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Nota di contenuto	Introduction -- On the Origins and Directions of Interdisciplinary connections -- Mathematics and Architecture -- Mathematics, Biology and Dynamical systems -- Mathematics, Cosmology and Navigation -- Pure Mathematics and its Connections to Arts and Sciences -- Mathematics, Geometry, and Art -- Mathematics and Society -- Mathematics and Aesthetics.
Sommario/riassunto	The goal of this Handbook is to become an authoritative source with chapters that show the origins, unification, and points of similarity between different disciplines and mathematics. Some chapters will also show bifurcations and the development of disciplines which grow to take on a life of their own. Science and Art are used as umbrella terms to encompass the physical, natural and geological sciences, as well as the visual and performing arts. As arts imagine possibilities, science attempts to generate models to test possibilities, mathematics serves

as the tool. This handbook is an indispensable collection to understand today's effort to build bridges between disciplines. It answers questions such as: What are the origins of interdisciplinarity in mathematics? What are cross-cultural components of interdisciplinarity linked to mathematics? What are contemporary interdisciplinary trends? Section Editors: Michael J. Ostwald, University of Newcastle (Australia) Kyeong-Hwa Lee, Seoul National University (South Korea) Torsten Lindström, Linnaeus University (Sweden) Gizem Karaali, Pomona College (USA) Ken Valente, Colgate University, (USA) Consulting Editors: Alexandre Borovik, Manchester University (UK) Daina Taimina, Independent Scholar, Cornell University (USA) Nathalie Sinclair, Simon Fraser University (Canada) What do figure skating, invasive species, medieval cathedrals, ropes, poems, wines, metaphors, rhythms, climate change, and origami have in common? Mathematics! The Handbook of the Mathematics of the Arts and Sciences is a stunning compendium of essays on these and scores of other unlikely subjects to which the mathematical imagination has been brought. It is at once a dazzlingly contemporary tour of human success at bringing order to the world, and a throwback to a time before the "unity of knowledge" became a mere slogan. It is a breathtaking work, for its ambitious scope and for its endless stimulation of the reader's curiosity. - Harry R. Lewis, Gordon McKay Research Professor of Computer Science at Harvard University, editor of Ideas That Created the Future: Classic Papers of Computer Science Mathematics has always enjoyed deep connections with the arts, science, the humanities, philosophy, history, and society in general. However, these links are often overlooked or undervalued. This Handbook makes a massive statement about the extent and importance of the interdisciplinary nature of mathematics, and its relevance to all aspects of human culture. Its articles are scholarly and authoritative, but also highly readable and accessible to non-specialists. A triumph! -Ian Stewart FRS, Emeritus Professor - University of Warwick This handbook will delight anyone who loves the richness of mathematics and its interplay with the arts and humanities. Bharath Sriraman has given us a great gift, a treasure chest of connections to art and architecture, language and literature, philosophy, history, society, you name it. The book is authoritative and charming and instantly establishes itself as a landmark reference for interdisciplinary mathematics. Steven Strogatz - Jacob Gould Schurman Professor of Applied Mathematics at Cornell University.
