

# QUADRATICS

The tenor drum equation



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## **Quadratics: The tenor drum equation**

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And to all the people I've worked with who helped shape the contents of this book, whether you know you did or not, thank you.



*In memory of*

***Ramona Blakley***

*who bought me my first drum set,*

*&*

***Sara Vincintore***

*who taught me to play it.*

# Quadratics

The tenor drum equation

By

Patrick R. F. Blakley

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The varying degrees of style, technique, and especially personality that are all involved with playing this fashion of percussion instrument creates an immeasurable diversity among members of this community. There is no precise way to learn or teach an instrument and tenor drums are not any different. The purpose of this book is to give the reader an assortment of concepts and possibilities working toward learning, and instructing, all of the facets of tenor drumming. The following chapters include several blueprints be to successful, they range from advanced to expert, beginning with commonly found patterns and ideas to create a solid starting point.

## Chapter selection

- |              |                           |               |                            |
|--------------|---------------------------|---------------|----------------------------|
| <b>Ch. 1</b> | The Tenor Drum Equation   | <b>Ch. 8</b>  | Dynamics & Accentuation    |
| <b>Ch. 2</b> | Tuning, Time & Technique  | <b>Ch. 9</b>  | Combined Stickings         |
| <b>Ch. 3</b> | Muscles & Movable Fulcrum | <b>Ch. 10</b> | Diddles to Open Rolls      |
| <b>Ch. 4</b> | Tenor Drum Notation       | <b>Ch. 11</b> | Flams - Adding Grace Notes |
| <b>Ch. 5</b> | A Musical Learning Note   | <b>Ch. 12</b> | Hybrid Rudiments           |
| <b>Ch. 6</b> | Rudiments & Patterns      | <b>Ch. 13</b> | Combination Training       |
| <b>Ch. 7</b> | Controlling Your Notes    | <b>Ch. 14</b> | Solo - "Random Nonsense"   |

In the company of this book you will be capable of not only discovering an organized style but you will advance your knowledge both behind and in front of the marching tenor drums.

### **Suggestions for the use of this book**

This book has various uses with performing and composing emphasized. The more apparent and popular use will be performing: The player will easily gain important skills behind the tenor drums using symmetrical and asymmetrical styles. Muscle memory will easily be built from within the framework of the book and should develop into an unconscious thought process allowing the player to focus more clearly on the task at hand. Rudiments are necessary but basic underlying patterns are just as essential. These will allow the player to learn to flow behind the drums and, more importantly, recognize patterns in music which will accelerate the memorization process as well.

A warmup based structure and terraced sequence of chapters will not only instill basics but more-so build on them for progressive ideas that advanced and expert levels can learn from. Combination studies will complete the information recall and teach the player to use what they had learned previously and open their minds to a more realistic world of advanced tenor drumming.

But this book isn't just for the player. Composers can also examine the placement of notes relative to hand position or drums to teach themselves to recognize how parts are written to flow. Flow is not something that can just simply be expected from the player, it needs to be written for the player first. Some parts are impossible to flow, due to sticking, placement of notes, change in velocity, and many minor obstacles as well. This is what the composer should take away from this book.

There are many other uses for different types of people still. The instructor, for example, can notice the arrangement progression of warmup ideas. There is specific order to the structure of the book. This is the basic configuration and is in the order for specific reasons. So the instructor will be able to take notice behind the scenes toward ideas that will allow the player to progress the most without them being so aware.

Finally, throughout percussion in general there are always new things to learn and all facets of the percussion universe can be important to each other. There are always more places for us to set our sights.

## **Preface**

The most important and general ideas are found at the beginning of this book. A more experienced tenor drummer should probably already know most of the information found at the beginning and might be inclined to skim across or skip ahead. Though, since the book does build upon itself, the expert may want to still review some ideas presented because the later elements will utilize the specifics of the beginning, you may even find a new way to think about old things that could potentially help you or accelerate your ability to learn later on.

For instructors, with or without a tenor drumming background, you should skim through the entirety of the book and then go back and look carefully at specifics of note placement and flow as well as other specific things you may be looking for. As you do this watch for reoccurring patterns and try to use them to your advantage within your teaching style and even allow them to persuade your composition. Remember that the goal of these teachings is to be able to apply them to music and plug them into your marching activity. Please do keep in mind that there is not just one correct answer to anything, this book is simply a single approach to universal difficulties.

Each of the types of tenor drummers reading this will have a different kind of personal goal. The advanced reader will have the goal of understanding how to take the next step into an even more progressive area. The expert will be able to take that next step sooner and find new pathways that run perpendicular to what is presented in the book. The instructor will

be able to teach in a more organized and successful way and receive more in return from their tenor line. They may also even dig deep enough to apply some of these teachings to another section of the drumline.

Overall everyone, even entry level drummers, will gain the same style of thinking to understand tenor drumming the same way and everyone will certainly find more appreciation for the tenor drums.

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## **CHAPTER ONE:**

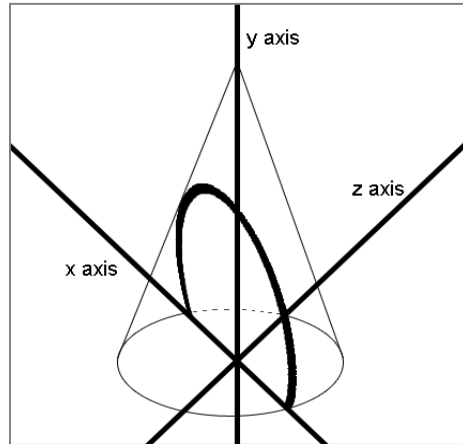
# The Tenor Drum Equation

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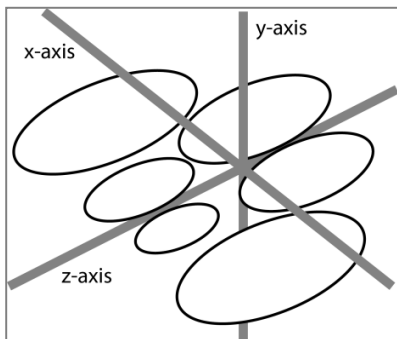
### **In this chapter:**

The first chapter reveals the methodological foundation specific to marching tenor drums. The chapter not only lays down the groundwork for tenor drumming but also introduces some slight calculations behind it. In order to understand what good technique and ability is you need to know how the little details add up to the whole and this chapter will not leave anything untouched. Whether you are a beginner or an advanced tenor drummer, you will certainly learn something new.

What is a tenor drum equation? The equation is what allows us to do what we do. The equation is made up of everything we put into playing the instrument and the result is our performance; it all adds up. There is an interesting relationship between math and percussion and we'll see it begin when we look at the *quadratic equation*. The quadratic equation is an algebraic mathematical equation in which the quadratic function  $f(x) = ax^2 + bx + c$  is used to find a variable (x). What is produced when graphing this equation is called a parabola.



A parabola is a locus of points that bend around a cone (or conic section) (*fig. 1.1*). What it shows us is basically a natural arc that is created between two points in three dimensions. This can be explained much more simply and we will come back to this shortly.



When you play tenor drums you use four dimensions, three special dimensions and one time dimension. The first, and most important dimension, is the *y-axis*: the implement travels up and down *nearly* perpendicular to the drum head, snares and basses also use this dimension in a very similar way. The second dimension we use is the *x-axis*. Tenor drummers use the x-axis to move side-to-side to play on multiple drums and pitches. The third dimension the tenor drummers use is the *z-axis*: this axis allows us to move in and out with the implements in order to play the inside drums (*fig. 1.2*).

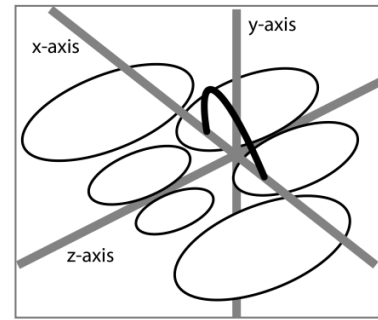


One dimension that is often overlooked is the dimension of time. It may seem too obvious to mention but this dimension allows every musician in the world to play rhythms or sustain notes. So in order to play tenors effectively we utilize space and we utilize time. Seems apparent, but do we think about all four dimensions when we play? Let's continue...

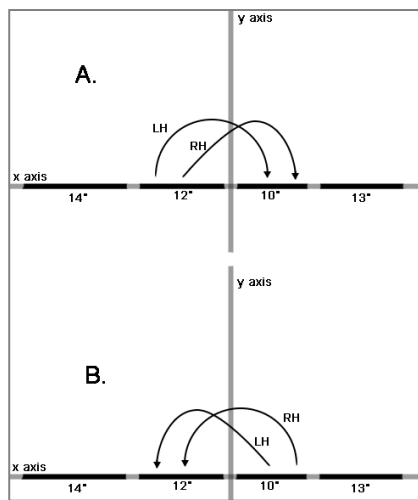
We'll now remind ourselves that the parabola drawn by the quadratic equation is also using these same special dimensions. The first dimension uses the *y-axis*: this is where we define heights and volumes. The second dimension being the *x-axis*: allowing us to play on multiple drums and pitches. We'll stop there for a moment. When you have a parabola in two dimensions it is called a hyperbola (principally speaking). But think about what a drumstick's path really creates; we don't push the bead forward as we lift away from the drum head to keep it completely perpendicular to the playing surface; we pull back with the natural wrist turn. This creates that natural arc. Now, since that natural arc does not stay directly on the *y-axis* we can talk about the third dimension, the *z-axis*, with a larger purpose than just to play on the inside drums, we use it for every single note.

The stroke we produce at our maximum dynamic or volume will be closer to our bodies than to the *x* or *y-axis*, therefore every stroke manufactured by any drummer uses the *z-axis*. Now, we will begin to incorporate the parabola into our picture. When playing on multiple drums on the tenors, keeping in mind the stroke pulls back into the *z-axis*, draw a path (which follows the natural turn of the wrist) from one drum through the natural stick stroke and to a different drum. That arc you have just created is the parabola which every stroke utilizes. (*fig 1.3*).

This may seem over the top for an explanation of an implement's pathway but parabolas give us important clues to things we want to avoid when composing. The clues are important so that drummers can play smoothly and without tension. We will come to understand



that most issues with regards to the approach to tenor drumming can be traced by, and corrected using, parabolas.



"Shifts" are the main opponent that we wish to avoid. A shift occurs when one hand pushes the other hand out of the way and causes problems at higher tempos which can be a big source of tension. These strokes are awkward and very unnatural. This is not, by far, a basic idea but to explain it thoroughly we need to watch two parabolas interact and really look at their intersections to define the problem more specifically.

There are two types of intersections: *positive-intersections* and *negative-intersections*. Positive-intersections happen at places where the left hand plays first and goes above where the right hand began without using a cross-over. This causes the right hand to create an unnatural motion that interferes with the parabola (fig. 1.4a). This positive-intersection can only be caused by the left hand pushing the right hand and creates the shift. The opposite (fig. 1.4b) is the negative-intersection, when the right hand pushes the left hand away to cause the left to shift.

There are a few easy ways to avoid shifts. The best way to do it is to just choose a different drum for the first hand to use. By changing where the first hand plays you are allowing the other hand to remain 'free'. Another way would be to move the hand underneath to a different drum. The most common place shifts are found is across the bar line. Remember to double check your bar lines before moving on, players need to be 'free' to be fast!

This equation, shown by the parabola's examples above, is the overseer of relaxation and flow through tenor music. It should be apparent that a great source of tension is in the writing. Next we'll come to understand that the primary cause is within technique. Both composer and performer have the burden of resolving issues regarding tension which will allow them to take the next step together musically.

**Quadratics: The tenor drum equation** is a book geared toward the marching tenor drummer as well as the percussion instructor and composer. The book shines light on subtleties often overlooked by composers such as flow and counter-melodic lines. These ideas will also help behind the drums as the drummer can uncover new capabilities within their skillset.

Quadratics is designed specifically for more advanced drummers. This allows the content of the book to merely touch on basics, identifying a starting point, and push forward from there. The flow of the book inclines similar to a standard drumline warmup structure. Several parallels can be drawn in order to supplement and create a complete learning experience.

## About the Author

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**Patrick R. F. Blakley** has worked with various drumlines since 1998 and began formulating a precisely defined interpretation of tenor drumming. Patrick studied intricacies of the instrument as shaped by pioneers of central styles; modeling what would become this expansive book.

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