Mathematics in Twentieth-Century Literature and Art

Robert Tubbs
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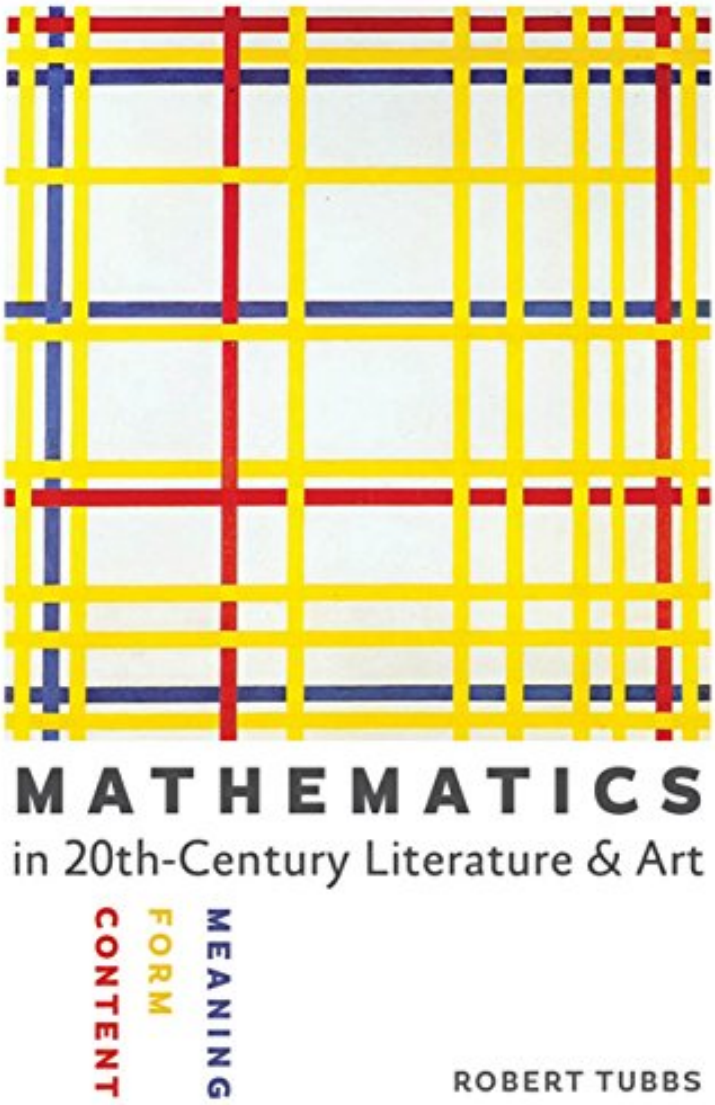

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Robert Tubbs : Mathematics in Twentieth-Century Literature and Art before purchasing it in order to gage whether or not it would be worth my time, and all praised Mathematics in Twentieth-Century Literature and Art:

0 of 2 people found the following review helpful. Four StarsBy lilly libraryWe are pleased with the purchase1 of 1 people found the following review helpful. Mathematics permeates great writing and great artBy Robert C RossFascinating extracts and essays on 20th Century mathematics, some of it artfully disguised by the author, some of it in plain sight and beautifully presented. Tubbs's basic thesis is that mathematics informs many artists and authors, even if they are not expressly aware of its influence.Therefore, Tubbs argues that art can be better appreciated when its underlying mathematical structure is understood. As someone who enjoys mathematics as an amateur, but enjoys fine

writing and great art even more, this book was an exciting journey.One example of the pleasures here that even a novice in mathematics can understand appeared in the recent "Futility Closet" website.Robert C. RossJanuary 2015***In 1972 the Belgian mathematician Edouard Zeckendorf established Zeckendorf's theorem: that every positive integer can be represented as the sum of non-consecutive Fibonacci numbers in one and only one way.In 1979 French poet Paul Braffort celebrated this with a series of 20 poems, My Hypertropes. Each of the 20 poems in the series is informed by the foregoing poems that make up its Zeckendorff sum. For example, the Zeckendorff representation of 12 is 8 + 3 + 1, so poem 12 in Braffort's sequence shares some characters or images with each of these poems. This forced Braffort to build scenarios that would permit these relations as he wrote the poems.Each of the numbers 1, 2, 3, 5, 8, and 13 is its own Zeckendorff representation, so Braffort related each of these to its two foregoing Fibonacci numbers (e.g., 8 = 3 + 5). This means that only the first poem, "The Preallable Explanation (or The Rhyme's Reason)," is not influenced by any of the others. Here is that first poem, as translated by Amaranth Borsuk and Gabriela Jaurequi:This is my work, this is my study, like Jarry, Cyrano puffy,to split hairs on Rimbaud and on willies find booboos.If it was fair or if it snowed in Lhassa Emma Sophie Bo-vary widow of slow carnac gave herself to the god of wack.Leibnitz, saying: "Verse ..." What an ac-tor for this superb "Vers ...". Oh "nach"!He aims, Emma, the apoplexy of those drunk on galaxy.At the club of "spinach" kings (nay, Bach never went there, Banach yea!)Leibnitz -- his graph ibo: not six mus, three nus, one phi, bona xi --haunts without profit Bonn: "Ach! Gee if I were great Fibonacci!!! ..."Now, for example, Poem 12, "MODELS (for Petrovich's Band)," is an alexandrine with two six-line stanzas. The Zeckendorff representation of 12 is 1 + 3 + 8, so in each stanza of Poem 12 the first line is influenced by Poem 1, the third by Poem 3, and the sixth by Poem 8, each drawing on specific lines in the source poem. The first line in the sixth couplet of Poem 1, "He aims, Emma, the apoplexy," informs the first line of Poem 12, "For a sweet word from Emma: a word for model"; the second line of the sixth couplet from Poem 1, "of those drunk on galaxy," informs the first line of the second stanza in Poem 12, "Our galaxies have already packed their valise"; the phrase "when I saw you / weave a letter to Elise" in Poem 3 becomes "they say from this time forth five letters to Elise" in Poem 12; and the couplet "And Muses who compose / They're a troop they're tropes" in Poem 8 becomes "Tragic tropes: Leonardo is Fibonacci.""Thus, Braffort's collection of poems, My Hypertropes, has an internal structure provided by a mathematical theorem," writes Robert Tubbs in Mathematics in Twentieth-Century Literature and Art: Content, Form, Meaning. "The structure does not entirely determine these poems, but it does provide connections between the poems that might not be there otherwise."

During the twentieth century, many artists and writers turned to abstract mathematical ideas to help them realize their aesthetic ambitions. Man Ray, Marcel Duchamp, and, perhaps most famously, Piet Mondrian used principles of mathematics in their work. Was it mere coincidence, or were these artists simply following their instincts, which in turn were ruled by mathematical underpinnings, such as optimal solutions for filling a space? If math exists within visual art, can it be found within literary pursuits? In short, just what is the relationship between mathematics and the creative arts?In this provocative, original exploration of mathematical ideas in art and literature, Robert Tubbs argues that the links are much stronger than previously imagined and exceed both coincidence and commonality of purpose. Not only does he argue that mathematical ideas guided the aesthetic visions of many twentieth-century artists and writers, Tubbs further asserts that artists and writers used math in their creative processes even though they seemed to have no affinity for mathematical thinking. In the end, Tubbs makes the case that art can be better appreciated when the math that inspired it is better understood. An insightful tour of the great masters of the last century and an argument that challenges long-held paradigms, Mathematics in Twentieth-Century Literature and Art will appeal to mathematicians, humanists, and artists, as well as instructors teaching the connections among math, literature, and art.

"A refreshing and unusual contribution that should appeal to a larger audience than mathematicians alone, including historians and art theorists. Tubbsrsquo;s focus on artists whose mathematical intentions are made clear by the artists themselves is original." (Janice Sklensky, Wheaton College)"For those viewing mathematics and the creative arts as distinctly separate endeavors, Tubbs provides an insightful treatise that proves otherwise... Though the content of Tubbs's book is challenging, it is also accessible and should interest many on both sides of the perceived divide between mathematics and the arts." (Choice)"A fascinating journey through the works of modern art and literature... This book can be seen as a guide to understanding the various movements that emerged within artistic circles in the 20th century. Tubbs does an excellent job of leading the reader through this world of ideas, gently guiding the non-mathematicians through the panorama of advanced mathematics, and mathematicians and those who are artistically naive to an appreciate of the world of modern art and literature... The book serves as a compass to guide the reader to a better understanding of modern art." (Jay Kapraff LMS Newsletter)"A beautiful narration... Every chapter is well balanced between the mathematical side and the art side." (Riccardo Moschetti Zentralblatt Math)"Books like Mathematics in Twentieth-Century Literature and Art help us get rid of prejudices, and indeed open our eyes to see." (Capi Corrales-Rodrigaacute;ntilde;ez Mathematical s)"Tubbsrsquo;s exposition proves so clear and thorough that the mathematical novice reading Mathematics in Twentieth-Century Literature and Art receives an introductory course in

the fundamentals of higher mathematics... Reluctant mathematicians will be delighted to discover that Tubbsrsquo;s mathematical explanations afford new analyses of canonical artworks." (Make Literary Magazine)About the AuthorRobert Tubbs is an associate professor of mathematics at the University of Coloradondash;Boulder and author of What Is a Number? Mathematical Concepts and Their Origins, also published by Johns Hopkins.