lead pencils

After centuries of being considered an essential skill for designers, hand drawing has, in the past 30 years, been strongly challenged. Despite its devaluation, hand drawing is still the best representational tool available to designers; much like the ability to play a piano serves composers. Although Computer Aided Design (CAD) and Building Information Modelling (BIM) skills are considered essential, they should only be in addition to basic traditional hand drawing ability, not as its replacement.

So often these days, it is commonly believed and expected that the use of the most recent sophisticated computer programs and electronic devices improves design, accelerates the process and eliminate inaccuracies. This is not true, as often the application of the latest technology is simply increasing the complication for technology's sake while clouding the input of human effort.

For example, the iconic 102-story Empire State Building, completed in 1931, contains the typical construction materials and assemblies of its era. The height of 1,250 feet is not the building's only distinction. Remarkably, with 2.2 million square feet, it was designed and constructed in just 14 months. The designers, Shreve, Lamb and Harmon kept details simple where possible. They used basic, then-standard riveted connections in the steel frame, concrete floor slabs and a curtain-wall system built from the inside out, all standard components that were used throughout the U.S. at the time. Prefabrication of major building components, just-in-time delivery of materials, fast-track scheduling, assembly line-like organization of the work force, etc. were all aspects of the Empire State design and construction.

It's difficult now to know the extent of any field problems during construction, but it would be naïve to assume that there were none. There is simply no record of them because the players were more concerned with problem solving rather than on leaving paper trails. The use of technology – such as CAD/BIM, computerized structural analysis, construction management software, cell phones, and e-mail were not around, and would not have made an appreciable difference in the speed or the design of the work.

It may seem strange to champion hand drawing in this age, especially in view of the universal triumph of CAD/BIM and digital graphics, when every architect in the world seems obsessed with elevating computerized delineation to new heights of illustrative supremacy. However, this advocacy is based on a deeply felt conviction that, by focusing exclusively on computer-generated illustration, something conceptually profound is forfeited in the design process. When the translation of creativity is turned over to the mechanical filter of digital means, it loses something. What is being generated is digital dazzle camouflaging conceptual vacuity. It remains crucial to be able to draw by hand, as between the brain and the hand is where the magic happens.

Hand drawing is not simply one of many skills a designer must have – it is absolutely fundamental to the creative and problem-solving process, the heart of what it means to think like a designer. Digital technology turns design into information to be managed, draining it of inspiration. When somebody has used CAD/BIM to design a building that is demonstrably better than Palladio, Borromini, Bramante, Michelangelo or even Lloyd Wright; and when this better is discernibly attributed to the use of CAD/BIM, then CAD/BIM may be spoke of with a more respectful tone, but it still won't replace the graphic thinking and creativity supported by hand drawing.

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