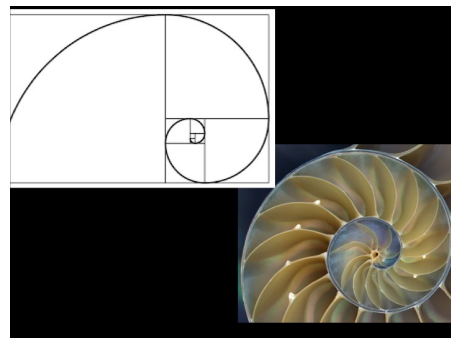
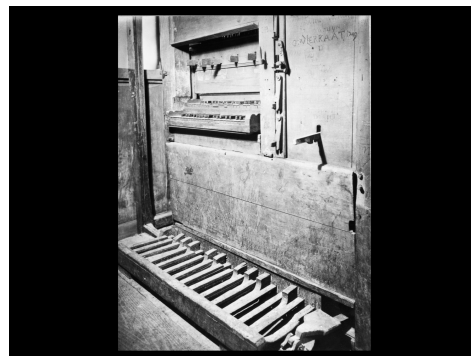


Pythagoras, Broccoli, and the Evolution of Pipe Organ Stop Action.

In February of 2017, John Bishop presented an illustrated lecture as part of the Presidents' Day Conference of the New York City Chapter of the American Guild of Organists. In July, he presented it as part of the Montreal Organ festival.



The hour-long talk starts on the Greek island of Samos, less than two miles from the coast of Turkey, the home of the mathematician Pythagoras. Pythagorean formulas are present in all musical tones, and they form the basis of all systems of tuning for musical instruments. The story continues with the Italian mathematician, Leonardo Fibonacci, whose famous theory defines thousands of occurrences in the natural world like the spiral of the Nautilus shell and Italian Broccoli, as well as the overtone series. J.S. Bach, among others, made use of the Fibonacci series in their compositions, harmonizing music with the natural world.



The earliest pipe organs had one rank of pipes, and an early development was to add subsequent ranks speaking the pitches of overtones, which led to the 14th and 15th century Blockwerks – multiple ranks of pipes speaking at once. The first stop actions turned off upper ranks of the Blockwerk leaving just the Principal.



The talk traces the history of stop action from the *Hydraulis*, through centuries of innovations, to the spectacularly complex consoles built by Ernest Skinner in the early twentieth century and the state of the art solid-state control systems used in most modern organs, and how each step influenced new generations of musicians from Sweelinck to Bach to Lynwood Farnam.

John Bishop is available to present this unique look at the history of the pipe organ to your students, your chapter meeting, or annual banquet, now booking for the winter of 2017-2018.

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John has written the monthly column in THE DIAPASON, "In the wind..." for over fifteen years.