

# Brent A. Milam

---

1830 Dyson Drive  
Decatur, GA 30030

[www.BrentMilamMusic.com](http://www.BrentMilamMusic.com)

Phone: (404) 312-2020  
[bamilam@hotmail.com](mailto:bamilam@hotmail.com)

---

**Positive and Negative Spaces** (2016) 6:45  
*for bass clarinet and marimba*

**Program Notes:** At every level nature produces a vast array of stunning and surprising interconnected behaviors. Such processes are best understood and even predicted by the language of mathematics. *Positive and Negative Spaces* is part of a series of works aspiring to make artistic statements from the astonishing beauty of mathematical processes. Although I resisted the association with my scientific and mathematical background for many years, as a former physicist and software developer, I ultimately found the facility with which mathematical possibilities may be realized in musical composition too enticing to ignore. It is my hope that these mathematical operations will produce unexpected, beautiful, and yet highly coherent relationships similar to those found in complex natural systems.

The “positive” and “negative” spaces occurring within this work arise from the binary mathematical sequences generated by vertical and horizontal crossings of lines with varying slope superimposed within a square lattice. These sequences were arranged according to internal symmetry and number frequency and then associated with the various elements of musical expression, such as rhythm, pitch, duration, volume, etc. to create the formal structure of the final work. Does that make any sense?