

# Discrete and Continuous: Two sides of the same?

László Lovász  
Microsoft Research  
One Microsoft Way, Redmond, WA 98052  
lovasz@microsoft.com

## Abstract

How deep is the dividing line between discrete and continuous mathematics? Basic structures and methods of both sides of our science are quite different. But on a deeper level, there is a more solid connection than meets the eye.

## 1 Introduction

There is a rather clear dividing line between discrete and continuous mathematics. Continuous mathematics is classical, well established, with a rich variety of applications. Discrete mathematics grew out of puzzles and then is often identified with specific application areas like computer science or operations research. Basic structures and methods of both sides of our science are quite different (continuous mathematicians use limits; discrete mathematicians use induction).

This state of mathematics at this particular time, the turn of the millennium, is a product of strong intrinsic logic, but also of historical coincidence.

The main external source of mathematical problems is science, in particular physics. The traditional view is that space and time are continuous, and that the laws of nature are described by differential equations. There are, of course, exceptions: chemistry, statistical mechanics, and quantum physics are based on at least a certain degree of discreteness. But these discrete objects (molecules, atoms, elementary particles, Feynman graphs) live in the continuum of space and time. String theory tries to explain these discrete objects as singularities of a higher dimensional continuum.

Accordingly, the mathematics used in most applications is analysis, the real hard core of our science. But especially in newly developing sciences, discrete models are becoming more

# Discrete And Continuous Two Sides Of The Same

**Siddappa N.Byrareddy**



**Discrete And Continuous Two Sides Of The Same:**

Discrete And Continuous Two Sides Of The Same: Bestsellers in 2023 The year 2023 has witnessed a remarkable surge in literary brilliance, with numerous engrossing novels captivating the hearts of readers worldwide. Lets delve into the realm of popular books, exploring the captivating narratives that have charmed audiences this year. Discrete And Continuous Two Sides Of The Same : Colleen Hoover's "It Ends with Us" This touching tale of love, loss, and resilience has gripped readers with its raw and emotional exploration of domestic abuse. Hoover skillfully weaves a story of hope and healing, reminding us that even in the darkest of times, the human spirit can succeed. Uncover the Best : Taylor Jenkins Reids "The Seven Husbands of Evelyn Hugo" This spellbinding historical fiction novel unravels the life of Evelyn Hugo, a Hollywood icon who defies expectations and societal norms to pursue her dreams. Reids absorbing storytelling and compelling characters transport readers to a bygone era, immersing them in a world of glamour, ambition, and self-discovery. Discover the Magic : Delia Owens "Where the Crawdads Sing" This evocative coming-of-age story follows Kya Clark, a young woman who grows up alone in the marshes of North Carolina. Owens spins a tale of resilience, survival, and the transformative power of nature, captivating readers with its evocative prose and mesmerizing setting. These popular novels represent just a fraction of the literary treasures that have emerged in 2023. Whether you seek tales of romance, adventure, or personal growth, the world of literature offers an abundance of compelling stories waiting to be discovered. The novel begins with Richard Papan, a bright but troubled young man, arriving at Hampden College. Richard is immediately drawn to the group of students who call themselves the Classics Club. The club is led by Henry Winter, a brilliant and charismatic young man. Henry is obsessed with Greek mythology and philosophy, and he quickly draws Richard into his world. The other members of the Classics Club are equally as fascinating. Bunny Corcoran is a wealthy and spoiled young man who is always looking for a good time. Charles Tavis is a quiet and reserved young man who is deeply in love with Henry. Camilla Macaulay is a beautiful and intelligent young woman who is drawn to the power and danger of the Classics Club. The students are all deeply in love with Morrow, and they are willing to do anything to please him. Morrow is a complex and mysterious figure, and he seems to be manipulating the students for his own purposes. As the students become more involved with Morrow, they begin to commit increasingly dangerous acts. The Secret History is a exceptional and suspenseful novel that will keep you guessing until the very end. The novel is a warning tale about the dangers of obsession and the power of evil.

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