Cranes and Brushes

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Construction is an ancient human activity and observing it is not a recent phenomenon. In the 13th century Villard de Honnecourt noted his observations of construction site machines in his notebook. Machines are also worked by the small figures in Pieter Breughel the Elder's Tower of Babel, the largest version of which is in the Kunsthistorisches Museum, Vienna. Drawings of the great buildings of Papal Rome were quickly made and printed – in 1590 Domenico Fontana engraved a depiction of the erection of the obelisk in St Peter's Square.[1]

In the 19th century the construction of Joseph Paxton's design for the Crystal Palace in Hyde Park was revealed to the public through steel engravings reproduced in the London illustrated magazines. As late as 1889 Auguste Lepère was still drawing the construction of the Galerie des Machines – his watercolor is now in the Musée d'Orsay – photography was brought in for the construction of the Eiffel Tower, enabling each stage of its erection to be preserved through images. In both cases the magic of combining factory-made elements with no independent use into a powerful construction – infinitely large in the first case and infinitely tall in the second – became a spectacle diffused by the press to places far from London or Paris.

Photography changed everything. It became possible to capture the stages of construction in minute detail. Engineering journals recorded the major projects of the early 20th century – canals, bridges and dams. Photographers commissioned by Detroit architect Albert Kahn – with the same name as the Paris banker who was then funding the Archives of the Planet – regularly documented the progress of the construction of the big factories of Ford and General Motors.

Interest in the construction of the North American skyscrapers was intense. Observers were astounded by the speed with which their steel frameworks were put together, and surprised that non-load-bearing facades could be taken up to the upper floors while the lower floors remained totally open. In the 1920s, one of the most popular books on tall buildings was *Wie baut Amerika?* by Viennese architect Richard Neutra, who had recently emigrated to the United States. A draughtsman at the firm of Holabird and Roche, he reproduced his close-ups of the building of the Palmer House Hotel in Chicago, capturing in detail the placing of rivets in the steel frame.[2]

Fascination with steel frames and the dry assembly of panels can be sensed in the photographs taken by Marcel Lods – from the air and from the ground – during the construction of the Cité de la Muette in Drancy, which was also the subject of Jean Benoît-Lévy's film *Construire* of 1934.[3] Traditional media coexist with new techniques. In the same period Prix de Rome winner Robert Camelot, on a stay in New York, sought to capture the balletic cranes of the Rockefeller Center in his watercolors. The project most obstinately described by pen and brush was the late-1930s construction of the gigantic Palace of the Soviets in Moscow, to which considerable resources were devoted. Here again, illustrators who had trained on the construction of the dams of the Five Year Plan were drawn to the movement of beams through space.[4] The projects of the Third Reich were also documented in graphic sagas, with the spectacular watercolours and gouaches of Ernst Vollbehr, in which this painter of armies documented the highway building program, with its soaring viaducts, and the fortification works for the Atlantic Wall.[5]

In the post-war period the idea of construction was a metaphorical echo of the recovery of a devastated Europe and of the "peaceful construction sites" of dwellings built in their millions in every corner of the continent. It was the title of a painting of 1959 by Alexandre Deïneka, in the socialist realist tradition, which shows prefabricated panels flying through the sky like angels. In more poetic vein, in 1950 Fernand Léger's *Les Constructeurs* celebrated builders showing them perched on the beams of a steel frame over empty space.

Following the rejection of socialist realism, painters abandoned this kind of narration, but it was continued by photographers, who became the recorders of major works. Marcel Gautherot gave up his expeditions to the north of Brazil to point his camera at the buildings of the country's new capital Brasilia.[6] A little over twenty years later, during the period of major works conducted during French president François Mitterrand's two terms in office, Aymeric Fouquet and Josef Koudelka offered

panoramic views of the sites of the future Très Grande Bibliothèque and its surrounding district.[7]

The project undertaken by Frédéric Chaume from 2017 to summer 2020 differs in scope from these great forerunners. The first is that of time, beginning when he moved onto the site next to Paris' Austerlitz station. There he set up camp, avoiding any kind of static, academic position linked to a fixed point of view. So we see the Snøhetta site from many different angles as it unfolds, at different times of day and following the changing Paris seasons. Paradoxically – because clearly, despite the speed and virtuosity of their execution, each drawing took a certain time to make – they appear as snapshots, catching the workers in the suspended action of a fixed image. Mounted end-to-end, these drawings could act as a flip-book showing a fast forward version of events that occurred over a long period.

In addition to the cyclical variations of time of day and times of year, restored by a fluid brush, one key feature of the corpus is the variety of focal lengths, to borrow a term from photography and film. From wide shots to very big close ups and all points in between, the framing of the drawings takes us from general views of the building to its constituent elements, and even tiny details of those elements.

The arrangement of the drawings is also highly reminiscent of the avant garde films of the 1920s, reflecting the rhythms of the construction process, in which dynamic phases, such as the transportation of an element from one end of the site to the other, combine with moments of stasis, such as the riveting in place of another element. The techniques used, based on the assembly of factory-made elements, are well suited to graphic narration, which would have been less well matched with a building in reinforced concrete panels or masonry, involving the slow sedimentation of layers of stone or brick.

Whereas Alain Resnais' film of 1959 *Le chant du styrène* is a tribute to workers in the chemical industry, Chaume is more concerned to relay the song of the beam. The play of light and shadow over floors and girders highlights the intersecting patterns in steel, sometimes shown in dramatic chiaroscuro. Seen variously from the front or at an oblique angle, a seemingly chaotic collection of pieces shrinks as it stretches into the depths of the site. These drawings are reminiscent of the imaginary prison labyrinths of Giovanni Battista Piranesi, with which they share an interplay of high and low angle views, overhanging beams and interwoven cables, like the rigging in Piranesi's plates.[8]

A different, more contemporary register suggested by these notebooks is that of construction games. We rediscover the excitement felt by post-war children when Meccano allowed them to create unlikely buildings with colored and perforated metal rods. Chaume has long devoted himself to "Drawn Construction Sites" in many different places. His long stay between the Seine and the railroad tracks of the station has enabled him to link his drawings in a chain that forms an epic on paper for our times.

Notes

1. *Della trasportatione dell' obelisco vaticano et delle fabriche di nostro signore papa Sisto V fatte dal cavallier Domenico Fontana architetto di Sua Santità,* Rome, Domenico Basa, 1590.
2. Richard Neutra, *Wie baut Amerika?* Stuttgart, Julius Hoffmann, 1927.
3. Nicole Toutcheff, Pieter Uyttenhove, *Marcel Lods 1891-1978 : photographies d'architecte*, Paris, Centre Georges-Pompidou, 1991
4. See the plates published in Nikolaï Atarov, *Dvorets sovetov*, Moscow, Moskovski rabotchi, 1940.
5. Konrad Schuberth, *Ernst Vollbehr : Maler zwischen Hölle und Paradies, eine illustrierte Biographie*, Halle/Saale, Mitteldeutscher Verlag, 2017.
6. Kenneth Frampton, Sergio Burgi, Samuel Titan, Jr., *Building Brasilia. Photographs by Marcel Gautherot*, London, Thames and Hudson, 2010.
7. Aymeric Fouquet, Josef Koudelka, *En chantier ; une université et un quartier. Paris 13é Masséna*, Paris Textuel, 2002.
8. First edition: *Carceri d'invenzione di G. Battista Piranesi*, Rome, self-published, 1750.