirable in production environments. The fact that the opinions demonstrated by jury statements contain many obscure and esoteric viewpoints does not mean that award-winning objects are haphazardly chosen and described by the members of the jury. Opinions are based on a number of criteria about which there exists a profound unanimity among architects. I believe they reflect a common vision which underlies the jury statements. Those industrial buildings which have won awards have been judged appropriate, beautiful, functional, or effective against the background of a number of characteristics.

Design judgments and the criteria for architectural quality

Architects usually assert the need for professional competency and responsibility for the develop-

ment of the built environment. But architectural quality cannot be the exclusive concern of architects and their professional organizations. I believe there is a need for some form of balance in which architects' view of architectural quality is contrasted with the experiences of the built environment formulated by clients, developers, local users, and property administrators. It appears that a good equilibrium between internal and external influence would be desirable (Rolf, 1993). Such a balance would require a broad discussion of the concept of architectural quality. To that end are needed the opinions of companies which would commission, manage, and use "good" industrial architecture.

The evaluation of industrial building projects is founded on comparisons and standards. An analysis which satisfies the jury results in a number of positive statements of opinion. However, the ability to perceive architectural quality varies. Thus knowledgeable judges generally expound their opinions with a higher degree of credibility. Reliability in the classification of good architecture therefore depends upon knowledge, clear indications of quality, and agreement between the judge's opinion and the object in question.

Birgit Cold maintains that history provides a platform of information and support for the evaluation of buildings (Cold, 1989). Quality develops in a continual process of change. Quality arises from the confrontation between man, standard, and object. According to Cold,

buildings are viewed as high quality when they are useful over a long period of time, age gracefully, are easy to use, inspire delight through their expression, appear to be well thought-out, are original, and are characterized by simplicity of design. These criteria describe a view of architecture based on traditional values such as durability, authenticity, professionalism, wholeness, aesthetic honesty, beauty, legibility and usefulness. The desire for originality represents the rejuvenation of traditions and the transgression of established norms. Cold points out, however, that these requirements cannot necessarily be combined to produce quality in architecture.

One way to deepen the discussion would be to define a number of relevant quality criteria included in the evaluation of industrial building projects. The point is to confront the opinions in the reviewed jury statements with normative interpretations of the concept of architectural quality. With support from Cold, six criteria groups can be distinguished on the basis of the characteristics of good architecture alluded to in the jury statements (Cold, 1991):

- Harmony balance, and unity: schemes judged to be accomplished, well dimensioned, or exceptional, and those which deal with such issues as new/old, technical/artistic, unity/variation. The jury statements about the tram storage and maintenance facility (1), the heat production plant (3), the postal terminal (6), and the Akribi print works (14), for example, reveal values such as conscious expression, exemplary accord between form and function, a combination of care, humor and charm, fine integration, skillful agreement between artistic embellishment and building form, and nearness and intimacy.
- Simplicity of construction and choice of materials: schemes judged in terms of moderation, mastery of detailing, simplicity of expression, and those which allude to natural or traditional materials. Thus the statements regarding Röda Bolaget's workshop and administrative facilities (8), the window factory for ERA-produkter (12), Åby Elektriska's offices and warehouse (13), and the package freight terminal (15) value a well disposed massing, pleasing simplicity, careful design, simple and fine composition, appealing choice of materials and detailing, a well designed building volume, and an appealing exterior.
- Originality and novelty: schemes characterized as visionary, forceful, personal, artistic, playful, imaginative, poetic, independent and progressive. The jury statements about Röda Bolaget's facilities (8), the postal terminal (6), Astra Hässle's laboratory buildings (2), and Antonsson Maskin's offices and production facility (9) prize individual and unique form, vigor and lightness, the ability to awaken one's interest, excitement, freedom from tradition, pleasing contrasts, personal artistry, spiritual detailing, refined use of sheet metal, and architecture with character.
- Adaptation to surrounding buildings and landscape: schemes which demonstrate consideration for site conditions or local environment, nature and climate. The statements about the heat production plant (3), the Canon building (4), the bus company offices and workshop (11), Volvo's truck plant (5), the print works (14), and the tram facility (1) show preference for interesting junctures between building volumes, positive additions to the urban environment, an exciting urban image, adaptation to the surrounding city center, and good contact with surrounding nature.
- Systematization and development: schemes which are considered safe, reassuring, well tested, effective, rational or economic. In their statements about Lejus' pharmaceuticals plant (10), the laboratory buildings (2), and the fire station (7), the juries

appreciated rational solutions, a clear organization, good performance, and solid construction.

- Physical framework and suitability to the work process: schemes characterized by good spatial organization of work stations, good working conditions, easily surveyed floor plan organization, and adaptation to the work environment and the production process. Thus the jury statements about the truck plant (5), the fire station (7), the tram facility (1), and the postal terminal (6) acclaim spacious rooms, a pleasant and humane work environment, an exemplary solution to the large workplace, and consideration for areas devoted to rest from work.

This collection should be seen as just one of many possible intuitive hypotheses about the substance of the concept of architectural quality. The collection is based on Cold. I have changed the word order, used some slightly different terms, and added the point about quality in the physical framework for work processes. One critical point is that it seems reasonable to construct a more clear *work environment perspective* before evaluating award-winning industrial buildings in terms of architectural quality. This is a relevant criticism of the jury statements reviewed. Architectural quality ought to be based upon a holistic view of the planning and design of places of work. One would then also want criteria which cover the entire process from decisions about choice of area and site, about the building and its rooms, interior finish, and the design of work stations, to decisions about the technology, organization, and work processes of the planned facility.

Gunnar Eliasson and Bo Mattson discuss the quality of industrial architecture in terms of economic calculations and computational methodology (Eliasson and Mattson, 1990). Quality is treated as aspects of a building's interior and exterior form. Their point of departure is that architects need to acquire

better tools – means of expression – in order to communicate with client, builder and other consultants. The design's effects on the work environment and the resulting productivity must be able to be expressed in terms that appeal to investment professionals. Architects must be able to demonstrate that good architecture is a profitable investment for companies. This in turn poses demands on consequence analyses.

Normally the architectural quality of the *interior design* of production facilities gives the clearest consequences for the corporate economy (Ibid.). Some examples are a well thought-out design with simple and easily understood relationships in the building, high standards for technical systems and equipment, daylight, contact with the surrounding environment, and generality and flexibility which make the building easy to use, easy to adapt to changes in methods of production, and easy to renovate. The clearest effect of quality in interior architecture is increased productivity. Other possible consequences include reduced worker absence, slower employee turnover, a greater appreciation for the work and improved conditions for long-term high productivity.

The profitability of quality in the *exterior design* is usually a matter of location, expression, choice of materials, and detailing. It is commonly argued that lower running and maintenance costs in the future justify this kind of investment. It is more difficult to demonstrate the profitability of investments in the adaptation of buildings to their surrounding environment and in architecture as a symbol for the company. The exterior environment includes obviously subjective values. A well thought-out symbolism in a production facility can inspire good will, pride, and feelings of unity. When companies are sold, these qualities are calculated and included in the price. Eliasson and Mattson point out that one therefore should be able to do similar calculations of a building's architectural symbolic value and determine how such value could be written off.

Good industrial architecture is considered profitable when it can be shown that quality enhancing measures add value to a building by increasing revenues or decreasing production costs, and that such measures reduce future costs for building and maintenance. Cold questions this viewpoint, asserting in a commentary to this article that our conception of architecture should not be oversimplified to have us believe that quality can be expressed in terms of profitability. Cold points to the fact that other art forms, such as music, literature, and theater, are not based upon profitability. Eliasson and Mattson, on the contrary, believe that there exists a need for expressing architecture in economic terms to enable issues of quality to be incorporated into investment calculations and to lend credibility to arguments for investing in good building design. This strategy aims at developing a new popular understanding of architecture through the professional advisory of industrial building project clients. But the traditional lack of appreciation for industrial architecture makes it difficult to awaken an interest in architectural quality among the business community. This implies that good architecture must be a sufficient goal in itself for industrial clients.

Architectural ideals in jury statements

The belief among established representatives of the architectural profession that award-winning industrial buildings reflect a collective understanding of desirable attributes – an architectural ideal – requires an urgent analysis of the juries' statements. The core issues of this architectural ideal ought to be the design process, the work of architects, and the concept of architectural quality. This is one reason for research into award-winning industrial architecture and the opinions which describe the profession's understanding of architectural quality.

With the help of the jury statements presented here I shall formulate a preliminary architectural ideal which includes two diffe-

rent approaches to architects' work with industrial building projects. I perceive on the one hand a *business-oriented view of architecture* in which buildings represent a means of achieving good working and production conditions. This ideal sees the company's technology, building, and organization as an integrated whole. The success of the result depends in this view primarily upon cooperation in the design process between client, architect, technicians, and representatives of the work force. Partially opposed to this perspective is the *object-oriented view of architecture*. Here interest focuses primarily on a building's physical form and spatial organization. It reflects a traditional conception of the architect's role in industrial projects in which production issues are considered outside the realm of the architect's commission. The architect's goal in this case is to create a functional and aesthetically appealing physical framework for the business.

These differences in architectural views influence the organization of industrial building projects and the definition of the role of the architect. The business-oriented perspective results in an architectural ideal based on the use of facilities. Architectural quality is assumed to be the result of cooperation in the project group between actors representing a broad spectrum of qualifications. The object-oriented conception, on the other hand, takes an external perspective of buildings. Thus industrial buildings may be endowed with a degree of generality, their designs based on universal architectural principles which are relatively independent of the buildings' users, technology, and work organization. Architectural quality is in this case a characteristic which an observer either sees, experiences, or otherwise attributes to a building. This situation can give some explanation for why observers and users can have such divergent impressions of work environments and industrial architecture. The Award for Appealing Industrial Exterior in Mölndal exemplifies the observer's view of the workplace.

Conditions for design opinions

Those industrial building projects which have been recognized with architectural awards have of necessity undergone some form of evaluation. Their recognition is the result of this evaluation process. Judgments of architectural quality thus include both the results and the process of evaluation. The evaluation process comprises actions such as choice, ranking, and comparison. The results of that evaluation take the form of jury statements and the various awards conferred upon building projects. Common to these is a conception of value based on certain principles and a collective understanding of architectural quality among the members of the jury. This is a precondition for the formulation of credible statements about architectural quality.

Göran Hermerén points out that the concept of value is used in varying contexts and has varying meanings (Hermerén, 1980). The question of whether or not values should be understood as attributes of an object is a traditional point of dispute among philosophers. Supporters of the hypothesis that objects have inherent values are called *value objectivists*. For them, good architecture is a matter of qualitative attributes of the built environment. In opposition to the value objectivists are the *value subjectivists*, who hold that values are the property of the subject. Here value exists only as a construction in the minds of those who value the object. Supporters of this view therefore deny the existence of universal principles and objective criteria for good and bad, right and wrong, beautiful and ugly. The value objectivists and value subjectivists agree, however, on the idea that a system of values is a precondition for the handing down of design opinions.

Another relevant traditional point of conflict deals with the difference between value judgments and the evaluation of facts. This difference raises questions of research ideals and the role of values in judgments. The gap between "facts" and "values" is part of the problematics of architectural research. The evaluation of facts is in this context a matter of describing the

physical properties of a given production environment. Value judgments entail statements of goals and of how an industrial building should be designed to satisfy requirements, desires, and needs.

Georg von Wright points to the growing inclination to reject value judgments from the sphere of research (von Wright, 1994). The criticism is that value judgments, as opposed to the evaluation of facts, merely express feelings and subjective conceptions. At the same time, von Wright sees a meaningful role for both. Value judgments are based on characteristics which are adapted to the object in question. The degree of adaptation, the choice of characteristics referred to, and the weight assigned to those characteristics by the different judges can vary. Some value judgments are more subjective than others.

The legitimacy of distinctions of good architecture depends upon a system in which different buildings are judged in a similar way by experienced professional practitioners. The architectural profession carries a social norm which provides for unanimity in evaluations of the built environment. The more clearly architects as a group proclaim common standards and require uniform rules for reviewing architecture, the more similar the results of our evaluations will be.

In his review of this article, Jan Ahlin pointed out that jury procedure is used to achieve a reliable similarity in judgments. The purpose is to minimize differences between individuals. However, disagreement in a rational conversation about award-winning industrial architecture can illuminate important differences in choice of perspective, sharpen our understanding, and contribute to a deeper insight into what ought to be recognized as the characteristics of architectural quality. But widely varying opinions in evaluations of architectural quality in a jury procedure will, I believe, cast doubt over the members' integrity and competency, as well as making the criteria upon which their opinion is based seem ambiguous and mudd-

led. Credibility and certainty in the judgment of architecture requires that jury members assign similar value to similar building attributes in a series of different situations.

Credible design opinions are based on knowledge of the concepts and criteria relevant to those attributes considered "good" or "bad" in a building. Certain issues are problematic, such as method of analysis and point of departure. The evaluation of award-winning architecture can with good reason be assumed to rest on a conception of quality which is firmly anchored among architects. The demand for credibility and certainty implies that we should be able to consider design decisions in some way objective, and that we therefore should be able to test them in an acceptable way. Objectivity, however, is not a clearly delineated attribute which is either present or absent, but is instead a scientific standard which is met to varying degrees. Both practicing architects and researchers need to be able to cast judgments about what is good and bad in architecture. Objectivity in design opinions means the ability to *distinguish, interpret, describe, and explain* what is "right" or "good" for a *certain person or persons* in a particular context.

Knowledge of what is considered appealing, functional, and beautiful architecture is often

communicated through references and choices rather than through explanations. Interpretation is prerequisite to proficiency and understanding, but to interpret is not the same as to explain architecture. The result of this viewpoint is that someone who wants to know what "good" industrial architecture is referred to a number of examples – not explanations and descriptions of architectural quality. But architects need to be able to describe, predict, and explain the qualitative characteristics of buildings. The evaluation of drawings and buildings must be considered central aspects of the architectural profession. We ought therefore to be able to explain and predict architectural quality using models. Understanding is simply not enough. It is reasonable to expect an architect to be able to distinguish between good and poor proposals, and to explain why a particular proposal should be seen as better than others. The development of explanation patterns is therefore an essential task for research. We must distinguish between ideology and science. And we must, for example, be able to give acceptable reasons for why, how, and in what way award-winning industrial buildings are good examples. From this perspective, verification is then a matter of examination methodology and the development of knowledge in the field of Architecture.

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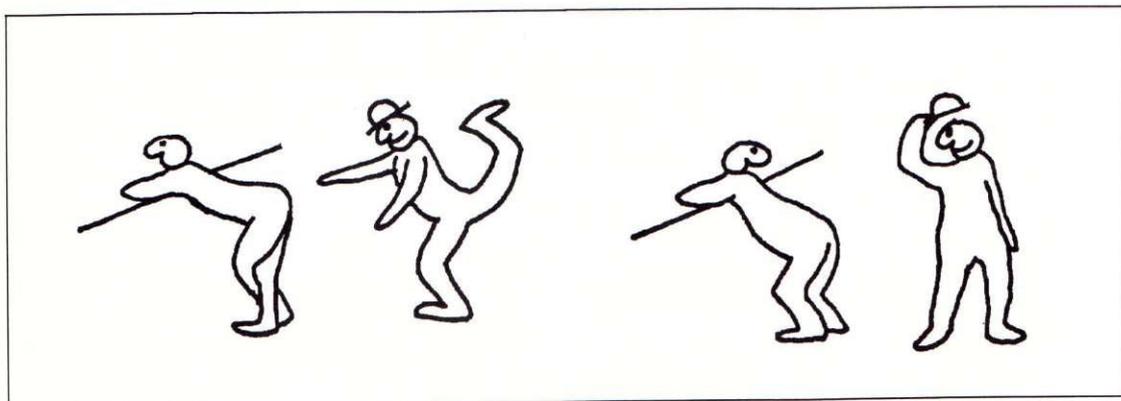
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