
THE ART OF BEAUTIFUL SCALE PLAYING

Dr Judy Fisher

Scales are a musical shape in themselves, but it is difficult to access their beauty with tense and inefficient movement qualities. This paper proposes technical principles of flowing, unaccented scale playing that allow students to access virtuoso speeds and aesthetic pleasure in their scales.

Some traditional methods used for teaching scale technique to elementary-level students actually increase tension in the hand and result in uneven accentuation. Dr Fisher has developed a movement exercise which can be used prior to introducing scales – the Rock'n'Roll – that enables even elementary students to play their scales with a smooth flow and relaxed hand.

Too often, students consider scales to be a necessary evil. They practice them, grudgingly, because scales are a compulsory component of an examination syllabus. Most do not consider scales to be music, as such; merely technical exercises to be got out of the way as soon as possible.

And yet, what could be more beautiful than a liquid run of singing notes, climbing from the richness of the lower register of the piano to the shining notes of the higher octaves, like a string of multi-coloured pearls? What could be more exciting than powering up and down the keyboard at high speed, taking the curves as you change direction at the top or bottom with ease? My experience is that when students are presented with a scale played with a passionate musical intent, they respond with enthusiasm.

And then, you teach them how to do it!

What I am presenting today is the distillation of forty years of playing and teaching, reading and studying, of lessons from different teachers, master classes, lessons in dance, in Alexander technique, in Dalcroze eurhythmics; observations of master performers and students alike.

The main aspect of this paper is not about teaching the patterns of the notes, or the fingerings. Instead I will focus primarily on the technical aspects of fast, even scale playing, aspects which transfer not only to arpeggio playing but to any kind of figuration which requires movement across several hand positions.

LEARNING THE BASICS

Nevertheless, I would just like to make a couple of observations about the initial stage of playing scales, where the student has to master their basic patterns. The first is that waiting to introduce scales until students already have well-developed finger control and co-ordination within a 5-note position will make it easy for them to enjoy learning to play them. For my younger students this is often in the second year of study.

My second observation is that scale patterns can be approached in many different ways: they can be worked out by ear; by following the major or minor blueprint of tones and semitones; by learning the system of sharps or flats to establish the key signature; or they can be read from a scale book. The more tools you can give students to help them unlock these patterns for themselves, the more easily they will be able not only to assimilate the ones you assign first but also to learn new ones in the future. The only teaching tool I do not use is the scale book; my students are trained to be able to work out the notes of each scale pattern for themselves by the other methods.

There are two kinds of fingering patterns. The first kind is based on the standard C major fingering used for most major and minor scales starting on a white note with right-hand thumb or left-hand finger 5. Mastering this first pattern trains students to control their fingering and has to be taught by rote.

The second kind of fingering is where the thumb does not fall on the keynote and patterns are determined by the positioning of the black notes. For this group I train my students in the principles of scale fingering so that they can work out the most efficient fingering by themselves. When a student is actively involved in the process of establishing the notes and fingering pattern of a scale, there is more of a sense of ownership, and more engagement in their practice.

Slow scales as a preparation for fast technique

So, notes have been learnt, fingering mastered. What is the next goal?

At this level — Preliminary to 1st Grade — we don't expect speed. But we can expect an even rhythm and a singing tone. For me, there is also a very important principle:

A slower scale should be a preparation for a faster scale.

Good fast playing has to be efficient playing. There can be no unnecessary movements, no awkwardness, with the muscles in the hand and arm using the minimum of effort required. Slow playing, on the other hand, can hide a multitude of technical problems.

The technical solutions that many teachers use to deal with the challenges of scale playing at the elementary level, unfortunately often clash with the requirements of playing them well at advanced levels.

The role of the thumb

For me the most glaring example of a problematic teaching solution is the concept of the passage of the thumb under the hand. This concept seems to be one of those unquestioned things that we learnt from our early teachers, that is passed on down through generation after generation of students.

One of the problems I have with this concept is that it is often taught with the top and middle knuckle joints bent at their maximum angle, creating a lot of tension in the thumb. When I say top joint, I mean the knuckle next to the nail segment of the finger; then there is the middle joint, which in the thumb is at the webbing to the index finger. Just as I was taught as a child, many teachers still instruct their students to bend their thumbs from the middle and top knuckle joints at full contraction in order to pass the thumb under the hand.

Now it is true that we piano teachers are forever saying 'curve your fingers', like a loop which is on infinite repeat. We know from experience that it is much easier to control our fingers if they start their descent into the key in a gently rounded position. The reason is that when our fingers are gently rounded, each knuckle joint is at around the midpoint of its range, a position in which the muscles are most relaxed and the joint is at ease. You can test this yourself by flexing each segment of your index finger — the nail segment, the middle segment, and the base segment where the finger joins the palm at the base knuckle — through its full range of movement to determine the midpoint.

Notice, too, that when you start the descent into a key from this position, that it takes a relatively small movement from the base knuckle of the index finger to move the tip of the finger from the key surface to the bottom of the key. If we maintain the gentle curve of the middle and nail segments of the finger while striking the key there is no loss of energy into a collapsed joint.

What is often not recognised is that, like the other fingers, the thumb also has three knuckles. The base knuckle joint of the thumb is very low, quite close to the wrist. So ideally the thumb will begin its playing movement from a position in which each of its three segments is at the midpoint of its range. The movement will be from the base joint, with the rest of the thumb gently rounded. Moving the thumb from

this low base joint, rather than from the middle knuckle joint, gives more range of movement, and it is possible to maintain the optimal gentle rounding of the middle and top knuckles of the thumb.

There is, however, another aspect of the 'passage of the thumb under the hand' which also concerns me. This is the assumption that the change in hand position is effected by the movement of the thumb; that the hand is stationary while the first three or four notes in the hand position are played, and then there is a fast transition led by the thumb.

I have seen many students play their scales in this way. The sound is characterised by an accent on each note played by the thumb, because of the fast acceleration required in order to reach it. The passage of the arm along the keyboard is a series of jerks. Very often the wrist is raised as the thumb is passed under the hand, only to drop with added emphasis as the thumb finds its target note.

Often elementary level students will play their scales quite slowly in a tense, clawed finger position, strongly accenting each note to hide the accentuation of the thumb notes. Yes, the sound quality is even, the finger control is rhythmically secure. But the sound quality is harsh, there is no music in the scale, and the scale remains a technical exercise to be rushed through before the real music begins. And there is no pathway in this style of scale performance that can take a student towards playing at speed, with beautiful, smooth and unaccented sound quality

So, if the slow practice of scales needs to be a preparation for fast scale playing, then we need to examine the mechanism which allows virtuoso performers to play scales at **14+** notes a second with ease and grace.

Achieving a constant speed along the keyboard

In order to play a virtuoso scale, the arm needs to move smoothly along the keyboard at an even speed. Variations in the speed of movement along the keyboard create variations in the speed at which the notes are played, leading to unevenness in the touch. And in order to move at a constant speed, *there must be movement along the keyboard for every note which is played.*

This brings me to another of those common beginner-teaching ideas which runs contrary to best practice — the 'placing fingers in a hand position' method. In this 'hand position' scenario, students are instructed to start with each of their fingers placed over each of the notes in a five note position. The young hand is splayed out, tense and unable to move. Because of the tension in the hand, the fingers play their notes

with difficulty, and often the child assists the fingers with a pushing movement in the lower arm. Yes, the student can find the note they are supposed to play within the hand position. But the process destroys any natural, unforced movement, and encourages unwanted tension in both hand and arm.

In order for there to be a constant smooth movement along the keyboard, the hand and arm need to be balanced over each note that is played. That is, the hand is virtually centered over the note which is being played, with the other fingers relaxed.

Like riding a bicycle, fluent piano playing requires us to trust in our ability to maintain balance. When riding a bike, we have to take both our feet off the ground in order to get going. In playing the piano, we need to release our non-playing fingers to achieve that smooth, relaxed ride.

Ideally students will naturally produce this balance by remaining relaxed and free in their movements and also by following the good example shown by the teacher. But in case this does not happen, I have developed an exercise which I call the *Rock'n'Roll*, which I teach my students before they start learning to play scales.

The Rock 'n' Roll exercise

To balance over a note, we need to centre the hand. Thus the first step is to establish where the centre of the student's hand is, and draw a line down the top of the hand for visual reference. This line will be like an extension of finger 3.

Next, the student plays a note with the thumb, gently rotating the arm and hand so that the line on the top of the hand is approximately centered over the thumb note.

As I have previously mentioned in discussing the thumb, it should be played as much as possible in the same way that the other fingers should be played, moving from the base knuckle and keeping that optimal mid-point position of the other joints. As with the other fingers, only a small area of the tip segment should make contact with the key. Many students rest the whole of the thumb tip segment on the key, making it difficult to maintain an even sound. It is much easier to achieve agility with the thumb if they visualise using only the same area of thumb pressing down the note as they use for their other fingers. The only difference is that this area is on the side of the thumb, next to the nail, rather than at the tip itself.

So in the Rock 'n' Roll exercise, the thumb is played near the tip, with the hand and arm gently rotated so that the line indicating the middle of the hand is centered over it. The hand is then rocked to allow finger 2 to play the next note one step away, so that it is now centered over this second note.

Another rocking movement and finger 3 plays the third note of the five-note position. At this point, the top of the hand will be level, parallel to the keys, since finger 3 is at the midline. For fingers 4 and 5 the hand gently rotates again with each rock to allow the midline of the hand to keep centred, while still making sure that finger 5 is played at the tip of the finger next to the nail, rather than along the whole of that segment. After making sure that the hand is centred over finger 5, the direction of the notes is reversed and the hand is rocked step by step to finish back with the thumb. (I am indebted to the work of Dorothy Taubman for the concept of the 'rock' movement in this exercise.)

This exercise should be learnt slowly at first. Always, the hand is relaxed and soft-looking. The notes are played both by the transfer of arm weight from note to note and by the action of the finger itself.

In fact, students can experiment with the kind of sound they make by varying the amount of finger action they use. The bigger the finger action, the more percussive quality will be in the sound produced. I don't think there should be any value judgement conveyed about the different sound qualities, however; I always explain that we need different kinds of sounds for different kinds of music.

When the movement is mastered as a series of 'rocks', the student is ready for the 'rolls'. We start by playing the first four notes as crotchets in a series of rocks, then the next four in the opposite direction as quavers, so that the 'rocks' merge into a smooth rolling movement back towards the thumb.

With this kind of preparation for scale playing, the student will move along the keyboard naturally, maintaining a relaxed thumb which easily rocks into position as the established momentum of the scale carries it through. The thumb will be drawn a little under the hand when the right hand is moving up or the left hand moving down but most of the change of hand position will be carried out by the movement of the arm.

The angle and alignment of arm and hand

Forearm and hand function best when their basic position is one where they are aligned with each other — that is, with that imaginary line down the centre of the hand extending straight down the centre of the arm in both horizontal and vertical dimensions. In this position the wrist joint is at the midpoint of its range, and the passage of blood vessels and nerves through the carpal tunnel is unrestricted.

By the term 'basic position' I do not mean that the arm and hand will always be aligned in this way. Our bodies are designed to move, and move we must; the concept of the basic position is that it is the neutral place to which we are always returning. Moreover, with natural, relaxed movements there are always variations of position around a particular posture. Striving to always maintain a particular position will result in us 'holding' that position by muscular contraction — a situation which results in increased tension. So when this alignment of forearm and hand is the 'basic' position of scale playing, it is a fluid principle.

The *angle* at which the aligned forearm and hand are playing is an important factor in maintaining a smooth, constant movement up and down the keyboard.

Have you noticed how much easier it is to play right hand scales going down, rather than going up? Or left hand scales going up, rather than down? It's all a matter of the angle of the arm. For the right hand going down, the thumb is the last note of each hand position, The arm naturally falls at a slight angle to the keys, with the fingers pointing slightly to the left, so that finger 4 or finger 3 can reach easily past the thumb to play the first note of the new hand position.

But in the opposite direction for the right hand, going up, things do not fall naturally at all. If I keep my arm at the same angle that I naturally use when coming down, with a slight angle to the left, then when I play my thumb at the beginning of a new hand position, the tip of my finger 2 will be at least two centimetres away from the note I need to play. The resulting acceleration in my movement to get there in time will result in an unwanted accent.

Ideally, of course, the right hand and arm would point slightly to the right when moving up the keyboard. But human anatomy prevents us from doing this, because it would require an extremely contorted position of shoulder and elbow towards the middle register and would be impossible in the lower registers. It is possible, however, to be reasonably close to a 90° angle to the keyboard for much of its length, to minimise the distance each finger has to travel.

A useful exercise to prepare for this is to move the arm along the keyboard at a constant speed as you will be moving it in playing the scale — *but without actually playing the notes or moving the fingers.*

If you are playing a C major scale, you may want to start with your right thumb positioned above the C below middle C. If you are sitting in the middle of the keyboard, however, the natural position of your

hand and arm will be at an angle pointing down the scale, not in the up direction where you want to go. This will compromise the speed and evenness of the scale.

Some pianists adjust the angle of the hand so that although the forearm is pointing down, the hand is straight. This position is one of extreme strain, and should be used with caution, especially where the wrist joint is at the limit of its range of movement.

To have the best possible alignment and angle for smooth movement, it is necessary to bring the elbow in front of the body. In fact, you will need to move your body so that it is balanced on the left buttock, leaning towards the left.

And you will find it impossible to do this,

- if you are sitting in a slouch,
- if you are not sitting on your 'sitting bones', and
- if you are sitting too close to the keyboard, or at the wrong height.

Posture and balance at the keyboard

Slouching puts the body off-balance; it directs energy away from the piano, and the arms have to compensate. (I have noticed that teenage boys seem to slouch at the piano more than teenage girls, even if they do soccer training a couple of times a week with exercises to develop strong abdominal muscles.)

Sitting on your 'sitting bones' naturally puts your body into alignment with itself. The sitting bones (the *ischial tuberosities*) are two bony protuberances, one on each side of your buttocks. If you sit up straight on a firm chair and place your hands palms-up under each side of your bottom next to your hips, then you should feel them.

Sit on these bones and place your feet on the floor. Keeping your spine extended while facing front, roll your body sideways so that you are balanced on the sitting bone on that side, then roll towards the other side and then back to the centre. Notice how you maintain your balance throughout these movements. If you try rolling to the side while slouching, so that you have rolled your sitting bones forward and collapsed your lower back, you will find that your balance is compromised.

If we are to play with hand and arm at the most effective angle possible along a four-octave range, then we cannot keep our body stationary at the middle of the keyboard. In our example of a right-handed C

major scale which starts on the note an octave below middle C, we can align our hand and arm more effectively if we roll onto our left sitting bone and bring our elbow in front of our body. As we progress up the keyboard, we gradually move onto the right sitting bone and lean towards the top section of the keyboard.

At the bottom of the scale, the right hand and arm will not be optimally aligned at 90° to the keyboard with this body re-balance. But they will be close enough to this alignment so that the hand will only have to angle itself minimally to assist the smooth movement of the arm up the scale. By the time the C above middle C is reached, body, forearm and hand will all be in the neutral basic position. As the scale movements continues on its flow upwards, the whole body needs to follow, shifting onto the right sitting bone and leaning towards the upper notes of the keyboard.

There is an emotional as well as a physical rationale for this movement of our whole selves towards our goal. To extend our arm from our body without moving the body itself is a motion of dismissal, of pushing something away. This is reflected in the way we talk about holding something 'at arm's length'. Even if we have no conscious intention of emotionally dismissing the top range of the keyboard, our unconscious mind will interpret our movement in this way.

When we start our scale with the left hand in the lowest range of the keyboard, these principles require us to move our body towards the first note, balancing on the left sitting bone, and to move our left elbow along at the level of the keyboard so that we start from the very beginning of the scale in that alignment angled a little towards the right. In this position we get behind the flow of the notes, both physically and metaphorically. The physical act of involvement creates an emotional focus which is reflected in both accuracy and musicality.

Turning the corner

For optimal speed, evenness and musical focus in scale playing there is a constant flow of movement involving body, arm and hand along the keyboard in each direction. So what happens when you are playing an upward scale, reach the top and have to change direction?

What is needed is a movement which prepares the angled alignment of the arm and hand for the new direction, smoothly and with ease. 'Turning the corner' needs to start about three notes before the top, and is lead by the elbow.

For the right hand going up in the straight alignment (90° to the keyboard), the elbow swings out a little during those last three notes so that by the top note the arm is angled to the left behind it. In this position you are ready to play down the scale at speed!

It is important that the elbow is always level with the keys, and this will occur if you are leaning into the top of the scale. An upwards tendency in the elbow usually shows that there is not enough body movement following the arm. (I call the lifted elbow the 'chook' position — a humorous negative image is a powerful motivator!)

For the left hand, the hand and arm have travelled upwards at a slight angle to the right. In the last few notes before the top the elbow accelerates its swing across the body to allow for a straighter position for the beginning of the downwards run.

The scale as a musical shape

Scales can be played in many ways, and should be played in many ways.

Nevertheless, the basic musical shape of a scale builds up from the lowest note to a climax around its top note, and then falls away again as it descends back to the tonic. Emotionally, we can feel the goal of that top note with intensity. With one student, I might talk about driving in the sports car of choice (Maserati? Ferrari?), with the adrenalin running as the corner is negotiated. With another student, I might talk about the beauty of the flowing scale as it loops around the top.

In either case, the image around the top note is that of a curve, with the energy building up to the top. The basic leading of the elbow that effects the change of direction can be embellished by a progressive dropping of the wrist towards the top note, with a rounded movement then bringing the hand up to complete the circular movement of the wrist. This will result in a short crescendo leading to the top note, and the circular movement of the wrist releases any tension in the arm and gives a sense of grace and ease as the change of direction is navigated.

CONCLUSION

In this paper I have dealt with the technical aspects of playing scales. When the whole body is used efficiently and effectively, we can play scales evenly, at fast speeds and with a musical quality. The principles of good scale playing underlie the good performance of any single line passage, whether it is a slower-moving melody, broken chord figuration or a fast-moving filigree of notes.

The first principle is that of utilizing the minimum amount of muscular contraction needed, the maximum amount of relaxation. This is reflected in the basic position of the fingers, including the thumb, and in the alignment of hand and arm.

The second principle is that of centring the hand over each note that is played, creating a constant flow of movement.

The third principle is to use the movement of the whole body, balanced on the sitting bones, to enable the arm to be at the most efficient angle possible for smooth transfers of hand position.

To be efficient and musically effective in our teaching requires that we incorporate basic principles of good whole body use from the beginning. Sometimes this will require a rethinking about teaching methods that may provide a short-term solution for a slow-moving scale but which actually prevent students from progressing easily to more advanced levels of performance

About the Author:

Dr Judy Fisher has a Master's degree in piano from the University of North Carolina and a Ph.D. in musicology from the University of Sydney. In her varied career she has taught piano and musicianship at McDonald College, Pymble Ladies College and privately, played as associate artist for choirs, singers and instrumentalists, presented workshops, lecture courses and masterclasses, given preschooler music classes, practiced as an NLP therapist, and raised three children. She is currently newsletter editor for United Music Teachers of NSW. Her motto is 'While I live I'll grow'.