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Foreword

Over the past two decades, the German photographers, Bernd and Hilla Becher, have gained a reputation as documenters of the industrial era in Europe and America - an era drawing inevitably to its close. As everyone knows, the era was characterised by a fast-growing demand for raw materials like coal and ore, by the blatant, insatiable hunger for energy with the aid of which the constantly rising demand for steel products could be satisfied. Technology unknown until the nineteenth century, such as steam engines and electric motors, made possible stupendous advances in the production and extraction of raw materials and led in turn to the construction of innumerable industrial buildings such as pit-head frames, water-towers, furnaces, cooling towers, preparation and processing plants and silos. Wherever it was deemed necessary, a universal "technical architecture" grew, rarely with any claim to aesthetic value; but, owing to the overriding functionality and the kind of scale this imposed, it acquired such an extraordinary monumentality and effect that these engineers pieces often dominated their environment no less than the cathedral dominated the medieval city.

Since 1959, Bernd and Hilla Becher have been tracing the man-made testimonies to the industrial era in Germany, Holland, France, Belgium, Great Britain and the United States and documenting both the production plants and the houses in these industrial areas in photographs. They found their artistic involvement fired as much by their interest in the technical characteristics of these areas as by the strange fascination of the "anonymous" buildings. Often the artists got to these structures just ahead of the demolition squad or before natural decay did its work; and in many cases the Becher photographs remain the only visual record of the existence of plants since demolished because they had served their purpose and were no longer a tenable economic proposition. From this point of view the work of Bernd and Hilla Becher could be called "industrial archaeology" to the extent that its intention is to salvage testimonies of past developments in the shape of "readable" documents for posterity - to make this material accessible for future cultural historians. In fact these photographs already hold much in store for the historian, bearing in mind that the constructions still in existence are under the pressure of time and, like dinosaurs bound for extinction, must cede to other species.

If there were no more to the photographs of Bernd and Hilla Becher than a resemblance to an archaeological probe into the past history of industrialisation - if they were no more than an inventory of that which is no more - then they would not have had it in them to transcend the limits of the specialist field of study. The fact that they do so, that they have a great effect in an artistic context, is owed to the consistent, methodical approach practised by these two artists. Irrespective of the subject of the photograph, the photographic technique remains constant from shot to shot, composition and perspective are subordinated to a plan dictated by the respective subject. A careful look at the photographs soon reveals that the subjects are placed into the centre of the picture and

are mostly seen from a slightly raised standpoint (the artists often using ladders and scaffolds), that the lighting is kept as constant as possible, that there are no dramatic cloud effects, no additional sources of light; and that the aim of the work is to produce largely objective, calm and factual visual records which allow all the details of the subject and thus its essence to come to the fare.

The objectiveness of Bernd and Hilla Becher's photographs creates the formal clarity that is necessary if pictures of different objects are to be placed side by side and typological series are thus to be formed. - How else could these strange industrial objects be classified? These typologies make it possible to fundamentally expand the objective information that the individual photograph conveys about the object represented and to compare the technical, formal and stylistic aspects of individual constructions with each other. Certain prototypal objects can then introduce typological series in an iconographic sense; or formal and functional characteristics can be correlated from structures of different periods or countries. Thus the typological correlation becomes not just a source of information for different areas of knowledge (history, technology, etc.), but also a source of a *new kind of vision.* In this respect Bernd and Hilla Becher are making an exceedingly significant contribution to our knowledge of the environment, in both the visual and the intellectual spheres.

This exhibition, planned for Essen, Paris and Liège, focuses exclusively on one single subject - the mineheads. Other subject series such as the furnaces, water and cooling towers, gasometers etc., have been left aside deliberately. The subject of the exhibition has occupied the two authors far two decades, and the search for the right subject matter has led them to a number of industrial regions in Western Europe and North America. The present exhibition and this book constitute the first comprehensive cross-section of the collected material on pit-heads: a visual anthology of the era and, to an equal extent, its metaphysical mirror-image.

Zdenek Felix
Museum Folkwang Essen

Suzanne Pagé
ARC/Musée d'Art Moderne Ville de Paris, Paris

Mineheads

This mineheads stands over the shaft entrance of a mine. Its purpose is to deliver the raw material worked under the ground to the surface. The prototype pithead frame is a steel girder structure at the top of which two wheels (sheaves), placed side by side or one above the other, guide the cables off to the winding engine sited next to the steel tower itself.

The cages attached to the cables are moved up and down the mine shaft, in opposite directions to each other.

The pit-head gear has to be constructed so that it will stand up to the strains and stresses imposed on it by weight and movement as well as the sideways pull of the winch.

The deeper the pit, the higher the minehead superstructure has to be.

The DOUBLE HEADGEAR amounts to a symmetrical double version of the construction described above in other words, there are two pairs of cages and two facing engines.

In one variant of this double winding technique the engine houses form a right angle with the mine shaft.

The TANDEM HEADGEAR serves two adjacent shafts with one engine.

In the TOWER-TYPE WINDER the engine is not at ground level but built into the upper part of the tower.

The MALAKOV HEADGEAR was a transitory solution, built only between 1860 and 1880, when mining at greater depth was called far, but the necessary experience in steel construction was lacking. (It got its name from Fort Malakov, part of the citadel of Sebastopol of Crimean War renown).

The solid walls of the tower in which the sheave supports were anchored bore all the weight.

In the long term the Malakov tower proved inefficient: later, a free-standing frame would be built inside the masonry tower, frequently to rise beyond the old roof and walls.

The WOODEN HEAD-FRAME of the small-scale Pennsylvanian mines is quite different from other types of construction. Here the shaft does not penetrate the layers of rock vertically, but follows the direction of the coal seam, which extends all the way to the surface. It is the angle between the coal seam at its emergence and the incline of the ground that determines the kind of structure for the frame.

Another typical characteristic consists of a simple mechanical device in the upper section, which opens the coal car during its upward journey, tilts it and empties the contents into a storage box. This special function explains the name given to it locally, the tipple.
(Translated by Stephen Reader)

B & H Becher