

Bartók Listener's Guide

**2011-2012 Demirjian
Classical Connections Series
Concert Three: March 2, 2012
Profile: Béla Bartók
Program: "Mother Nature's Son"**

Who were the most significant composers of the 20th century? Ask audience members and you'll get names like Gershwin, Debussy, Stravinsky, Prokofiev, Shostakovich, Copland, Bernstein. You might get some votes for Duke Ellington and Cole Porter, too. * Ask musicians the same question and you'll get those names plus one that audiences rarely mention: Béla Bartók. * Why does Bartók appeal more to musicians than to audiences? Maybe audiences don't hear enough of his music. The Concerto for Orchestra

gets lots of play. His Third Piano Concerto and Second Violin Concerto are heard less often. His fabulous stage works — the opera *Duke Bluebeard's Castle*, and the ballets *The Wooden Prince* and *The Miraculous Mandarin* — are rarely performed. * But musicians love playing

Bartók. His music is unique, with a special sound inspired by the traditions of Hungarian and Romanian folk music. It's totally unpredictable, yet every note seems inevitable. There's a wildness to the sound that pulls you into an amazing, mysterious, thrilling world. * I think the greatest example of the wild beauty of Bartók's music is his 1936 Music for String Instruments, Percussion and Celesta. It's one of the most difficult works in the orchestral repertoire. One of the most rewarding, too. * And it's full of amazing mysteries to explore. So it's the perfect piece for *Classical Connections*. Only one problem: that ungainly name. So when I shorten it to MFSIPAC (I say "Miffsipack"), you'll know what I mean, right?

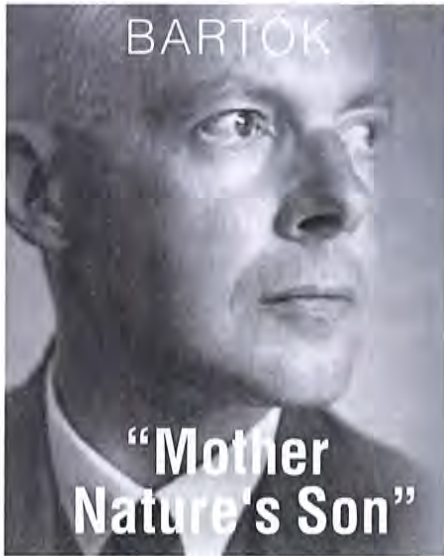


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PROGRAM



DEMIRJIAN
CLASSICAL CONNECTIONS
SERIES

Friday, March 2, 2012
8:00 p.m.

Schuster Center
Q&A after the concert

Neal Gittleman *conductor, host*

BÉLA BARTÓK (1881-1945)
- Romanian Folk Dances -

INTERMISSION

- Music for String Instruments,
Percussion and Celesta -

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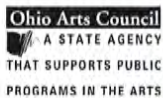
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Concert Broadcast on Saturday,
July 7, 2012 at 10:00 a.m.

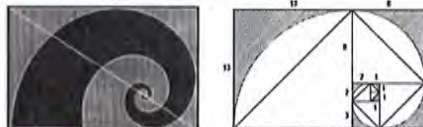
CLASSICAL CONNECTIONS LISTENER'S GUIDE
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BY NEAL GITTLEMAN

A Matter of Proportion

What do pinecones, sunflowers, sea shells, pineapples, the Parthenon, the Pentagon, Venus de Milo, the Mona Lisa, the Eames Chair, the VW Beetle, and Béla Bartók have in common? The Golden Section ratio, also known by its mathematical symbol, Φ (the Greek letter phi — rhymes with “pie”). This ratio has been considered special — even mystical — back to Euclid and Pythagoras, the ancient Greek mathematicians-philosophers-musicians.



THE GOLDEN SECTION:
A UNIVERSAL
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Euclid called Φ the “extreme and mean ratio” and defined it this way: “A straight line is said to have been cut in extreme and mean ratio when, as the whole line is to the greater segment, so is the greater to the lesser.” Imagine a line segment AB, divided by a point C:



Euclid’s definition translates to: AB is to AC as AC is to CB. Now do the math. Make AB = 1, and make the length of segment AC = x. Then CB = 1-x and “AB is to AC as AC is to CB” translates into $1/x = x/(1-x)$, or $x^2+x-1 = 0$. Apply the quadratic formula and you’ll find two solutions: -1.6180339887... and 0.618339987..., the number mathematicians call Φ .

Many bizarre and wonderful mathematical truths flow from Φ , but one of the most amazing things about this number is how it seems to govern so many beautiful proportions in the world around us. There is something inherently pleasing about things that demonstrate the Golden Section proportion, whether they’re natural or man-made. One of the man-made examples is Music for String Instruments, Percussion and Celesta — one of several “phine” Bartók works!

Φ is an irrational number (its decimals continue forever without any repeating pattern), but it’s closely related to the Fibonacci series, a whole-number sequence that begins with 0 and 1 and then each successive number is the sum of the previous two:

0 1 1 2 3 5 8 13 21 34 55 89
144 233 377 610 987...

Here’s the connection between these numbers and Φ : divide each Fibonacci number by the next and your answers yield a progressively more precise approximation of Φ . For instance, dividing the fortieth Fibonacci number (63,245,986) by the forty-first (102,334,155) gives Φ accurate to 15 digits! So the Fibonacci series is a way to approximate the Golden Section ratio using ordinary whole numbers.

MFSIPAC is full of Fibonacci numbers. The slow movement begins with this xylophone solo:

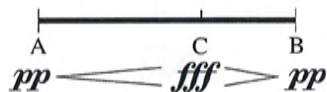


It’s a single note repeated to make a gradual acceleration and deceleration. But start with the second note of the solo and count how many notes are played on each beat:

1, 1, 2, 3, 5, 8, 5, 3, 2, 1, 1

Fibonacci numbers! The acceleration and deceleration is controlled by the Golden Section ratio!

Φ also determines the proportions in MFSIPAC's first movement. The movement is 89 bars long (89 is the twelfth Fibonacci number). The movement is a fugue that begins pianissimo and gradually builds in a crescendo that peaks after 55 bars (55 is the eleventh Fibonacci number). Then there's a diminuendo from the climax to the end of the movement. That diminuendo lasts 34 bars (34 is the tenth Fibonacci number). So our line segment AB above corresponds to the complete movement with the climax coming at C:



In fact, every proportion in the structure of the movement (and of the third movement, too), is governed by Φ .



You don't have to be a math nerd to enjoy Bartók's MFSIPAC. Bartók wasn't a math nerd himself. He was a nature lover. He saw the beauty and mystery of the Golden Section ratio in nature and tried to reflect it in the proportions of his music. He didn't sit down to compose Music for String Instruments, Percussion and Celesta with a slide rule. All he needed for inspiration were the perfect proportions of the pinecones that sat on his composing desk! *



The 20th Century Composer's Best Friend

Composing is a tough way to make a living. You need benefactors. You need commissions. And you need performances.

With **Paul Sacher** (1906-1999), 20th century composers got all three.

At age 20 Sacher founded the Basel Chamber Orchestra, an ensemble dedicated to playing music of the pre-Classical, Classical, and Modern eras. A just-scraping-by student, he scrounged donations from friends to run the orchestra and to commission new works.



The first commission, in 1927, went to Swiss composer Rodolf Moser for his Concerto Grosso for Cello and String Orchestra. The last, in 1991, went to Hungary's János Tamas for his string sextet *Waiting Spring*. In between, Sacher commissioned 136 works from 57 composers, some famous (Strauss, Stravinsky, Hindemith), some not (Hans Haug, Rudolf Kelterborn, Albert Moerschinger).

Perhaps the greatest Sacher commission of all came in 1936: Bartók's Music for String Instruments, Percussion and Celesta. Sacher led his orchestra in the world premiere in Basel on January 21, 1937.

How was Paul Sacher able to have so much influence on 20th century music? He married well.

In 1934 he wed Maja Hoffmann-Stehlin, widow of Emmanuel Hoffmann, heir to the Hoffmann-LaRoche family fortune. That's Hoffmann-LaRoche as in Librium, Valium, Tamiflu. As family patriarch, Sacher could spend vast sums of money in support of new music.

Sacher's tastes were his tastes, and, because he wrote the checks, he supported the music he preferred. He didn't like the piano and discouraged its use in commissioned works. (Maybe that's why Bartók left the word "Piano" out of MFSIPAC's title! But it's there, counted among the percussion instruments.)

The Basel Chamber Orchestra still plays a wide-ranging repertoire, though its programs are less adventurous than in Sacher's days. The Sacher legacy now funds the Paul Sacher Foundation, home to a large collection of important musical manuscripts including works by over 100 20th- and 21st-century composers and the complete archives of Stravinsky, Webern, and Steve Reich.

Paul Sacher had tremendous influence on 20th-century music. That would be true even if the only piece he had commissioned was Bartók's Music for String Instruments, Percussion and Celesta.

A Bartók Timeline

1881

March 25, born in Nagyszentmiklós, Hungary (now Sinnicolau Mare, Romania) to agricultural school director Béla Bartók and music teacher Paula Voit Bartók.

1886

Fifth birthday present from his mother: his first piano lesson.

1899

Enters Royal Academy of Music in Budapest, studying piano and composition.

1902

Hears Budapest premiere of Strauss tone-poem *Also sprach Zarathustra*. Composes his own tone-poem, *Kossuth*, about the Hungarian national hero.

1911

First work for the stage, *Duke Bluebeard's Castle*.

1926

Begins writing *Mikrokosmos*, a 153-piece series for young piano students.

1936

Composes Music for String Instruments, Percussion and Celesta on a commission from Paul Sacher's Basel Chamber Orchestra.

1940

Flees Nazi-controlled Hungary, eventually settling in New York City.

1943

Writes Concerto for Orchestra on a commission from the Boston Symphony Orchestra.

1945

September 26 dies in poverty of leukemia in New York.

1881

Garfield becomes 20th U.S. President, assassinated 100 days into his term, succeeded by Chester Arthur. Booker T. Washington founds the Tuskegee Institute. Henry James's *Portrait of a Lady*.

1886

Seurat paints *A Sunday Afternoon on the Grande Jatte*.

1899

Dreyfus pardoned. First magnetic sound recording. *The Importance of Being Earnest*.

1902

Chinese and Korean independence. Kipling writes *Just-So Stories*. Potter writes *Peter Rabbit*. Elgar writes Pomp and Circumstance March No. 1.

1911

Charles F. Kettering invents electric self-starter.

1926

Goddard's first liquid fuel rocket. Ernest Hemingway's *The Sun Also Rises*.

1936

Edward VIII assumes British throne. *You Can't Take It With You*. Nazi exhibit of "Degenerate Art" in Munich.

1940

FDR elected to third term. Trotsky assassinated in Mexico. Reds beat Tigers in World Series.

1943

Red Army breaks the siege of Stalingrad. Bogey tells Bergman, "We'll always have Paris."

1945

World War II ends. Orwell writes *Animal Farm*.