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CANADIAN MUSEUM OF ARCHITECTURE

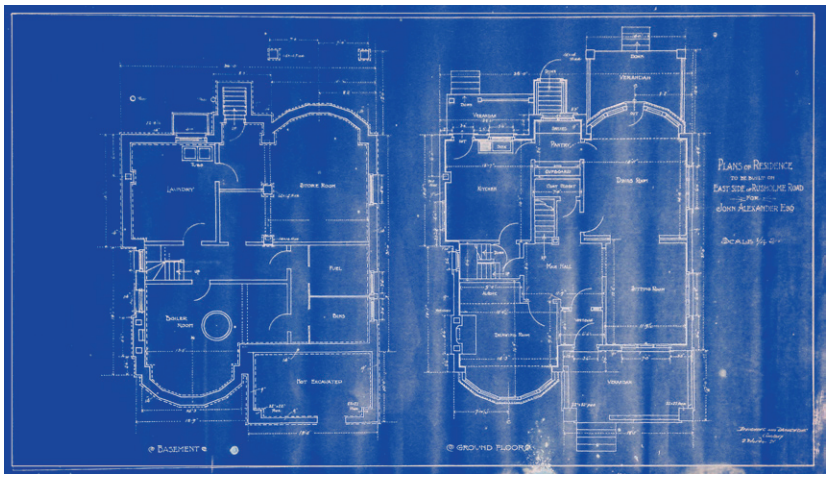
IN PERSPECTIVE

WINTER 2026

ARCHITECTURE GETS THE BLUES

Big buildings require big plans. And many of them. As architecture and various technical disciplines evolved, projects grew larger, making it necessary to circulate accurate copies of plans and drawings to many people quickly and reliably. Traditionally, the only option was manual copying of the material. It was time consuming, expensive and subject to error.

However, back in the laboratory in the early 19th century, substances had been discovered that changed colour when exposed to light. Experiments with these photochemicals led to the development of various imaging techniques, eventually including photography.



Blueprint of a Toronto house plan at the turn of the 20th century. Architect unknown.

Sir John Herschel, a British astronomer and chemist, carried out extensive investigations, casting a light on the subject as he invented the cyanotype process in 1842.

Sir John Herschel (1793 – 1871).

This process relied on the conversion, by exposure to light, of a colourless iron-cyanide compound to the intensely blue coloured ferrous ferrocyanide (Prussian blue). An image could then be captured on paper or a plate impregnated with this chemical, provided the reaction is stopped after the exposure to light.

A contact print method, aligning the two sheets of material, did not require lenses or other optical equipment.

Initially, the chemistry of the process largely confined it to the laboratory. But, in 1861 French chemist, Alphonse Louis Poitevin discovered that, with the use of a gum, light sensitive paper could be prepared in advance and stored till use. This innovation made it quite simple and cheap to produce blue and white images of anything recorded on translucent paper. For reasons that have been lost to the passage of time, they were called “blueprints”.

The blueprinting process was presented to the public in 1876 at the Philadelphia Centennial Exposition. Its advantage over other methods of making copies gained it great popularity.

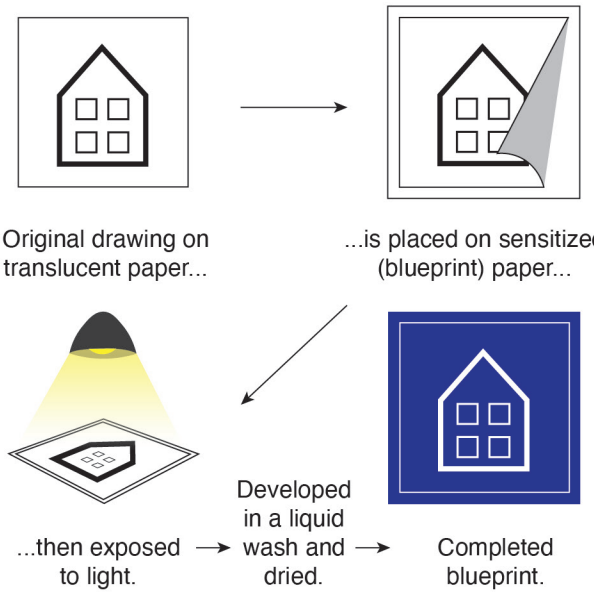
Blueprints were particularly useful for architects and engineers who needed to quickly and cheaply distribute exact copies of drawings in large numbers.

And blueprinting became a standard component of architectural practice.

High demand fostered innovation. By 1918 success in mechanization allowed typical blueprinting machines to process 200 yards of paper per hour.

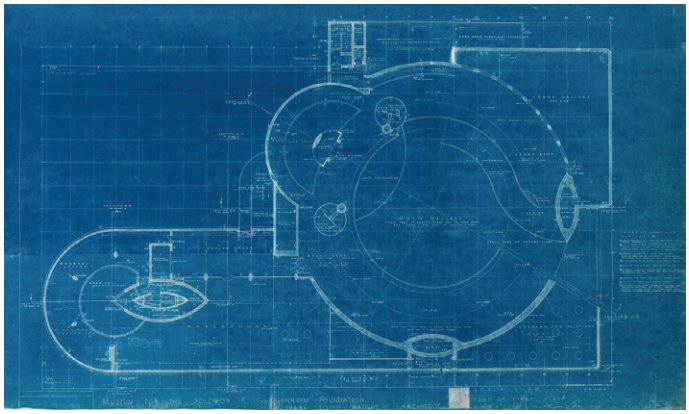
The diazotype, or whiteprint, had been introduced in 1890. It was based on a similar chemistry to that of blueprints

but the paper was developed in ammonia vapour instead of a liquid wash and the colours were the other way around.



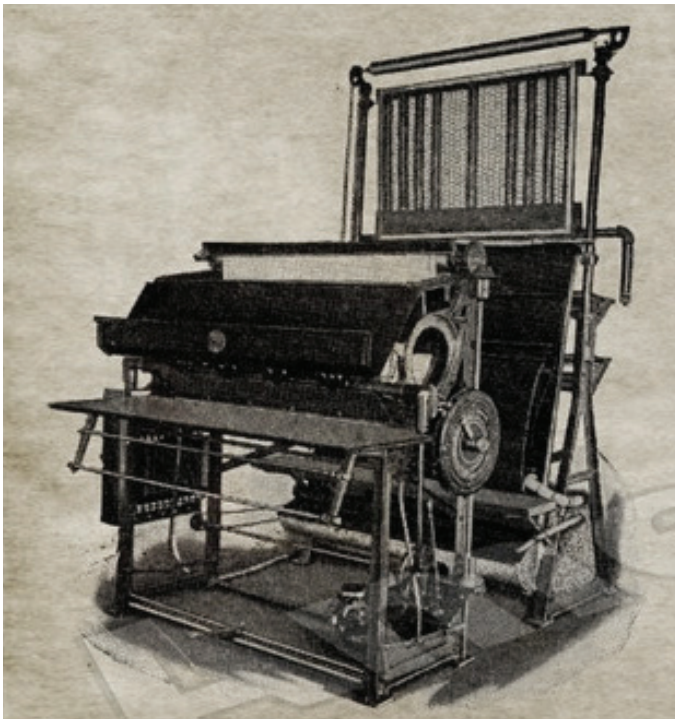
How to make a blueprint.

Despite the entry of white prints, blueprint use continued until after World War II. However, the appeal of the simpler technology, and perhaps the more subdued colour, as it is easier to read blue on white rather than white on blue, gradually won out.



Frank Lloyd Wright redesigned the Solomon R. Guggenheim Museum many times before its completion in 1959. This blueprint attests to the routine use of the technology at mid-century.

In turn, the diazotype was replaced by xerographic technology in the 1960s. As computerized drafting systems were introduced in the 1970s manual drawing went out of practice. There was a reduced need to copy originals. Printers and plotters are now used almost exclusively for the production of drawings. But even originals are often not required as all that needs to be done is to "send a PDF".



A Pease Blue Printing Machine from about 1914.

The legacy of the blueprint is the entry of the word into our everyday language to refer to a master plan or an all-encompassing idea or document. Actual blueprints, in their striking Prussian blue, are now seldom found and most people have never seen one.

- Peter Brueckner

Further Reading

Anderson, Christina. 2019. *Cyanotype*. 1st edition. Focal Press.

Bocekler, Burcu. 2020. "The Historical Development of Cyanotype Technique from the Beginning to the Present and a Case Project: 'Istanbul Blue.'" *Art-Sanat Dergisi* (ISTANBUL) 13 (13): 53–86.

Image Credits

Frank Lloyd Wright. Solomon R. Guggenheim Museum, Plan of first floor. New York, NY. 1959. https://www.guggenheim.org/blogs/checklist/illuminating-details-from-frank-lloyd-wrights-guggenheim-blueprints