CHAPTER FOUR: SPEED

The quest for speed in playing any instrument often causes frustration, musical imbalance and even physical problems. Nevertheless, just as we should be able to play at a range of dynamics, and to play over the entire pitch range of our instrument, we should possess the skill to render phrases of all speeds. By calling this chapter "speed" I am not just concerned with "playing fast", but rather with developing facility at all velocities. I have broken down the technical requirements into: left hand agility; right hand agility; synchronization of the two hands; stamina; motor memory; and subdividing ability. As a source of inspiration, I often refer to the stamina and agility which masters of Indian percussion and string instruments achieve. If you have ever been to an authentic Indian classical performance, you will know what I mean, when after a couple of hours of playing the tempo has increased to a point where the motion in the musicians' hands is just a blur, and yet the players maintain the utmost in control, poise, and happy expressions! It is also interesting to note that I have never heard of the physical problems of carpal tunnel or tendonitis in these performers, which goes to show that the **process** of achieving speed is all-important.

In the practice of these technical exercises, it is important to maintain a healthy posture, and to have warmed up sufficiently. Gradually increasing the tempo over a period of time will yield good results. Fast, messy playing will result if the tempo of these exercises is increased prematurely, so aim for accuracy and mastery before increasing the tempo. Take breaks frequently during the more grueling exercises. Even a few seconds of dropping the arms and shaking the wrists with loose hands can give the muscles time to recuperate.

SURFACE SPEED

As a measure of competency, the concept of *surface speed* is pertinent here. Surface speed is defined as the absolute speed (in pulses per minute) of the subdivisions/pulses you are playing. It is found by simply multiplying the number of subdivisions/pulses per beat by the tempo (in b.p.m.).

SURFACE SPEED=SUBDIVISIONS X TEMPO
Where:
eighth notes (quavers) = 2
eighth note triplets = 3
sixteenth notes (semiquavers) = 4, etc.
(See the Rhythmic Terminology chart at the end of this book.)

E.g.: quintuplet sixteenth notes at 180 b.p.m. yield a surface speed of 900 (5x180=900); and

sixteenth notes at 225 b.p.m. also yield a surface speed of 900! (4x225=900)

This is why surface speed is considered an "absolute" measure of speed- it can tell you how fast you're actually playing regardless of the tempo.

I would suggest the following as a guide to speeds. Notice that in my example above I quoted a surface speed of 900, which is quite off the scale!

SURFACE SPEED TABLE	
1-40	very slow
40-80	slow
80-180	medium
180-250	medium fast
250-350	fast
350-500	very fast
500-600	extremely fast
600+	completely burning!

It is advisable to keep a practice log, and in it record the tempo at which you are practicing the speed exercises in this chapter. Record also the surface speed attainable with your skills right now, and periodically test this and record the results to monitor improvement. Note that your highest attainable surface speed is dependent on the type of passage you are playing, so keep this consistent over time. A good basic exercise would be the "trumpet" Exercise 2-9.

LEFT HAND AGILITY

The first three Exercises 4-1, 4-2 and 4-3 feature the *hammer-on* and the *pull-off*. These techniques strengthen the fingers of the left hand as well as force quite a degree of rhythmic precision upon them - two ingredients necessary for achieving speed. Notice that I have used slur marks across groups of notes. These embrace those notes which are sounded by the action of the left hand, and should be legato (smooth).

Hammer-on

The hammer-on technique requires finger 2, 3 or 4 to fret with sufficient impact in order to sound a note without needing the string to be plucked by the right hand. It is typically preceded by a normal (plucked) note on the same string fretted by a lower finger.