

M.C. Escher's Legacy: A Centennial
Celebration
by Doris Schattschneider and Michelle Emmer
(Editors)
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Reviewed by Helmer Aslaksen

Do we need another Escher book? Ever since Escher was “discovered” by the mathematical community in the early 1950's, he has been the archetypical mathematical artist. His work can be found on the walls of many mathematics department, and whenever mathematicians need to demonstrate a link between mathematics and art, they usually use some Escher pictures.

Is this healthy? Some mathematicians feel that the ubiquitousness of Escher prevents other aspects of mathematical art from getting the attention they deserve. It is also important to realize that the arts community does not share our fascination with Escher. Many of them simply don't consider him to be an artist! When I was mathematical consultant for the exhibition “Art Figures: Mathematics in Art” at the Singapore Art Museum, I had to adhere to a strict no-Escher policy. Our preoccupation with Escher may hinder us when reaching out to the arts community. If you say that Escher is your favorite artist, most people will probably think that you have not looked at lot of art.

So do we need another Escher book? My answer is simply that no matter the topic, there is always room for quality books, and if you see the names of Doris Schattschneider and Michelle Emmer on the cover, you can expect top quality! Schattschneider's article ([5]) on wallpaper groups is a classic, and is, together with the book by Grünbaum and Shephard ([3]), required reading for anybody interested in tilings and patterns. Schattschneider has

written an excellent book on Escher ([5]) and Emmer has edited another conference proceeding ([1]) and directed a video on Escher ([2]).

What makes an Escher book good or bad? 50 years ago the novelty of his work was enough to excite people, but now I believe that the mathematical community expects more insight. Mathematicians look for clear, enlightening explanations, but much of what is written about Escher fails to clearly connect his work with mathematics. If it is mathematical art, there has to be some mathematics in it!

One crucial aspect of the study of mathematics and art is to compare the way mathematicians and artists think of art. How did Escher do it? Did he think of his art in a mathematical way? How did he feel about the way mathematicians interpreted his art? Many mathematicians seem to be so caught up with the mathematical viewpoint that they have a hard time realizing that most people don't think the way we do!

In my opinion, a good Escher book is a book that manages to link these two aspects by both interpreting his work mathematically and explaining his own approach. Schattschneider's earlier book ([5]) is maybe the best example of this.

The current book is the proceedings of the Escher Centennial Congress held in Rome and Ravello in 1998. I must confess that I'm generally not a big fan of conference proceedings. How many proceedings from conferences that you did not attend do you have on your bookshelf? There's a big difference between giving a great lecture and writing a great article. Most of the articles are brief, and do not have time to do into details or explain things carefully. The wide range of speakers and topics ensures that there will be something for everybody, but also makes the book a bit scattered.

The book is really three books in one. Part one is called "Escher's World" and contains a wide range of articles that I believe will primarily appeal to the hardcore Escher fans. I personally loved Veldhuysen's retracing of Escher's path in Italy, the article by Schattschneider and Hoolist about how C.v.S. Roosevelt, a grandson of Theodore Roosevelt, helped Escher conquer America, and Hofstadter's description of his experience with Escher's work. But if you are a more casual Escher fan, you may want to skip to Part two.

Part two is called "Escher's Artistic Legacy". Some people may enjoy learning about artists who have been inspired by Escher, but there are also several articles with a clear mathematical angle. I believe that most mathematicians will find a lot of interesting material here. I personally was most attracted by the wonderful article by Rice about pentagonal tilings, the description of anamorphic art by Houle, and Orosz's discussion of mirrors and perspective.

Part three is called "Escher's Scientific and Educational Legacy", and it's

a real goldmine! Coxeter continues his study of hyperbolic trigonometry in Escher's work, Lee writes about the TesselMania software, and Eisenstein and Loeb discuss notations for symmetry groups. And that is just three of the 14 articles in Part three. I enjoyed almost every one of them and I believe that even the most jaded mathematician will find something of interest in this part.

Unfortunately, the book is both thick and expensive. Would it have been possible to have moved more material to the CD? How about selecting half of the articles for the book and put the rest on the CD? It would not have made the editors popular among the contributors, but I think it would have made the book more exciting and manageable for the readers.

How many readers look at the color plates in the book while reading it? Would it have been better to move the color plates to the CD? That would probably have reduced the price. Does it make sense to have both a CD and color plates? I'm also a bit unclear about the selection of the color plates. Are they included because the authors wanted to refer to them? Or was the intention to select the most attractive plates? I personally felt that there were other pictures more deserving of color plates.

The CD is very nice and very well organized. The CD symbol in the text was a good idea, but it would have been even better if it had indicated exactly what was on the CD. Just the text of the article, or something really exciting? When using the CD, I was looking for the "value-added" material. I would for instance have liked a listing of the movies and animations. I didn't find it, but I recommend people who are adventurous to bypass the menu, and instead go to the "Daten" directory, and open all the subdirectories. Just do it, you will thank me!

For some strange reason the table of contents is after the two prefaces and I kept having to flip around looking for it. It's a minor issue, but Springer-Verlag has traditionally set the standard for quality production of mathematics books, so I always expect the best when I open a Springer book.

I enjoyed the book, and I'm confident any mathematician will find something of interest in it.

References

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