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Decorative Systems of Industrial Buildings

A foray into uncharted regions

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This article is a reprint of the original published in the journal Ezelsoren, Bulletin of the Institute of History of Art, Architecture and Urbanism (IHAAU) of the Delft University of Technology (TU Delft). It appeared in Volume III, Number 3, 2012 and is, as indicated in the text, a sample of how far "the very extensive number of buildings constructed since the beginning of industrialization in relation to many technical purposes, from railway stations to slaughterhouses, from power plants to coal mines, haven't been sufficiently studied in relation to their ornamental and sculptural systems, which in turn represent the reaction of the arts to the course of technological development." An artistic material still largely unexplored whose wealth is waiting to be unveiled as an eloquent field of interpretation of the past.

It is a good 240 years ago that James Watt took out a patent on his decisive improvements of the steam engine that on its part had been around a good seventy years already. It was also 240 ago that Richard Arkwright, peruke maker from Nottingham, took out a patent on his machine to spin cotton yarn 'without fingers'. Both events made the year 1769 to the moment in time that Walt Whitman Rostow was to call the 'take-off-phase' of the Industrial Revolution.[1] From now on, it was impossible to ignore the changes that started to be noticeable first in England and, spreading from there, on the European continent and later in other parts of the world too. Industrialization changed and accelerated the life of each and every living soul since the last quarter of a millennium.

It also changed the way in which art reacted to the alterations caused by the mechanization and 'machinization', a process that Sigfried Giedion described by the title of his 1948 book as *Mechanization Takes Command,*[2] a book he called *a contribution to anonymous history*.

One year earlier, in 1947, another expatriate, Francis Donald Klingender published one of the first systematic researches into the way art reacted to the phenomenon of the industrial revolution: *Art and the Industrial Revolution.*[3] By art, Klingender exclusively understood painting and the graphic arts. The first version of his book argued from a decisively Marxist point of view, no glorification of the process of industrialization is to be found here. When Arthur Elton in 1968 prepared a second edition of Klingender's book, this perspective was distinctly attenuated.[4]

From quite another direction another group of protagonists approached the phenomenon of industry and art: In 1912, the steelmaking firm of Alfred Krupp celebrated its 100-year anniversary by holding an exhibition titled *Die Industrie in der bildenden Kunst –Industry in the Visual Arts–* in the museum of art in Krupp's hometown of Essen.[5]

Exactly forty years and one World War later, in Düsseldorf another exhibition was held *Kunstausstellung Eisen und Stahl – Art Exhibition Iron and Steel.*[6]

Behind both these ventures the intention stood to glorify industrial activity and to guild the business of production with a cultured attitude. In the Germany of 1952, another outspoken aim of this exhibition was to gloss over by culture the all too willing attitude of the German heavy industry to see Hitler's war preparations as a welcome opportunity to increase sales.

From the academic side, one first ambitious attempt to focus on the history of the representation of working processes in art that predated Klingender's book by twenty years, was Paul Brandt's *Schaffende Arbeit und bildende Kunst – Productive Work and the Visual Arts* from 1927/28,[7] covering the entire period between Ancient Egypt and the present. Klaus Türk went one step further in the year 2000 by carrying forward this examination up to our present day.[8] The latter work is seen

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through the eyes of the sociologist, not from the perspective of art history. It illuminates the respective society's interpretation of human labour under different socio-economic conditions.

Although what we have enumerated so far has never really mirrored mainstream academic research, it can be said now that over the last decennia the reflection of the world of labour and industry in art, at least as far as painting and the graphic arts are concerned, has been given a certain attention.

There are many museums that treasure corresponding works of art. To name just a couple, there is the Danish Arbejdermuseet, that together with Nordjyllands Kunstmuseum in 2007 held a magnificent exhibition called *Industriens billeder – Industry's Images*[9] (cf. Hanne Abildgaard's contribution in this issue) or the Museum of Modern and Contemporary Art in Rijeka/Croatia that holds a collection mirroring the industrial development of this important harbour and industrial city (cf. the contribution by Daina Glavočić: *Industrial Landscape in Art* in this issue).

Sculpture is another field of art, where we can state a seeping in of industrial motifs into a classical canon that for centuries had widely excluded allusions to labour and technology. In 1972, an essay traced this process that took place in the course of the nineteenth century involving names like that of Belgian painter and sculptor Constantin Meunier (cf. also Patrick Viaene's contribution in this issue) or Frenchman Jules Dalou. 1880 is the date that is introduced here as the first moment in time where workers or industrial work appears in sculpture.[10]

What however can be said after the 35 years I have spent in the business of researching and preserving industrial architecture, is that the extensive number of buildings that since the beginning of industrialisation have been erected in connection with manifold technical purposes from railway stations to slaughterhouses, from power plants to coal mines have not sufficiently been surveyed with regard to their ornamental and sculptural systems representing on their part the reaction of the arts to the course of technological development.

These are systems of embellishment – decorations, ornaments, relievos or architecturebound sculptures – that on the one hand served as a kind of illustrated bible of the religion of technology, but also were illustrating new phenomena to a wider and often technically illiterate public. On the other hand these systems posed an enormous challenge for all kinds of artists that had to invent and develop artistic languages for the interpretation of a newly emerging technological world.

It is this act of having to create worlds of artistic expression for everyday use in rapidly changing and modernising architectural surroundings that after my interpretation embodies a huge potential of creativity that had to be freed and developed and that hitherto has not found sufficient attention in proportion to its everyday presence in all industrialized countries for over two hundred years.

Figure 1. Marble plate with the exact rendering of a water mill, 1648, Museum of Mantova/Italy, photo A.Föhl

Top. Figure 2. An 18th century warehouse in Delft/Netherlands showing barrels, bags and wrapped boxes as symbols of the transport trade, photo A. Föhl

Bottom. Figure 3. Façade of the "Old Mill" in Schio/Italy showing attributes of god Hermes as symbols of trade, photo A. Föhl

Step by step artists amalgamated the new manifestations of industry in an ever growing measure of perfection, adding them to buildings that served the purposes of production, transport and supply and so helped to make them acceptable and understandable to a contemporary population that had to come to terms with this rapidly developing world.

Of course, systems of ornamentation and decoration of buildings are absolutely not restricted to the industrial age. From Palaeolithic times up to the period after Adolf Loos spoke his verdict Ornament und Verbrechen – *Ornament and Crime in 1908* [11] and evenwell beyond this, ornamental and decorative elements and systems have been an indispensable part of architecture for every conceivable kind of building.

Antiquity, Gothic, Renaissance or Baroque all have cultivated systems of decorating buildings and the nineteenth century has given birth to a thoroughly research-based revival of ornaments of all the styles of bygone ages. Neither is the informative character of architectural ornamentation anything new. If we think of the medieval guilds, we find that they used a kind of ornamental abbreviation for the trade they were involved in that took the shape of either a tool or a product typical for the respective guild.[12] House signs may also often have depicted tools or for example a water mill. In the museum of Mantova/Italy we find a 1648 marble plate with the exact representation of a water mill complete with water wheel as a document for the acquisition of the building (figure 1). Thus motifs of technological character appeared on buildings, implements or even gravestones already long before the industrial revolution.

Now when the steam engine and textile machinery appeared on the scene for good around 1770 the architects had to face the task to design new building types such as a factory. A famous prototype for example in this context is Lombe's silk mill in Derby, erected for the Lombe brothers as early as 1718-21, that already housed water powered spinning machines.[13] A little later, the dawning of the railway age from 1825 made for the necessity to invent the new building type of the railway station. From Liverpool Street Station in Manchester from 1830 on, an architectural expression had to be found to accommodate steam driven rail transport.

The first generation of industrial buildings sprang up without the involvement of any architect. Richard Arkwright's 1771 mill No. 1 in Cromford/Derbyshire was erected by millwrights as the persons most closely familiar with the requirements of mechanized production. Its 'Spartan design offered few concessions to decoration or appearance'.[14] (As late as 1826 the Prussian architect Karl Friedrich Schinkel was to complain about the baldness of British industrial architecture).[15]

With commercial success, this was to change very quickly, but Arkwright's 1783 *Masson Mill* differed from its predecessor only insofar as it incorporated classical elements of architectural design such as the Palladio/Serlio motif of its staircase windows.

On the other hand we already can notice specifically work-related ornamentation on the facades of pre-industrial buildings, may it be an 18th century warehouse in the Netherlands that shows barrels, bags or wrapped boxes as symbols of the transport trade (figure 2) or an early 19th century Italian spinning mill in the textile city of Schio that uses Hermes' winged hat, his staff and the intertwined serpents as an indication of trading activities (figure 3).

Figure 4. Balcony of Antwerp's/Belgium main railway station, 1899, embellished by a three-dimensional rendering of the classic winged wheel as symbol for rail transport, photo A. Föhl

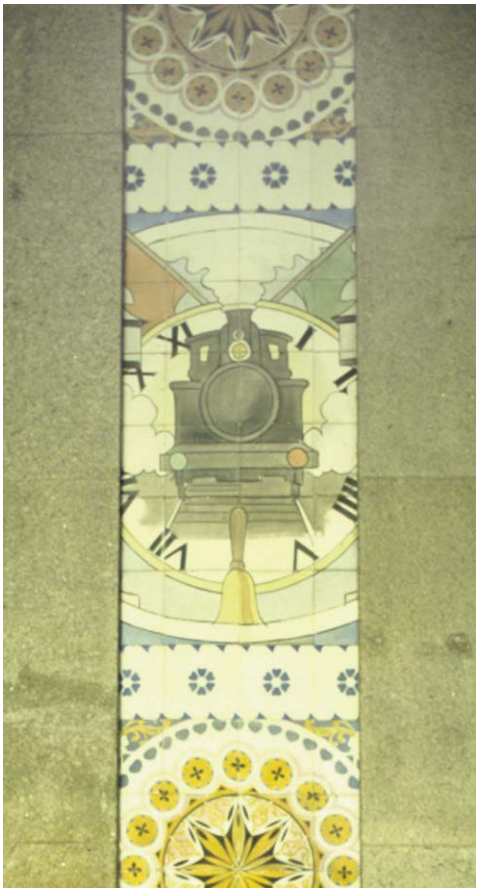
In the course of time the industrial revolution then was to multiply the number of buildings and facilities that came into being to exclusively serve technical or production purposes. We can only make a short choice here of categories within the broad technological development to illustrate the pervading character of the principle of embellishing but at the same time also information-giving ornamentation in industrial buildings.

The Railway Station

At the beginning of the railway age the concept of the 'conquest of time and space' was very present in the mind of the contemporaries.[16] One very telling symbol for exactly this phenomenon was from the beginning of railway travel the winged wheel combining the concept of wheeled transport with the many connotations the figure of the antiquegod Hermes evocated, amongst which travel and commerce dominate. The wings that were attached to the wheel of railway travel constituted another loan from antiquity: Chronos' attribute were the wings symbolizing time that by this new means of transport was conquered finally, as we can see for example at the front of the 1899 Antwerp railway station where a balcony is ornated by a three dimensional rendering of a winged wheel (figure 4).

The newly developing building type of the *railway station*, 'Bahnhof ' in German, the 'yard of the railway' did not only bear the

Left. Figure 5. Gare du Nord, Paris/France, female figures indicating destinations to be reached from here, photo A. Föhl



Right. Figure 6. Main lobby of the Porto/Portugal railway station São Bento, 1914 with tiles showing clock faces and locomotives. Photo A. Föhl

Figure 7. Side front of the Freiburg railway station in Wrocław/Poland with a locomotive between the figures of Hermes and a female holding a cog-wheel, photo A. Föhl

symbol of conquest over time on its facade. Space was another victim of railway travel. So if you look at the street façade of Paris' Gare du Nord, designed by Jakob Ignaz Hittorff and opened in 1865, there are no less than 23 statues of females symbolizing the different destinations that could be reached from here, distinguishing between national and international destinations like Frankfurt or Amsterdam, Rouen or Amiens (figure 5). In Paris, this tradition had already started withthe 1847 Lyon railway station.[17] The building type of railway stations from the beginning has been a projection screen for local, regional or national issues. One of the most magnificently decorated station concourses is the hall of the São Bento station, built 1914 in Porto/ Portugal. Here white and blue decorated tiles going back to the Moorish tradition tell rural but also national stories. If one leaves the station, one notices large-scale tile clock faces with the central motif of a locomotive that seems to drive out of the picture between two telegraph poles (figure 6).[18] In Wrocław/Breslau in Poland the motif of speed symbolized by a running locomotive takes on three dimensional forms: crowning the top of the triumph arch-like side front of the 1874 Freiburg railway station, a larger-than-life Hermes and a goddess probably symbolizing speed flank the forefront of a locomotive that seems to drive out of the façade in a nearly threatening manner (figure 7).[19] More examples could be given nearly indefinitely. As one last document concerning rail traffic may serve here the 1928 Bolzano railway station by Angiolo Mazzoni, where the naked expressionistic figures of a man and a woman stand on parts of a generator, holding the rotor of an electrical motor in a proud indication of the the commencement of electrified railway travel on the Brennero line (figure 8).[20] Not only rail however, but equally automobile traffic generated its own figurative representation: Liverpool's ventilation tower for the Queensway road tunnel for example, an art deco landmark by James Rowse from 1932, shows a goggled car driver on top of a much larger-than-life car tyre (figure 9). In the later 19th and early 20th century, bridges also formed a backdrop forthe representation of all kinds of objects of traffic: locomotives, cars, lorries or ships.

Figure 8. Bolzano/Italy, railway station 1928. Female figure (F. Ehrenhöfer) standing on an electrical motor signifying electrification of the Brennero railway line, photo A. Föhl

Buildings for Electricity

Another sector representing an exuberant urge to decorate its buildings was the flagship of the second industrial revolution, electricity. As a commodity that at first had to fight for its market, the propaganda motif might have been strong from the beginning. Again the diversity of decorative motifs is so enormous that one can only stick to a very few examples: The most striking element that by and by gained access to every household was the electric bulb and consequently we find it on the façade of many buildings related to the generation of electricity. From the 1892 administration building of the Stockholm electricity work,[21] where we find a frieze of light bulbs garlanding the entrance (figure 10) to the 1905 front of a

Above on the left. Figure 9. Liverpool/England, entrance to the Queensway road tunnel, 1932, showing car wheel and goggled driver, photo A. Föhl

Above on the right. Figure 10. Stockholm/Sweden, translocated entrance to the electricity works, 1892, frieze from light bulbs and electrical wiring, photo A. Föhl

Figure 11. Stuccowork at the front of the electricity works in Viersen/Germany, 1905, replacing vegetable elements with light bulbs, photo A. Föhl

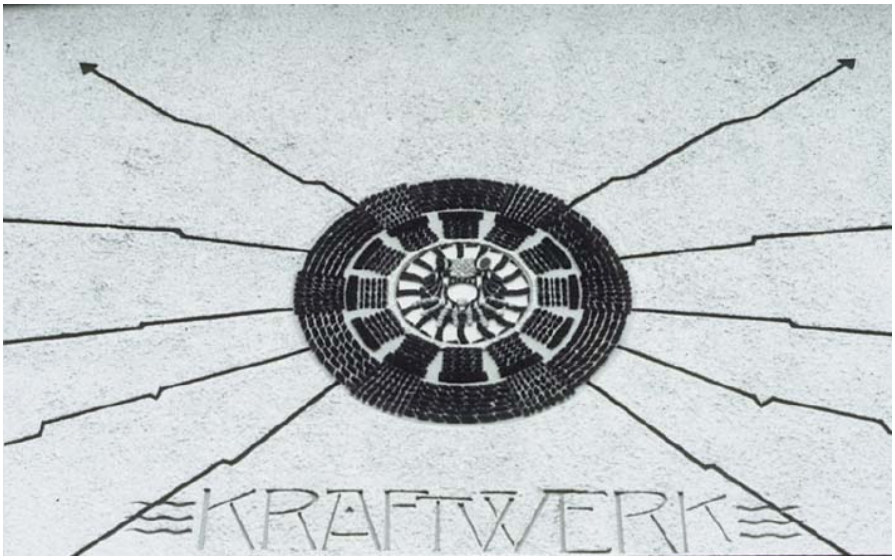


Figure 12. Graffito motif on the river front of the hydropower station in Heimbach/Germany, 1904, combining turbine and generator parts with bolts of lightning, photo A. Föhl

Figure13. Budapest/Hungary, fanlight over the door of the 1930 transformer station showing a Zeus-like heroic figure throwing bolts of lightning as symbol of electricity, photo A. Föhl

Figure 14. Figure of the wool-giving alpaca as the base of textile production in Saltaire/England, 1853

Figure 15. Ram's head at the façade of a woolen mill in Dison/Belgium, 1900, photo A. Föhl

Figure 16. Pediment of an Essen/Germany merchant's house, 1900, combining tools and implements of the coal and iron industry, photo A. Föhl

Figure 17. Budapest/Hungary, insurance building, 1930, showing all kinds of industrial accidents

Rhenish electricity works[22] of 1905 where a renaissance-like scroll ornament holds light bulbs instead of a bunch of grapes (figure 11) the element of the light bulb heralded the new way of lighting apartments as well as city streets. Power plants have been decorated since the late 19th century by all kinds of implements associated with the technology of creating light and power: electrical motors, generators, insulators or the ubiquitous symbol of electricity, Zeus' thunderbolt. This latter zig-zag arrow-shaped motif we find at the art-nouveau hydropower station of Heimbach-Hasenfeld from 1904 (figure 12), where it is combined with the representation of the turbine blades and generator coils that exactly tells the passer-by in which way electricity is created inside the building. We also find it at the 1930 transformer station in Budapest's Marko utca, where an expressionistic heroic figure throwing lightning bolts crowns the door of the building, today occupied by a Russian bank (figure 13). As a lightbringer, the figure is holding an ornamented torch above which we may presume the face of ancient bearded Chronos with his wings, a motif we already met in the railway sector. One could go on endlessly - such is the wealth of the illustrative world of technical buildings. The mining industry has its ubiquitous mallet- and-iron motif that adorns mining sites as well as miner's tombstones or workers' dwellings. Every kind of product has beendepicted to give information about what is manufactured behind a building's walls from beer barrels in the Pilzen brewery to guns in a Düsseldorf metal works. Raw materials have been portrayed from Titus Salt's alpaca as the base of his spinning success in Bradford/ England (figure 14) to the stately ram's heads in the woollen district of Verviers/Belgium (figure 15). Every kind of tool or machine appears on the walls of factory buildings from pincers on Cologne banks to pneumatic drills in the Russian Urals. Entire processes of production appear on facades from bread baking to the reading of gas meters, from carrying coal underground to turning cog wheels (figure 16).

In short: it may have become clear by now what a wealth of historic sources lies hidden untapped and unused. Neither art history, nor history of technology or history of architecture have so far sufficiently been aware of this eloquent field of interpreting the past. All kinds of information are waiting to be exploited here: matters important to the development of the arts, evolvement of styles, questions of how society was informed, manipulated or interested, the question if it does not establish a quality when buildings tell us of their purpose and whether one should not strive for the inclusion of such elements of architecture in contemporary building.

It can be said that the period of creative, enlightened and inspired artistic activity in the field of embellishing the buildings of the industrial age came to a tentative end around 1960. So we have a time span of more than 150 years to consider and to find out what discoveries from this period can contribute to our general knowledge of history since the industrial revolution.

A good place to start would be the 1930 Budapest building of an industrial insur-

ance company where the whole imposing building was decorated by a group of different sculptors with a sheer endless band of friezes depicting all kinds of accidents that can befall the participants of industrial life (figure 17). Even this slightly ghastly, very long frozen film throws light on our knowledge of living and working conditions in bygone times that can be obtained in no other way than by making use of this so far underestimated historical source.

Notas

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5. Cf. Lutz Engelskirchen, *Eisen und Stahl. Ausstellungen zum Industriebild in Deutschland*, in: *Die zweite Schöpfung*, exhibition catalogue Berlin 2002, p. 108-113 (catalogue financed by the same firm of Krupp that held the 1912 exhibition in Essen)
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