

Thesis

Black Belt

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Drumming and the Martial Arts
A Comparative Analysis

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Introduction

I am a drummer by profession. When my martial arts training began, my music was at a standstill. After trying Tai Chi for six months and doing a little informal research into different martial arts and their origins, I stumbled upon Kenpo and was instantly hooked. Here was the perfect way to work off the frustrations caused by a faltering music career and channel the energy I normally spent in drumming. As Mr. Parker and all the instructors who worked with me slowly de-mystified the art, I began to see many analogies to the art of drumming. Several of my early Kenpo instructors were amateur drummers and they too seemed to understand or sense a connection between the two arts.

Drumming of course involves striking a membrane with hands, feet, sticks, or mallets. Perfecting a good drumming technique also involves the study of motion and body mechanics. A drummer must develop a kinetic flow of motion to create a strong groove or time feel when performing. Martial arts requires the same kinetic flow. I found in Mr. Parker's Kenpo an even more detailed and all encompassing motion study.

But the link between drumming and martial arts goes deeper than this. "Music and martial arts are both founded on basics. In music the note is the underlying basic. With martial arts, the basics are the moves themselves." [1] The 26 drumming rudiments I first learned on snare drum were like learning the alphabet

of rhythm.[2] As a Kenpo student learning the alphabet of motion, I saw the same learning process begin again, and a funny thing happened -- the more involved in Kenpo I became, the more I wanted to play drums again. Shakespeare said, "Know thyself.", and "To thy own self be true.". Kenpo taught me about myself, and that led me back to the drums. Therefore, I have decided to use analogies between the two different arts as the basis for this thesis. In the various chapters I will look at parallels in every area of these two arts from purely physical motion, to the attitude of the practitioner, to the mental analysis and concepts involved. This may at first seem like a roundabout way of talking Kenpo, but is what I know best -- it is what I am.

[1] Quote: From "Infinite Insights Into Kenpo" Book #1, Chapter #5, Pages 59 - 61; Ed Parker.

[2] The 26 drum rudiment mentioned here were originally developed as a rhythmic alphabet used to communicate with infantry troops in the Continental Army. In order to tell the soldiers what to do in the heat of battle without telling the British Army what was going on, drummers used these rudiments like a

code. Two hundred years later, they remain in use as building blocks for snare drum technique.

Drum Lessons for Fighters?

The Roy Knapp school in Chicago was widely recognized as one of the premier places to study drums in the 1930's, 40's, 50's, and 60's. Some of the more famous graduates included Gene Krupa and Hal Blaine. Gene Krupa first brought the trap drums to the public's attention as a solo instrument, and in so doing, became an international star, first with the Benny Goodman Orchestra, and later with his own band. Hal Blaine probably played drums on more gold records than anyone in the history of recorded music (approximately 160 gold records from 1959 through 1981).

But what about fighters? Well, it seems that it became a common practice in Chicago for trainers to send their fighters to the Knapp school to study drums. These trainers knew it was good for the boxer's hand, foot, and eye coordination.

Sugar Ray Robinson is recognized by most boxing experts as being one of the all time best at the sport and science. Not everyone knows that he was also an amateur drummer, and would play a trap set for recreation. It is interesting to note that Mr. Robinson's speed bag work and rope skipping drills were so rhythmic that they resembled a musical performance. This undoubtedly contributed to his legendary dexterity in the ring.

Another interesting personality who had more than a passing interest in both martial arts and drums was Buddy Rich. Buddy is considered by many drumming experts and jazz historians as one of the greatest trap

drummers ever. He also loved karate, and I have seen him break boards on the Tonight Show. In his biography of Buddy Rich, Mel Torme writes that "karate was one of the drummer's great passions", and it was easy to see that Mr. Rich brought the same intensity to both arts.

On a more personal note, I have traded drum lessons for karate lessons on several occasions. The Kenpo instructors who traded information with me seemed to understand the connection between the two instinctively. As a result of discussions we had concerning the relationship between Kenpo "broken timing" and drumming syncopation, I had the experience of writing an "all drums" musical score to Kenpo Form 4. We then video taped a performance of drums and karate together. The idea of my drum score was to translate into sound and rhythms every physical movement I could discern in the Kenpo form. It worked well, although I found myself using odd time signatures and exotic rhythms. My conclusion was that a sense of rhythm is a definite asset to the martial artist and can improve coordination and timing in execution of a technique.

I began to notice that the best Kenpo practitioners seemed to have a real strong feel for the timing of the techniques. In forms, I would listen to the timing of a technique done on the right side and compare it to the left side. The same timing on both sides usually indicates a solid performance. Boxers and their trainers often talk about the importance of timing, and in drumming timing is the important thing.

Perhaps the idea of drum lessons for fighters is not so far fetched. I have noticed that the Kenpo coordination sets were relatively easy for me because of the way they resemble four way coordination

exercises at the drumset (using both hands and both feet). A drummer is typically required to keep his ride cymbal going (with the right hand), play back beats and embellishments on snare drum and tom toms (with the left hand), play bass drum (right foot) and open and close his hi-hat cymbal (left foot) while keeping all four limbs in perfect sync with each other and the music. Coordination and timing involve skills that can be learned and improved with training. Drumming and fighting ability can both benefit from enhancing these skills.

Principles of Physics as Applied to Kenpo and Drumming

A body in motion tends to stay in motion; a body at rest tends to stay at rest.

Kenpo and drumming represent interesting studies of the human body in motion. As with any activity using physical motion, they also reflect the use of energy. To practice a physical art on a high level, it would seem logical to analyze the physical moves to maximize the result from the energy expended. Of course, conditioning plays a part; the more energy you have the better.

In Kenpo we notice that the more athletic moves tend to require the expenditure of more energy, requiring that you move larger parts of your body over longer distances. If one thinks of their energy supply as money in the bank, then it follows that spending energy wisely is a good idea. So conservation of that energy is a necessary goal, and the Martial Arts practitioner would be well advised to choose carefully between an athletic move requiring much energy and a subtle move which may accomplish the same task.

In drumming, very often a technique which uses the most "chops" or the ability to play the fastest strokes with hands and feet may require greater energy (although a great deal of technique is required to play slowly and consistently). The wise drummer knows when to exert himself physically and when to relax, and let his technique do the work.

$$\text{The Work Formula:} \quad \text{Power} = \frac{\text{Mass} \times \text{Distance}}{\text{Time}}$$

Using this equation, we see that the amount of work done (or power generated) is equal to the weight moved, times the distance it travels, divided by how long the task took. For example: Moving a 150 pound body 3 feet in .5 seconds equals 900 LB/FT/SEC of power generated or work done.

If we wish to conserve energy in a move without taking more time to complete the move, then we must either shorten the distance traveled or decrease the size of the mass to be moved.

In Kenpo and in drums, we conserve energy by keeping the elbows down and staying as relaxed as possible. This minimizes the lactic acid buildup in the arms and shoulders. In fact, the only muscles tensed or used are the necessary ones. Economy of motion makes a drummer faster. Staying balanced on the drum stool with good erect posture makes it easier to utilize all four limbs smoothly, rapidly, and with a minimum of exertion because the shifting of weight is not necessary. Remember, when conserving energy that fatigue makes cowards of us all.

It has been pointed out to me that when the martial artist starts to age, he either becomes really good (technically) or gives it up. The young man who relies on his natural athletic vigor will find he needs better technique the older he gets. For the same reasons, a drummer playing for 3 hours in a recording session or 5 hours in a nightclub must become an efficient technician. When a fighter gets tired, his guard may drop as the lactic acid builds up in his muscles. When a drummer gets tired, his tempo may drop if he cannot adjust to the same lactic acid buildup.

In both arts, we try to make the circles smaller at higher speeds. We try to round off the corners to produce a smoother flow. We also elongate circles. When drumming at higher speeds (fast tempos) the right/left or right/right - left/left hand and foot combinations require decreasing the length of the arc or size of the circle. On drums, at higher speeds, the sticks stay closer to the drum head to shorten the length of the arc the stick makes. A smooth drum roll requires great efficiency and small-muscle-group control because the length of the arcs each stick makes is now shorter.

Another important aspect of perfecting physical motion is the ability to isolate different muscle groups. As already noted, we try to relax all the muscles not needed to conserve energy and tension those that do require it. In Kenpo we tense the weapon when it strikes the target, but relax the muscles required for delivering the weapon. This allows for greater speed in delivery, maximum impact at the target, minimum energy expenditure, and minimizes damage to the weapon itself.

In drumming we selectively tense muscles in the same manner, such as the hand and finger muscles where the hand grips the stick (at the fulcrum), but we relax the wrist, elbow, and shoulder muscles to let gravity and the bounce of the drum surface do the rest. Unnecessary tension in drumming manifests itself by making you slow down or speed up the tempo when you do not mean to. It also interrupts your ability to flow naturally from one idea into another.

In Kenpo we want to be able to flow naturally from one technique to another. The same is true when improvising on the drums.

Another important application in martial arts of the ability to isolate different muscle groups and selectively tense and relax them is to eliminate the telegraphing of moves to your opponent. To avoid telegraphing your moves you must isolate the muscles you do not want to move from the ones that will actually make the strike, then use the point of origin principle to execute your move.

I have found the knowledge and application of snapping motion, thrusting motion, whipping motion, and the springboard effect (all of which we use in Kenpo) to be directly applicable to drums and drumming. Kenpo has greatly increased my four limb coordination, which again directly applies to drumming on the trap set. With an expanded awareness of the affects of gravity, torque, momentum, and centrifugal force, my practice of both arts has benefited greatly.

What the Artist Practices:

Kenpo & Drumming

To master any art requires practice, but what does the artist practice? There is always so much to learn - where do you begin? I think perhaps one good way to approach the problem is to realize first that mind, body, and spirit are all involved. Second, it seems only logical to use mental analysis to decide what physical skills need to be mastered. Third, practicing those physical skills must be done regularly with intensity (spirit) and intelligence (mind) over a period of time.

Let us look at some specific parallels in the practice routines of each art:

The drummer practices rudiments on a practice pad to develop his hands and uses a practice drum set to work his hands and feet in coordination with his whole body as he moves around the drum set. After practicing the snare drum rudiments for hands and drum set 4-way coordination rudiments to include the feet, the drummer then assembles these basics into various combinations which he calls "beats" or "grooves" which may have specific practical applications. He practices these beats at different tempos with variations of each to formulate a response to possible musical situations. The drummer also practices reading music. This is simply a device to further the understanding between musicians of this universal language of sounds called music.

The martial artist practices basics: the rudiments of the Kenpo vocabulary - punch, kick, block, stance

maneuvers, etc. Basics are assembled into combinations for self defense, freestyle, or forms. These combinations often have specific practical application, and they are also practiced at different speeds or tempos with alterations to the rhythm or timing of a technique to suit various fighting or self defense situations.

Mr. Parker has given us the equivalent of the drummer's written music by creating a wealth of written diagrams and analysis to allow us to better understand this language of physical motion. Written records of any art along with audio or video tapes give us tools to preserve the heritage of the art. Both drummer and martial artist can then use these devices as a practical tool to judge the progress being made in mastering the art.

On the subject of practicing the basics of your art, I remember an incident when at a music conservatory my former drum teacher was watching me practice a series of complicated syncopations for the bass drum. I thought I sounded pretty good, but I was neglecting to practice a straightforward $\frac{1}{4}$ note pattern, the foundation from which all the other patterns emanate. Although I did not want the $\frac{1}{4}$ note pattern in the piece I was playing, my teacher said that if I did not practice it, there would be a time when I needed it and maybe it would not be there. In spite of how good you may become at the extensions of your art, you need to practice the base. This is why in the martial arts we continue to practice our basics. Even if we become highly skilled at complex combinations, we still need that foundation.

The similarity between drum and kenpo technique shows in the relationship between throwing twist

punches with opposite hands and playing a single stroke roll on a drum. Standing in a horse stance and throwing twist punches, we chamber the hand that is not punching to ready it for the next strike. As one punch is thrown, the other hand is simultaneously put into the ready position. The same concept is employed when a drummer plays a roll with alternating strikes of the right and left hand. He cocks the off hand back at the wrist in the drumming equivalent of the ready or chambered position. This applies to any karate movement alternating the hands such as blocks, punches, elbow strikes, parries, etc., or any technique where we chamber the off hand in preparation for the next move. This concept is also what allows a good drummer to move his hands in a sustained blur of motion, something any martial artist can appreciate.

A drummer will often practice a drum solo performance much like a martial artist practices kata. But, just as the jazz drummer seeks to create an improvised performance with ideas he has never before expressed, so does the Kenpo practitioner strive to attain the ability to improvise and adapt his technique to any street situation in self defense. This brings us to the next topic of discussion:

The Jazz Tradition of Improvisation and Kenpo Formulation

There is an ideal phase in jazz which could be described as playing the basic tune (from sheet music in some cases), then as the improvisations begin (the solos), the instrumentalists begin to talk to each other with their musical vocabulary. This interplay initiates a "what if" phase of the music as the players begin to egg each other on into unexplored ground. The formulation of ideas in response to this interplay is what the successful improvising soloist is able to do. That sounds like Kenpo to me.

Take any one Kenpo technique and think of it as a tune. As the situation unfolds and the attacker alters the attack (the "what if" phase) the Kenpo soloist begins to improvise a response by grafting parts of his martial arts vocabulary of motion together into what we call the formulation phase of the technique.

The new student will often say "I did my technique my friend and it didn't work!" "Why not?". The teacher will answer, "Because you only know the ideal phase and your more experienced opponent was improvising on the attack." The student will then ask, "When can I learn to improvise a response?" The teacher will respond, "When you have learned the Kenpo vocabulary." First learn the basics, then understand their application, and finally, be able to apply the vocabulary in a fluid improvisation, like a good Jazz soloist.

It takes practice, experience, analysis, and time to master an art. When the vocabulary of the art form

begins to feel like an old friend, you will begin to personalize the art as you express yourself in improvisation.

Trap Drummer and Kenpo Man
Combining Different Aspects of their Arts

Traditional Latin bands, such as those of Prez Prado and Tito Puente, make an interesting study because they did not use a trap drummer (playing with both hands and feet), but did accomplish pretty much the same thing musically by assigning roles to percussion ensemble members. The congas would provide a foundation in the lower registers while the timbale player would be working in the higher register. These instruments along with bongos, cow bells, cymbals, and various miscellaneous percussion would work together as a unit.

So, much as a boxer might provide hand techniques, a Tae-Kwon-Do practitioner might provide foot techniques, and a wrestling stylist might add grappling moves and takedowns to a martial arts system, these various instruments in the Latin band added their special strengths to the music. A single Jazz "trap" drummer accomplishes all the various roles in a Latin percussion section, just as Kenpo incorporates many fighting styles and disciplines.

I think it obvious that the reason Kenpo is a practical system of self defense is because it avoids an over dependence on any one aspect of the martial arts vocabulary. An art should learn from the traditions of the past, but reflect the culture that it lives in, and Kenpo does just that.

The trap drummer or drum set performer is like the Kenpo martial artist because he or she uses all four limbs in perfect coordinated harmony to produce

results. The drum set is an American invention born out of necessity. It started as a practical solution to the eternal problem of "not enough money" to pay all the band members. Drummers started using both hands and feet to fulfill multiple musical functions. Kenpo shows the practitioner how to use hands and feet in the same coordinated harmonious flow.

Drumming Styles and Fighting Styles:
A Brief Comparative Analysis

Different styles of music and their related drumming styles emphasize different aspects of the art of drumming, just as different martial arts and their related fighting styles emphasize different aspects of the fighting arts.

Example #1: Traditional Latin drummers tend to play mostly from the hands or top half of the drum kit. In comparing this to fighting arts, boxing comes to mind. Boxers also tend to operate mostly with the hands and use the feet mainly to position themselves for use of the hands or for avoiding the opponent's hands.

Example #2: Contemporary Rock drummers tend to emphasize the feet more and the bottom end of the set. They often use the bass drum as the lead voice and will play it at a higher volume level relative to the other parts of the drum set. For this reason, double bass drums are now popular in rock. The fighting art which is roughly comparable would appear to be Tae-Kwon-Do. Tae-Kwon-Do stylists also tend to depend more on their feet, in fact the art is about 70% kicking.

Example #3: The loose swinging style of a good Jazz drummer emphasizes neither hands nor feet, but rather a kinetic flow of syncopation which is a seamless blend of many elements using all four limbs. I compare this to Kung Fu stylists with their flowing circles moves, as opposed to the choppy more linear fighting style of Shotokan which in this case would be roughly analogous to the heavy movements of some heavy metal drumming. This is the power oriented side of drumming.

It is simple, direct, powerful, loud. But it works - it moves people, provided their tastes are not too sophisticated for it, more predictable perhaps in its directness, but powerful like Shotokan. In comparison, the Kung Fu stylist tends to be a bit more esoteric in his approach - more devious, more circular motions. There is a lot of "prettiness" to this approach which can sometimes diffuse its power or effectiveness.

At this point it is perhaps becoming obvious that each approach with its own special emphasis has inherent advantages and disadvantages. The reason Kenpo has held my interest over the years is because it strives to be a complete system by incorporating advantages from traditional styles and evolving by adding new ideas. I see great drummers with a thirst or knowledge continue to improve and evolve their art by incorporating what they learn from around the world - African drumming, Brazilian, Cuban, Spanish, Indian, and American drumming. I also see in the martial arts how the artist who continues to learn, improve and evolve incorporates elements of fighting styles from all over the world - Ancient Greece, India, China, Japan, Okinawa, Korea, Thailand, Hawaii, and the United States. From these cultures we have learned ways to improve our art of Kenpo. Mr. Parker was right in wanting his art to be a living language that can evolve, but it was easier to preserve the heritage of a traditional art that does not change; it is a much greater challenge to preserve the heritage of an art that is continuing to grow and evolve.

While I hope we as Kenpo practitioners are vigorous in our efforts to preserve Mr. Parker's contribution to the art, I hope that we do not forget Mr. Parker's ability to improvise with the art. Preserving the art

should not mean turning it into a rigid form that never varies or evolves.

We should take note of the mistakes that some classical musicians are prone to make. Because J.S. Bach is so revered as a composer, his works are sometimes wrongly interpreted with no variation whatsoever from the written manuscripts. These musicians forget that J.S. Bach would improvise while performing his own work.

My suggestion with regard to Kenpo is to encourage advanced practitioners of the art to improvise extensions to all the techniques. Use the base of each technique as a theme, as a musician uses a tune, and then develop the ability to improvise from that theme.

Gentlemen, Choose Your Weapons

On the importance of choosing the weapon to suit the target or situation, the weapon with the most power may not be the most appropriate for the situation, nor may that power be necessary for the particular target. If the weapon matches the target, you achieve the desired result.

In drumming we do not always need or want to maximize volume. Sometimes speed is more necessary.

In Kenpo sometimes a weapon that requires more finesse, such as a finger rake or finger whip, might be appropriate. Perhaps you cannot reach the target any other way and blinding the opponent momentarily is sufficient for your needs.

In drumming perhaps using a finger bounce technique instead of wrist technique is the only way to execute a fast passage of music. Sometimes a drummer will use brushes or mallets instead of stick because the different textures created are more appropriate for the music.

In Kenpo we use the closed fist, elbow, knee, or foot to strike hard targets. But for the softer targets such as the neck, eyes, groin, etc., we can use the handsword, half fist, finger pokes, finger rakes, or heel palm claw allowing us many options.

So, by choosing the technique or weapon to match the target, or in a musical context, by choosing the technique or device to match the music, we achieve our best results.

Percentage of the Art We Use

In both drumming and martial arts, a technique can be done in its most basic form or with a series of embellishments. In Kenpo we may insert checks, additional strikes, and minor moves to embellish the basic technique. Many people in other martial arts feel we tend to overdose on technique in Kenpo. We often seem to do techniques that are far more sophisticated than the situation demands or than the practitioner can execute effectively in a street situation.

This can also be true in drumming, where it often seems out of place to apply a classical, or rudimental snare drum technique to the average Rock & Roll band situation. Even in Jazz, drummers are often asked to simplify their technique so they will not detract from the music.

Perhaps only twenty percent of what you know will actually be utilized in either art. Does this mean you should not bother with the other eighty percent? It may seem so, but although most of the time you use a small percentage of your art, there will always be times when the larger your vocabulary the more successful you will be. The larger your vocabulary in any art, the more flexible and assured you will become and the more options you will have. This is the difference between an average practitioner and an artist.

On Attitude and Intensity

Well known drummers sometimes do clinics just as martial arts experts will do seminars (for other practitioners of their art). At one such clinic, drummer Bernard Purdie talked not about technique, but about attitude.

Bernard Purdie is known for his classic live and recorded performances with artists as diverse as James Brown, Steely Dan, Aretha Franklin, Robert Palmer, and the Beatles. [3] He has a unique style that many drummers have copied, but what really sets him apart from others is his ability to make the music feel good. So, it was actually very appropriate that he talk about attitude. His point was simple - if you as a player do not feel good about what you are playing, nobody else will. For a drummer to develop a good feel and be able to project it to the rest of the band and audience, he must of course play precise time. Yet, drum machines can keep a beat accurately. So what really enables the drummer to develop a good feel is actually attitude. A good drummer will bring the right attitude to any given musical performance and that is what brings his technique to life.

My analogy to martial arts is also simple - a Robot can be programmed to do "Five Swords" accurately, but what really brings that technique to life in either the dojo or a street situation is attitude. I feel that having the right attitude is the key to precision, focus, and the conviction that your technique will work. If your technique is done half-heartedly, you will probably be disappointed in the results. Something I have learned from the board

breaking in training is that if you do not know you are going through the board, then the chances of failure increase dramatically. A positive attitude helps. As my drumming improves, I see after thirty years that it is no longer the technique which is my key to a successful performance, but attitude.

But what type of attitude should be employed? Something I talk about in my own drum clinics is intensity. For a drummer to really make the band move, he has to mean every note he plays. To do that requires you to be there all the time. That means precision and focus. That means intensity! The mind can never wander.

Obviously, if we look at martial arts, the same thing applies. If someone is threatening your life, you had better be right there - focused with intensity or you are in real trouble. Once again, for me, one art has given insight into the other.

[3] Most music fans assume that Ringo Starr played on all the Beatles' recording, but Bernard Purdie recorded seventeen songs with the group.

Conclusion

There are many similarities between music and martial arts. More specifically, drumming and martial arts are like brother and sister art forms. Because they both involve complex or sophisticated physical motion, the principles of physics and biomechanics are very appropriate areas of study for practitioners of either art. Understanding how to use gravity, torque, momentum, and centrifugal force can strengthen both drumming technique and martial arts technique.

The ability to improvise is a worthy artistic goal. It is the result of control of the vocabulary of the art and the imagination to find new ways to apply it. It follows that martial artists should be encouraged to master their basics (vocabulary) and also develop their imagination as a tool to help arrive at the formulation stage or that ability to improvise and adopt to any situation. So, develop a large vocabulary and it will serve you well as long as it is applied with logic, intelligence, and imagination at the appropriate time.

On the subject of stylistic differences, I find the parallel between different musical styles and fighting styles has clarified for me not only the many differences between styles, but also the many commonalities. Drumming taught me the value of learning all I could about different styles. Logic tells me it will help any martial artist to learn as much as possible about other fighting styles. Kenpo has taught me the value of focus and intensity. I now realize that much of my success in drumming has been the result of successfully applying focus to performing as a drummer and to doing so with intensity. Drumming taught me the

value of hand, foot, and eye coordination applied with the proper timing. These skills are now proving beneficial to me as a martial artist. I have learned that these skills may be enhanced with proper training or practice. I have also learned the value of an intelligent practice routine for either art; but while practice is a must, so is enjoying what you are doing.

To paraphrase Joseph Campbell: You must "follow your bliss" or "do what you love" in order to achieve spiritual fulfillment in this lifetime. If this is done with all the physical energy we possess, and if we focus all of our mental resources on that goal, then "doors will open where we least expect them" and we will achieve great things.

To paraphrase Ed Parker: "In Kenpo we strive to unify the mind, body, and spirit." I might add that if we can balance the increased awareness and confidence the art can give us with the humility that comes from knowing how much more there is to learn, then personal growth will be ours in mind, body, and spirit.

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