John Macomber

Kylee Sullivan

Kevin Sutman

Final Project Annotated Bibliography

1. Ernst, Bruno. *The Magic Mirror of M.C. Escher*. England: Tarquin Publications, 1985. Print.

This book is relevant to our research paper because it focuses solely on M.C. Escher and his artwork. In particular, this book explains and shows examples of how Escher played with different perspectives in his artwork that resulted from mathematical ideas and equations. It talks about many of Escher’s pieces of work that play tricks on the eye using convex and concave mirrors, blow-up techniques, high and low perspectives, vanishing points, relativity and the telegraph-wire effect. This book also discusses Escher’s work with symmetry and the work he created that was inspired by the Alhambra. This book includes a lot of pictures both of and explaining Escher’s work that will be helpful for our research paper.

1. Coxeter, H.S.M., Emmer, M., Penrose, R., Teuber, M.L. M.C*. Escher: Art and Science*. Amsterdam: Elservier Science Publications, 1986. Print.

This book takes a broad look at M.C. Escher and how he created his artwork. There are a wide range of topics that are included in this book such as “Escher and Symmetry”; “Escher, Mathematics and Visual Perception”; “Escher and Geometry”; “Escher, Cinema and Computer Graphics”; “Escher and the Physical World”; “Escher and Art”; and finally “Escher and the Humanities.” Although we will not be using all of these topics in our research paper, it will be helpful to read about not only our three main topics (labyrinths, perception/space, and geometry/tessellations) but also what other mathematical principles Escher incorporated into his work. This book describes tessellations in detail as well as other geometric principles that Escher used. It also explains the perceptual theory and ambiguity Escher created with his pieces. And finally, it has descriptions of Escher’s use of labyrinths.

1. *The Official M.C. Escher Website*. Web. 07 Apr. 2011. <http://www.mcescher.com/>.

The above source is a website with a detailed description of M.C. Escher’s life as well as a gallery and further description of his work. The website contains information essential to our topic as we seek to write about M.C. Escher in our presentation and essay. There is one section that deals with a description of his life, his early years, and the skills he developed in expressing his art, as well the mathematical aspects that influenced his artwork. The essential visits to the Alhambra in Spain and Switzerland are also discussed. In addition, the site has several videos that contain various interviews of Escher on his work and influences. We will mainly use the site for personal information on Escher; the books we have contain more information on the mathematics involved with Escher’s work. The information appears to be reliable, as it is the official website of Escher; it was set up by the M.C. Escher Foundation.

1. Annal, David. "Tessellations and M.C. Escher." *Tessellations - Escher and How to Make Your Own*. 30 Oct. 2003. Web. 07 Apr. 2011. <http://www.tessellations.org/index.htm>.

The above source is a website based on tessellations and how they relate to mathematics and how they have influenced several artists, including, most importantly, M.C. Escher. A major aspect of our project is the use of tessellations in his artwork. The website explains how he used tessellations in his work and the mathematics and geometry involved in creating tessellations. It also contains more information on Escher. The main point of using the website is to gain more knowledge on tessellations and see how Escher used them in his world famous artwork. We will be using the information to explain Escher’s mathematical and geometric aspect in his art. The website seems to be accurate, with information on Escher that matches with the information in his official website.

1. Parker, Allene. “Drawing Borges: A Two Part Invention on the Labyrinths of Jorge Louis Borges and M.C. Escher”*. Rocky Mountain Review of Language and Literature Vol*. 55, No. 2 (2001), pp. 11-23. *JSTOR.* EBSCO. Web. 6 Apr. 2011

This article deals with a particular aspect found in many of Escher’s paintings: labyrinths. The article talks about the characteristics of what make up a labyrinth and also the paintings in which Escher incorporates labyrinths (such as “Drawing Hands). It also talks about the unique aspects of Escher’s labyrinths which include a mixture of reality and unreality and also a stretching of the properties of infinity. Moreover, it talks about how Escher used dreams to convey his artwork in which I found his works to use many of the aspects found in the movie Inception. In this movie, a dream world is shown which is a labyrinth and includes both real and unreal aspects of life and also can go on for infinity. The article illustrated the depth of many of Escher’s paintings in which not only does he use tessellations, symmetry, and space in his artwork but also labyrinths. This source will be valuable when talking about Escher and other unique aspects of his artwork other than the symmetry feature that we covered in class.

1. Senechal, Majorie. “Parallel Worlds: Escher and Mathematics Revisited.” *Mathematical Intelligencer* 21.1 (1999): 13. *Academic Search Premier*. EBSCO. Web. 7 Apr. 2011.

This article offers a unique take on Escher’s work. It includes interviews of mathematicians, artists, and psychologists and their thoughts of Escher’s artwork at The Escher Centennial Congress held in Rome and Revello, Italy during 1998. It was interesting to see how Escher affected people of completely different professions in different ways. For instance, the psychologist talked about how he enjoyed the illusions within Escher’s art, while a mathematician talked about his fascination with Escher’s tessellations and changing forms. The article also talks about how Escher’s art is viewed by the public and why some artists consider his work to be insignificant. This article is significant in that it us a sense of how Escher’s artwork is perceived by various scholarly subjects and also illustrates the diversity of Escher’s artwork in that it has influenced so many different types of people of different professions.

1. Pumfrey, Elizabeth, and Toni Beardon. “Art and Mathematics- Mutual Enrichment.” *Micromath* 18.2 (2002): 21. *Academic Search Premier*. EBSCO. Web. 7 Apr. 2011

This article is interesting in that it shows how mathematics was involved in Escher’s artwork. Though in class we read that Escher found mathematical principles in an in conventional way in this article we see a mathematical theorem solving how Escher painted his pure 3 dimensional impossible scenes. The theorem proves to be extremely mathematical and illustrates the math going on in Escher’s mind when portraying his impossible scenes. Thus, this article is useful in that it shows how Escher’s art can be described mathematically by a theorem which points out the math involved in his art.