

## **BOOK REVIEW: DRAW IN ORDER TO SEE – A COGNITIVE HISTORY OF ARCHITECTURAL DESIGN, by MARK ALAN HEWITT**

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**Abstract.** An innovative treatment of neuroscience in architecture and design analyzes the history of Western architecture from this new perspective. Hewitt emphasizes the necessity of hand drawing to establish the neurological connections that are essential for adaptive human design. This book revises the entire architecture curriculum, re-orienting effective teaching away from abstract, formal concerns and towards science-based interactive mechanisms. In doing so, Hewitt brings back older design and teaching methods that were obscured by recent fads that took over both education and practice in the past several decades.

**Keywords:** *architecture, design, neurodesign, history of Western architecture, hand drawing, traditional teaching, building traditions.*

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This excellent book contains an unusual history of western architecture. Mark Alan Hewitt covers the usual progression of architectural design and some construction methods in detail, from ancient times, through the Renaissance, to the Modern Movement. But Hewitt has a distinct take on all of this: he shows how design has been influenced by neuroscience, in a crucial way that we remain ignorant of.

This is a new and exciting topic that is slowly but surely taking over architectural thinking. The reason is that human beings react instinctively to their surroundings for biological reasons. Therefore, aspects of traditional thinking about composition take on a different and deeper perspective when interpreted through neuroscience. We respond positively to forms because our body has evolved to prefer a specific morphological vocabulary.

Hewitt's ultimate aim is to teach the reader/student how to design in a more human, adaptive manner. The historical survey is thus a useful framework for understanding how to improve architecture in our times, and in the future. Of course, this admirable objective distinguishes this book from the shelf-full of old-fashioned historical treatises of buildings — all of which employ the tired old methods of analysis using design, formalistic, and historical criteria. Hewitt knows his architectural history, and knows how to explain things in an engaging, interesting manner. But he also has taken on neuroscience and has done a lot of homework to make this book possible.

This book reminds me of an old favorite of mine: *Arguments in Favor of Sharpshooting* by David Clarke, which based good design on teaching a student how to draw by hand with pencil on paper. This method is now dismissed as ancient by schools that promote a technocratic approach to design via the computer screen. Clarke's book is no longer

popular among students and teachers. The problem that nobody mentions is that existing software forces design into pre-determined strict morphologies, and does not allow full creative freedom as the pencil in hand does. Mark Hewitt tries to steer design education again in that instinctively free direction, by emphasizing the primary value of drawing by hand. Hence the title of his book.

The research literature is now filling up with significant papers on how neuroscience applies to architecture. Some of that material is too technical for students to absorb, and so a book such as this one is very helpful. Most important, describing neuroscience in the context of well-known buildings, instead of simply describing its effects scientifically, gets the message across in a painless and effective manner. I strongly recommend that schools adopt this book for their courses.

Hewitt lays out the challenge clearly: hand-drawing engages the response mechanisms of the human neuronal system and thus benefits from our evolved innate design intelligence. Period! Failure to understand and to implement this knowledge will result, and has repeatedly resulted, in defective designs. Certainly, an abstract, artistic measure of innovation can be exciting, but it does not necessarily lead to a “good” design, defined as one that accommodates human neural response. And that’s the basis of neurodesign.

One bit in the book that I loved is when Hewitt demolishes the uncomfortable chairs by Marcel Breuer. Long regarded by architecture schools and critics as having achieved the pinnacle of innovative modernist design, they are deficient as far as human use and comfort. The reason for this failure is that Breuer, along with all the other Bauhaus pioneers, willfully ignored millennia of chair design rules that fit the human body. Instead, he designed using abstract principles of visual form. “Breuer’s chairs ... in fact were largely inferior in nearly every way to wooden chairs made by even the least competent traditional craftsmen ... the brain uses such archetypes in order to process information that stimulates creativity.” (page 44)

I have one criticism of the publisher, not the author, which is that the font employed is one size too small for easy reading comfort. Why do this? The book’s design leaves very wide margins that are not especially useful, when that space and only a few more pages more could have accommodated a larger font size. I believe that many presses make this mistake in sacrificing legibility — and utility in everyday use — to preconceived notions of “design”. Which is exactly this book’s argument.

## References

- Clarke, D. (1984). *Arguments in Favor of Sharpshooting*, Timber Press, Portland, Oregon, USA.
- Hewitt, M. A. (2020). *Draw in Order to See*, Oro Editions, Novato, California, USA.