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Bulletin

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On my last bulletin, February
2021. I proposed the following
question.

Body mechanics Challenge. I
would ask everyone to do a
straight punch only, no other
move from your body, Just
from your shoulder to your fist
with palm up. Look at every
motion *and explain to me how
many distinctive moves you
made.*

The responses I received were
wide and varied from six to ten
moves. Once you see and
understand how moves work,
you will know how to achieve
maximum power; this power
comes at a price through many
hours of practice.

I want get into the Physics of
motion because it can be
complicated. Refer to the circle
that I have drawn on the last
page.

First, I need to define a few
terms. **One:** Linear motion,
Two: Arc's, **Three:** Angles.
Followed by, Rotate, Torque,
and Sequence?

Linear motion also called
rectilinear motion, **is a straight
line between two points in
space.** The three major types of
simple linear motion are
Constant Velocity Motion,
**Uniformly Accelerated Linear
Motion,** and **Variable
Acceleration.** The basic physics
quantities used to describe

motion of an object are
*position, displacement, speed
velocity, and acceleration.*

**"UAL" Uniformly accelerated
linear motion** will be the one
that is most relevant in Martial
Arts since UAL is variable
acceleration or deceleration.

**An arc is part of the
circumference of a circle
moving in a curving trajectory.**
**While Rotate is to move in a
circle around a fixed central
point.** If you move in along a
circle and stop anywhere along
the fixed point, you create an
Arc.

**Angle, to move or turn at an
angle:**

Torque is a measure of the
force that can cause an object
to rotate about an axis. Just as
force is what causes an object
to accelerate in linear
motion, torque is what causes
an object to acquire angular
acceleration.

Torque can be viewed as the
"rotational force" of a
technique. It is this force
preceded by the proper
execution of the technique that
makes it work.

**Sequence, The following of
one thing after another.** This
will be the most difficult

motion to execute since this is where hours of practice will be needed to achieve maximum power.

The execution of the punch.

First, with the palm side up and your fist at your side. Left or right. As you punch forward. Note your arm/elbow will be moving in a straight line. This will be your **UAL** motion.

At some point, you will begin to rotate your fist. You will see that you have made an approximate 180 degree turn. This rotation becomes an arc. Then at the last second, you punch forward; you have just made another linear move; otherwise, all you have done was a twist.

The execution of the arc and the linear motion sequenced at the right time creates torque.

The answer to the question I proposed is. There are only two distinct moves: linear motion and the arc. If you look at any other karate move, you will find that these are the only moves your body can create. As for has, I know It's anatomically/mechanically impossible for any other move to be executed.

The sequence will define the technique while angles give you direction. In the end, it boils down to the ***arc and non-uniform linear motion.***

Once you understand this, the hard part will be for you to learn how to time and sequence you're techniques. Sequence, as I said, is one thing after another.

Timing your arcs and linear moves is the Biggest Challenge. Take one technique at a time; go slow and be conscious of your moves. Don't put the cart before the horse.

Those of you that understand how your car runs will know what I am about to say here is true. Yes, there are a lot of things that could make your car run badly. But if you don't have the following correct, everything else is irrelevant.

Timing: Every vehicle has a timing chain or a timing belt. It's these items that control the degree of Timing. If the degree of Timing is set properly, your car's engine will run smoothly. The Timing sets the **sequence** of the firing order of the cylinders. This, in turn, produces torque or maximum power.

Martial Arts techniques you use follow the same logic. It's your Timing and the sequence of your moves.

Your front snap kick, shuto, high block, down block, etc., all follow the two distinct moves I presented. The only thing that changes is the part of the body you use. Try it, go slow. You will see those moves.

A technique is the ability to perform a task, were as skills is the ability to perform that task.

Skills are the ability that one possesses and its learned ability that will distinguish the difference between mediocre, good, and those who excel. So which one would you rather be?

Note: Put yourself in the center of the circle. The outer edge of the circle is defined as the circumference. If you extend your hand out straight and just move it left or right along the circumference, you create an arc.

If you turn in any direction from the center of the circle, you are turning at an angle or a degree. *A circle has 360 degrees.* Your attack or your opponent's attack will determine the angle of your punch or any other

technique. **Angle**, in this case, defines **direction only**. The **arc and the non-uniform linear motion** follow the angle of your attack or block.

I hope this description simplifies my answer and that you can see how I came up with the statements I made earlier that there are only two distinctive moves you make in any martial arts technique.

If you wish to be removed from the email list. Say so, or if you know someone who may be interested in this bulletin, forward it to them.

Fear is just excitement in need of an attitude adjustment.

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