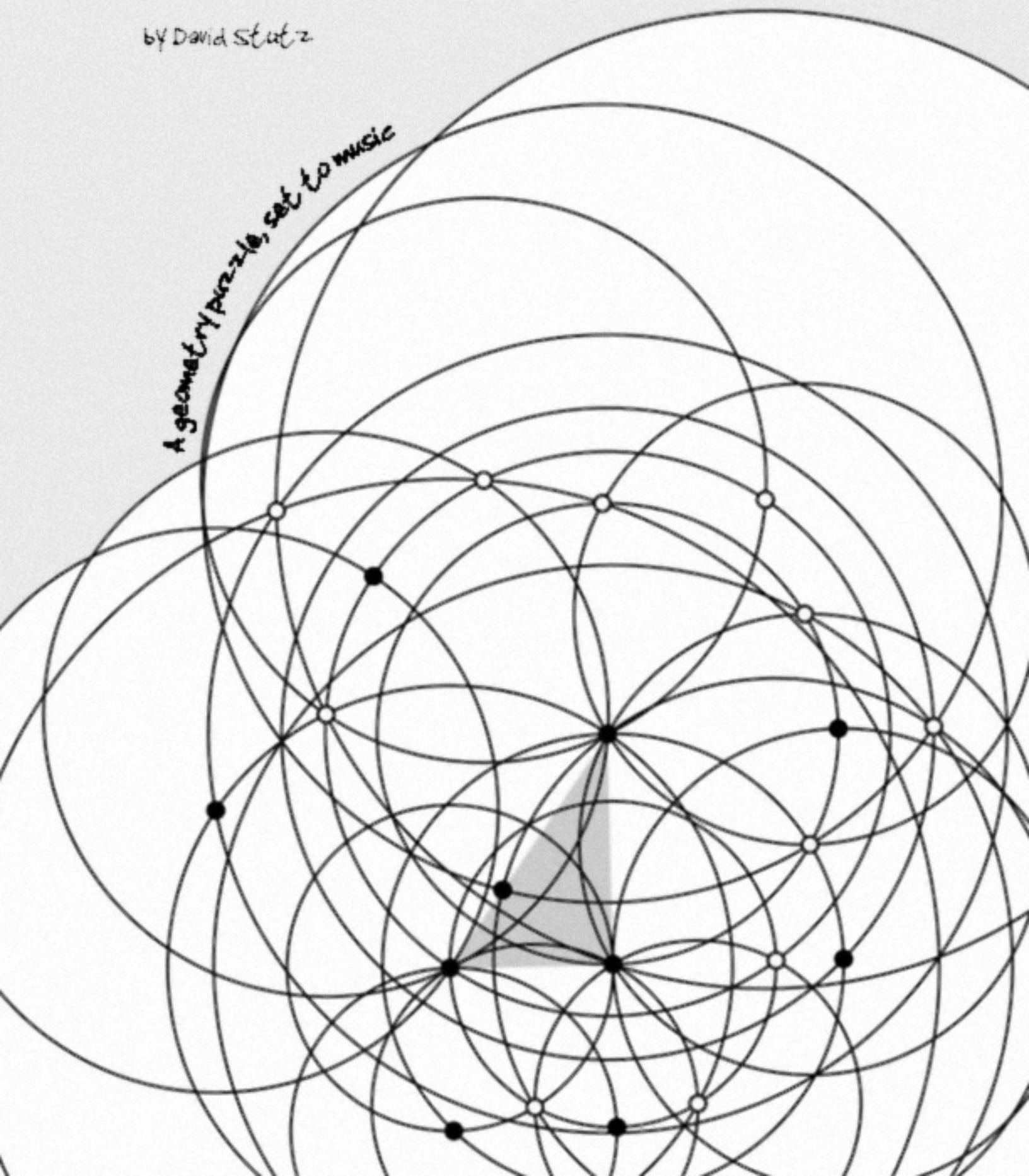


Mascheroni circles

by David Stutz

A geometry puzzle, set to music



Mascheroni circles

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smooth, like circles

First circle

Musical notation for the first circle, showing a sequence of notes with circled labels Pt 4, Pt 3, Pt 5, Pt 8, and Pt 2.

Cir.2

Musical notation for the second circle, showing a sequence of notes with circled labels Pt 7, Pt 3, and Pt 1.

Cir.3

Musical notation for the third circle, showing a sequence of notes with circled labels Pt 2, Pt 1, and Pt 4.

Cir.4

Musical notation for the fourth circle, showing a sequence of notes with circled labels Pt 1, Pt 5, Pt 16, and Pt 3.

Cir.5

Musical notation for the fifth circle, marked with a triplet pulse, showing a sequence of notes with circled labels Pt 20, Pt 3, Pt 9, Pt 4, and Pt 6.

Cir.6

Musical notation for the sixth circle, marked with a triplet pulse, showing a sequence of notes with circled labels Pt 6, Pt 22, Pt 13, and Pt 9.

Cir.7

Musical notation for the seventh circle, marked with a half-speed pulse, showing a sequence of notes with circled labels Pt 7, Pt 6, Pt 10, and Pt 9.

Cir.8

Musical notation for the eighth circle, marked with a half-speed pulse, showing a sequence of notes with circled labels Pt 14, Pt 2, and Pt 8.

Cir.9

Musical notation for the ninth circle, marked with a half-speed pulse, showing a sequence of notes with circled labels Pt 10, Pt 1, Pt 12, Pt 11, and Pt 15.

Cir.10

Musical notation for the tenth circle, marked with a half-speed pulse, showing a sequence of notes with circled labels Pt 9 and Pt 1.

Mascheroni circles

Cir.20 ~ slow triplet pulse

Cir.21 ~ quintuplet pulse

Cir.22 ~ triplet pulse

This is a meditation/puzzle for one or more singers: find a way to sing all twenty-two circles!

Circles: Each line of music represents a circle. The first note in the line is the circle's center.

Centers: The starting note on a line is the circle's center. When beginning a new circle, always sing the center first. There are two different representations: the double whole note or the diamond tremolo note. To sing a double whole note center, simply hold the note a long time. To sing the diamond tremolo, repeat the note in a moderate staccato, using the basic tactus as your tempo.

Scales: The repeated scales represent sung circles. Scales that have brackets above them are sung faster or slower than the basic tactus. (The different rhythmic patterns represent different diameters.) You may repeat a circle as many times as you like (circles are endless, right?), but you should try to sing it the same way on every repeat, with the exception that on some repetitions, you may elect to sing some or all of the "points" that exist on your current circle (see below). You do not have to sing any points at all on a given repetition, nor do you have to sing the same points on subsequent repetitions. The singing of points should be somewhat random.

Points: The whole notes and triangle tremolo notes represent marked points on the circle. To sing a whole note point, simply hold that note longer than the normal pulse for your current circle. To sing a tremolo triangle point, repeat the note in a staccato fashion using the pulse for the current circle. "Points" should be held long enough for other singers to hear and act upon them.

To begin a circle, listen for someone else singing the point that coincides with the center of the circle that you wish to start. (Circles may only be drawn from a point that matches their center.) Obviously, a circle can only be started when another active circle contains the point that represents the center of the new circle.

To sing this piece as a solo, sung points become centers - the long note or staccato pattern is elided with the center of the next circle sung. (Long notes match long notes, staccato notes match staccato notes)