

Kiddie Craft – Technical Exercises for the Young (And Not So Young) Pianist

Based on Alan Fraser's The Craft of Piano Playing

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Note to the Teacher

When I wrote *the Craft of Piano Playing*, many studio teachers told me they loved the book but they couldn't wade through it – it was just too dense and detailed. The practical realities of teaching life required a simpler approach, and so this book began to take shape. I wanted to gather together the most effective and straightforward exercises from my previous books (now three in number), and put them into simple, concise terms that even a child could grasp. But the book's shape transformed along the way, as I came to see more and more how the most effective way of empowering the young pianist's hand is to hearken back to the functional development of a child overall.

The extensive apprenticeship – a child's long preparation for standing, walking and running

As infants we first lie down, roll over, then crawl on our bellies for a long time before coming up onto all fours. Then there is another extensive preparation before standing – and more preparation again before beginning to walk and finally run. But at the piano we universally bypass these preparatory stages, making our hands walk and run immediately on the keyboard, and inadvertently creating a set of holding tensions therein that often lasts our whole lives. Imagine what technical prowess, what expressive freedom we could achieve were we free from this limitation!

Reset the hand to default values – retrace the evolutionary steps of learning to move on the keyboard

This book aims to give us that freedom by filling in the blanks in the pianistic hand's functional development. Returning to the functional beginnings of movement can teach the hand to stand, walk and run more effectively by restoring to it the preliminary sensory and motor experiences it needs to develop those abilities effectively.

We aim for complementarity

This book does not aim to replace other methods but to complement them – not to change young pianists' entire technical regime but to help them follow the path of technical development you are offering them more effectively and successfully.

The crux of the problem – accessing the inner moveability of the hand

A young adult beginner I worked with recently had good hand shape (he had seen my DVD), but I saw his arm consistently *pushing* the key down instead of whole finger flexion that would make the key descend – his hand did not *grasp*. When I helped awaken his hand's essential grasping function, his ability improved by leaps and bounds but he said it felt strangely unfamiliar. Sadly, it's an action unfamiliar to many of us: grasping – the fundamental action of the human hand, so crucial to piano playing – is too often absent from the young pianist's technique. As my student put it, "I learned to play without that action because it *looks* like pianists push the key down: they don't *seem* to be grasping and activating internally."

Aural difference between pushing and grasping to move the key

The grasping action in a pianist's technique may not be easily visible, but you can certainly *hear* it in

their sound. Notes played without grasping tend to be harsh, shallow, small, one-dimensional. Add grasping and they become more gloriously rich and colorful, both powerful and warm, both speedy and sparkling – all the characteristics most pleasing in a pianist’s sound.

Cultivating the crucial balance between whole-finger flexion (a slight curving) and curling

Thus this book on technique for beginners explores the basic grasping action of the human hand and brings it to its practical use on the keyboard. Pupils are introduced to **Louis Lumbrical**¹, the muscle that engages the entire finger in ‘pulling’ the key down. A healthy, robust whole-finger flexion in the young pianist can dramatically enhance his or her sonority and capability in a surprisingly short time. Louis then learns to work in tandem with **Freddie Flexor**, responsible for curling the fingers – a movement often needed for precise manipulation of the key at faster speeds.

A tiny little bit of anatomy

[illustration]

The **lumbricals** are located in the hand itself, functionally connecting the metacarpal bones to the proximal phalange². To ‘curve’ your fingers using the lumbricals, bend them from the top knuckle leaving them virtually flat.

The **flexors** on the other hand aren’t in the hand at all but the upper part of the forearm, and connect down to the medial and distal joints through long tendons. To ‘curl’ your fingers using the flexors, don’t move the whole finger but flex the nail joint alone (the medial phalange will automatically flex as well).

In pianists you’ll often see Freddie Flexor working very well, but his partner Louis Lumbrical sadly asleep. By emphasizing Louis’ work this method aims to restore the balance between these two actions both vital to healthy piano technique.

First do the exercises yourself

To best teach these exercises, first sense them. Explore each one in detail yourself before you try it out with your pupils. Though you may be able to do some exercises easily, they might be totally foreign to a beginner. Try to put yourself in their place, imagining what it would be like to feel your hand doing *that* for the first time.

Aim to improve internal ability, not just external shape

Try to sense *internally* how each exercise works – what muscles it stimulates to new action, what new bone alignments it cultivates, always keeping in mind that there’s no one ‘right’ shape of the finger or hand but rather a *right function*, a ‘right’ feeling. Instead of just ‘repairing the shape,’ try to develop a

¹ I am indebted to Paul Wirth for the idea of giving names to the relevant parts of our anatomy.

² The lumbrical does not actually originate in the metacarpal bone but in the deep flexor tendon – but its action is to close the metacarpal-phalangeal joint.

new *ability* that will automatically improve hand shape. There'll be an accompanying sense of internal empowerment in the hand: a gain not so much in strength (although the hand may indeed feel stronger), as in aptitude. Sense these developments in yourself to best guide your pupils in this functional growth process. Even when it is familiar territory for you, it never hurts to review – these exercises foster an organic growth process, and as Moshe Feldenkrais put it, “there are no limits to improvement.”

Be sensitive to the pupil's 'missing pieces'

You can't run before you can walk.

You can't walk before you can stand.

You can't stand before you can crawl on all fours.

You can't crawl on all fours before you can commando crawl.

You can't commando crawl before you can lie on your belly.

You can't lie on your belly before you can roll over from lying on your back.

You can't lie on your back before you've been born.

These lessons aim to help the student's hand retrace each of these developmental steps on the keyboard. When you watch your student play, try to figure out, from the attitude of his or her hand, which of these steps the hand might have missed – which steps it would be most useful to retrace, to bring the hand to full functionality.

Foster a learning experience

If a pupil inexplicably can't do a particular exercise, don't judge or feel frustrated. Make it a learning experience. Try to figure out what's missing in the student's 'kinesthetic self-representation' that would lead to this lack of ability. Search through earlier exercises (or even later ones) to find the one you feel would best help fill in that missing piece.

Approaching the exercises this way is an ideal opportunity to cultivate an analytical and pro-active pedagogical style instead of mechanically applying old solutions. It's a chance to think and sense in a new way, and it's fun!

Introduce the whole-body exercises selectively

Beginning pianists need to get in touch with both their entire body and their 'pianistic body' (fingers, hand and arm). It is not mandatory to do the whole body exercises of section I in the exact order or to do all of them – just pick the ones you feel would best help the individual or group you are working with.

Gauge the rate of new exercises according to lesson length, pupil ability, etc.

Introduce the hand exercises that follow at the rate of about one per lesson, but again, be flexible. How much can each pupil cover in one session? How much time do you have in the lesson? What is the student's level and ability... his or her concentration span? It's better to make these fun, an experience of self-discovery, than a chore, so don't overdo it!

Why I call the exercises 'skeletal'

An infant can't stand, walk or even crawl – she begins by lying flat – seemingly 'helpless.' But in this position she is learning with more richness and intensity than she ever will later on, acquiring a wealth of sensations and muscle control patterns that form the basis for all further, more capable, more complex movement patterns. She has a skeleton, and her muscles have just begun that wonderfully prolific process of learning how to manipulate it in space. The young pianist's hand, like a baby's body, may not be developmentally ready to 'stand,' 'walk' and 'run,' and may need to be taken through a process of physical self-acquaintance in preparation. We've made the metaphor overt by creating **Handy Harry**³, a little being with legs (fingers), a pelvis (hand) and a body (arm) who goes through all the same developmental stages of movement a human infant does.



So these exercises for the young pianist's hand – the pupil's 'baby' – harken back to a real baby's learning process – they are based on the skeleton. If the neuromotor system is offered the chance to distinguish the actual sensations of bones and muscles, the learning will be richer, the resulting ability greater.

Acknowledgements

I never dreamed I would write a children's book on technique, and it is certain I never would have without the encouragement of Katherine Faricy, who urged me to instigate this project and helped move it forward through the initial phases. She spent countless hours with me on both sides of the Atlantic discussing many aspects of this book's content and form, and many of the exercises came into being through our mutual discussion and exploration. My indebtedness is inexpressible. I am also indebted to the work of Louise Robyn (introduced to me by Madame Faricy), whose great books on technique for children provided the model for many of my exercises, and to Paul Wirth whose *Bubba*

³ For girls it could be *Handy Helen*, *Handy Hilda*, or even *Handy Hildegard... Handy Hortense? Handy Hermione??*

Biceps and *Tony Triceps* from his film *Gravity Technique* (shown to me by Madame Faricy) inspired my own cast of characters. Thanks as well to the many teachers in the project pilot group in Minneapolis (organized by Madame Faricy) and elsewhere who 'tried these exercises out' on their own 'guinea pig' students. Their feedback was invaluable in fine tuning the content and order of the exercises. Thanks as well to Dragan Jascur, whose captivating illustrations do so much to really make the book.

Finally I would like to thank my mentors Phil Cohen, whose vision of the role of the biological-physical in piano playing is a deep source for these exercises, to Kemal Gekić, whose brilliant technique provided me with hands-on experience of what works and what doesn't, and to Sam Slutsky, Tai Chi master *sans pareil*, whose acid-tinged encouragement often kept me on the straight and narrow path of skeletal integrity when I might have wandered further afield on my own.

PART I

Group I – Getting to Know the House Where Handy Harry Lives

These lessons are for Handy Harry’s ‘support system’— the whole body. You can teach them to an individual pupil or a group, either away from or at the piano. Teachers may be leery of giving such ‘touchy-feely’ lessons to youngsters, but kids are fascinated with their bodies: once you awaken their curiosity about this or that sensation, they’ll love the experience.

Lesson I-1 – A Tall Swaying Tower

Stand with your feet shoulder width apart, and do what we call a ‘body scan’: pay attention to specific sensations that bring you more in touch with yourself.

- First, feel the soles of your feet, how they press into the floor. Do they press more on the balls of your feet, or the heels? The outside edges or the insides? There isn’t any right or wrong in this, any good or bad – the idea is simply to feel your own feet with greater precision and detail.
- Feel the curve of your lower back. How much indentation can you detect there? Experiment with making that curve a little more or a little less... When you change the curve in your back, what changes elsewhere in your body? Do you have to strain to change that curve or can you find an easy way?
- Can you sense a ‘plumb line’ that goes from the crown your head down through your shoulders, through your pelvis, knees and ankles to the floor? How straight is that line? What could you do to make it less straight or more straight? Don’t try to find any one particular ideal position, just try to sense which parts of yourself change their degree of curvature to change how that plumb line hangs. You are learning through *sensation*.
- Pretend the wind starts to blow you lightly, and you sway over a little onto your left foot. How does your standing change? Are you comfortable with your weight more on one foot? Does your hip joint feel squished or compressed, or do you feel a straight line running from your left foot... to your knee... to your hip joint... to your spine... to your rib cage... to your neck... to the crown of your head?

And now the wind blows the other way, you sway onto your right foot – what changes in the way you stand? Do you feel taller on your right side or more collapsed? Does the same part of your right foot bear your weight as your left foot, or is your weight more on your toes, your heels, the outside or inside of your foot? Noticing the differences in sensation between left and right helps activate the crucial process of *kinesthetic learning* – how we learn and refine movement.

- Now stand in the middle again and begin to sway in a small circle, left... forward... right... back... all the way around... Like a flagpole in a changing wind... And the other way... And now make the size of the circle a little bigger.... How could you change something in your standing to make these circles smoother, more exactly round? Don’t *force* the circle to be smoother; instead *sense* how it might get smoother by loosening something here in your knee or firming up

something there in your hip joint...

Let the bones do the work

The circle gets smoother when your skeleton does more of the work and your muscles less. When the bones sense more exactly the alignments that hold your body up easily, the muscles let go. They no longer feel the need to hold, and so now they can *let* the circles be more perfect – you'll never achieve it by force, but by refined perception.

- Now when you stand in the middle again, is it the same 'middle' it was a few minutes ago, or has it changed? Can you sense how *neuro-sensory learning* has helped you to stand differently now, perhaps more erect or more centered?

Lesson I-2 – Ropes Swinging From the Tower

In this familiar exercise we try to get more specific about the sensations involved – to learn something new from an ‘old standard.’

- Stand up and raise your arms way up above you – try to touch the sky!
- And now let them flop down like ropes so they just hang and swing back and forth. Try that a few times.
- Now do something funny: count how many times they swing before they come to a stop... Can you sense what makes them stop? Could you loosen something in your body somewhere so they don't stop swinging so soon? Don't *make* them keep swing by making an effort; just *let* them swing longer by letting something go somewhere. Stop doing whatever it is that stops them swinging! If you really relax your arms so they are totally like ropes, they should swing 13 times!
- Leave your arms hanging like ropes and turn your head and upper body to the right to look behind you – and sense how your ‘arm-ropes’ start swinging too. Do this gently a few times, just enjoy the feeling of your ‘arm-ropes’ swinging lazily...
- Now turn to the left a few times with the same lazy arm swings ...
- Now turn back and forth, first one way then the other, feeling your ‘arm-ropes’ idly wafting through the air...
- Gradually increase the speed of your turning. What happens to your ‘arm-ropes?’ Do they begin to slap against your body when they can't swing any further? Do your ‘limp rope’ arms behave the same on each side, or on one side do they slap a slightly different place on your body, a little higher or a little lower, a little more in front or behind?
- Now turn this way and that as strong and as fast as you can, leaving your arms hyper-loose so they really slap vigorously.
Again, do they slap your body in exactly the same place on each side, or not? Don't try to make the two sides identical, just let your arms go wherever they want to, but *notice* where they go.
- Slow down again, always paying attention to the details of just exactly where your arms slap. The more details you noticed, the more your movements should be smoothed out as you speed up again. How fast can you swing your arm ropes one way and the other, and how smoothly can you make them swing, by letting them go more and more?
- Go back to the first movement: raise your arms above your head, let them flop and swing without turning your body to the side. How many times do your arms swing *now* before they come to a stop? Is it even more than 13???

Lesson I-3 – Push The Wall Over!

Find a wall and make sure it's a strong one because you are going to push on it and you don't want it *really* to fall over! Put your ten fingers straight out in front of you so they 'stand' on the wall.

- **A)** Press the palms of your hands into the wall so they are flat (if your wrist doesn't bend easily to do this, don't force it – just skip this part of the exercise). Keeping your arms straight, use your whole body to *press* the wall – really try to push it over! Try to sense where the power comes for this movement. Can you feel that the less local the effort is, the more powerful it is without straining? In other words, if the effort comes from your shoulders, you strain quite a bit. If it comes from the middle of your back, you strain less but push more powerfully. If you feel the sense of power coming from the core of your body, even all the way down to your pelvis, the strain is even less, the strength more. And if you put one leg back and the other forward and feel the power coming up from the floor through your legs, you get the greatest power of all with the least strain.
- Bend your elbows a little and push again – can you feel how much more strain is involved? The bent elbow damps the power of your body and prevents it getting through to the wall, so muscles in your arms and shoulders must work harder. Can you sense exactly which muscles work more? Experiment with different degrees of elbow bending, noticing how the amount and the locality of the strain changes depending on the angle.
- Now straighten your arms again and sense how your skeleton pushes with far greater strength, but far less effort. That's your *bone power* at work!
- **B)** Gently press into the wall, but now so only your fingertips are pressing. Your palms stay floating far away from the wall. Sense how the straight bones of your fingers can also act as an effective skeletal structure to push the wall with little effort from your muscles.
- Bend your elbows as you push into your fingers, and again notice how much more muscular tension develops in your arms and back.
- Now straighten your elbows again, and put one leg a little further back than the other: organize your whole body – its skeletal structure – to really *push* that wall but with hardly any effort at all. Learn the feeling of all your power coming from your bones instead of your muscles.

Lesson I-4 – The Three Cardinal Directions of Movement

The three cardinal directions of movement in the body are flexion/extension, side bending and rotation (twisting). These exercises are designed to unlock the amazing amount of flexibility our spine can possess when we fully utilize each of the three cardinal directions. This lesson can be done sitting either at or away from the piano.

Turn Yourself into a Lobster – Flexion & Extension

- Sit in a chair and keeping your whole body erect, move your head up and down the way they do in athletic warm-ups. Your head moves but your body doesn't.
- Try looking down again, this time gently feeling your head gently pulling your whole spine into a slouch. When you look up, feel your head pulling your back straighter as well. In fact, try to feel that it's not your neck doing the work of lifting your head at all, but rather it's the middle of your back working to lift your head, or even lower down your back. This action feels radically different when your back really takes over the work usually done by your neck.
- To sense yet another element of this movement, put one hand on your breast bone (the *sternum*), the other on the hard bone at the very bottom of your spine (your *sacrum*). As you look down and slouch, your breast bone sinks while your sacrum moves backwards and down. As you look up, your sacrum rocks forward and your breast bone rises. Now your head's movement is even less isolated, more connected to your whole body.
- Switch your hands around. Does your spine flex and extend along a slightly different path now? Try to feel how your sternum and sacrum are connected through your spine. Feel how your sternum *presses* your sacrum backwards and down as you look down, and how your sacrum reciprocates by lifting your sternum up and forward as you look up. They communicate through the links in the chain of your spine, your vertebrae, which bend and straighten in a new way when this chain connection is felt.

Wow, you started curling and straightening like a lobster!

- After doing this supple, whole body movement for some time, try nodding your head the first way again, where your body remains fixed and unmoving. Do you notice how uncomfortable and unnatural this feels once you've gotten used to the more functional way of doing it?

Turn Yourself into an Accordion – Side Bending

- This time bend your head sideways so your right ear approaches your right shoulder and then your left ear approaches your left shoulder. Again, try first moving your head in *isolation*, that is, keeping your body still as you move your head – the way you did in gym class.
- Now try to feel what movement your head *wants* your body to do when it bends right of left. Your head is very heavy – can you feel its weight pulling you over to the right when you bend your right ear to your right shoulder? Maybe that’s why you stiffened your body, to stop your head pulling your body so far to the side that it falls over. Does your head’s weight pull your body similarly on the left, or does it feel different?
- But there’s another way to keep yourself from falling over. You won’t have to strain at all once you learn this more elegant and easy way. But it’s a little strange and requires a new coordination: when you bend your ear to the right, raise your right hip to approach your ear, so your weight goes on to your *left* sitz bone instead of the right. When you get the hang of this strange movement, you’ll feel your left ribs fanning out like an accordion while your right ribs draw in together.
- Try this a few times, get used to it, before doing the same on the other side.
- Finally rock back and forth with your hip joint rising to meet your ear which is bending towards your shoulder first on one side then the other, and notice how your center of gravity stays in the middle: you no longer want to fall to the right or left, but remain ‘in balance.’
- To feel this movement even more extremely, sit with your right sitz bone off the edge of the chair. When you put your right ear to your right shoulder, your right sitz bone rises. But when you put your left ear to left shoulder, your right sitz bone can go much lower than the seat, thus increasing the bend dramatically!
- Still can’t really feel it? Still sitting with your right sitz bone hanging in midair, curl your left arm over the very top of your head so your left hand reaches down to grab your right ear. When you let your right sitz bone drop, gently pull your right ear to the left with your left hand, further increasing the ease and scope of your side bending.
- Now do *those* last two variants on the other side...
- Finally return to sit normally on the chair, and do the movement on alternate sides once more. How much easier and suppler has it become? What new sensations can you notice developing in this movement?

Turn Yourself into a Corkscrew – Twisting

- Turn your head to look left and right, without your body moving – isolate your head from your body as we did before, but now in twisting. How far behind you can you look on either side? Find a spot on the wall where you can turn to comfortably look, and remember that spot as a measuring point.
- Keep turning your head, but now imagine that someone behind you has their hands on your shoulders. Their hands very gently help your shoulders to enter into the turning of your head... Can you now turn a little more? Don't strain, but can you gently feel how the spot on the wall may shift a little further behind you?
- Now imagine those hands just under your arms, on your ribs. Do you turn the same amount, or is there another increase in range? Can you now look even a little further behind you? On which side is the increase of range greater?
- Now imagine those hands on your lowest ribs – the so-called floating ribs. Even more turning? On which side is the greatest improvement?
- Now with those hands on your waist, do you turn... even MORE?

By now your entire body is entering into the turn – but try not to feel your torso moving like a block. Try instead to feel how each part of your spine in turn enters gently into the twist. The trick is to evoke flexibility in your spine. Can you even detect how each individual vertebra of your spine in turn enters into the gentle twist?

Notice that your legs are now moving: one knee moves forward while the other moves back. Do your sitz bones slide on the seat, or do they remain rooted in their spot while your hips and legs move?

- Now imagine those hands even lower, on your hips, helping you turn. Notice how your legs move even further forward and back – whoops, don't corkscrew yourself right into the piano bench!

Let's combine these three now to integrate all the cardinal directions of movement in the body.

Gyroscope Circles

- Move your body a little forward, then to the right, and back, then to the left, and forward again. Make a big circle with your body. There are two ways to do this.
- 1) Pretend there's a clock in the air just above you and your head is travelling around the edge of the clock face. Don't make the clock too big or you'll fall over!
- 2) Now pretend you are sitting on the clock, and it's your pelvis that rocks out to the edge of the clock then gradually rolls all the way around the circumference of the clock.
- When your pelvis goes around the clock, do you still want to fall over or can you find a way to maintain your balance? What would you have to do differently?
- Can you make circles with your pelvis in such a way that your head stays in one place, in the middle? Feel all the interesting ways your spine can twist to help your body move in this unusual way.

Your head remains in the middle – as if your head is attached to the center of the clock where the hour and minute hands are attached. Try stopping your pelvis at each particular hour on the clock circumference and returning to the center... How does your spine bend and twist and straighten to adapt itself to each new variation, each new shift in position? Can you find other patterns of movement on the clock face to play around with?

Lesson I-5 – Make Yourself into the Leaning Tower of Pisa

Optimal Sitting Position:

Position on the bench: Some students put the bench so close to the piano that a lot of their thigh ends up on the bench, constricting their movement. But if you have them sit further forward on the bench, they might move the bench so far back they have to scoot right out to teeter on the edge! A happy medium is best: the sitz bones, the two hard protuberances that press into the chair, should be 1 to 2 inches from the edge of the bench. This makes you both stable and able to move freely. If the legs dangle, a box should be inserted under the feet so they can lie flat.

Distance from the piano: There is no standard distance to sit from the piano. Some people like a feeling of open space between them and their instrument; others like to hug right up close. Either of these two extremes, or anywhere in between, can be more or less *functional*.

The position is functional if the pianist can move freely within it. It is a true, useful neutral point if it's easy to depart from it (somewhat) and return without strain. As a general rule of thumb, if I sink the heel of my hand into the white keys, I may well be most comfortable leaning very slightly forward to do so. Then I can push into the keys, straighten my arms so my body is pushed away from the piano and I lean back; I can slump forward even further to get my hands to some more distant parts of the keyboard – my position doesn't constrain my movement in any way but rather frees me to orient myself comfortably to meet any pianistic requirements.

When you help a student find the best sitting position, take into account their movement style: put them in a certain position and see if they look and feel comfortable. Then shift till together you find the optimal place. Never dogmatically put someone a certain distance and insist it's 'the right one.'

Height: The same goes for the bench height –the forearms 'should' be more or less horizontal when the hand rests on key, but it's the comfort of the student that's of paramount importance: if he or she likes to be a little bit higher or lower, it's better to 'go with the flow' than to force them into an (for them) awkward posture.

Make Yourself Into a Tower While Sitting:

- Sit at the piano and sense how the weight of your body presses down through your sitz bones into the bench. Does your weight press more through the front, or the rear of your sitz bone, or smack in the middle? Is it more on one sitz bone than the other?
- Rock very gently on your pelvis a little forward and back, sensing how your right sitz bone rolls on the chair. Imagine it is an ink ball that draws a line on the chair each time it rolls. Try to get a clearer picture of the exact shape of your sitz bone by sensing how each part of it presses into the chair in turn.
- Rock and roll a little to the left and right to further clarify just what shape that sitz bone is. Is it round like a ball, or more oblong like an egg? Is it regular or not?
- Slip your right hand in underneath your right sitz bone so it mashes your hand into the bench: cup your sitz bone in the palm of your hand. Do you now feel a little like the Leaning Tower of Pisa? With your hand there, you can feel the actual shape of your sitz bone much more exactly.

If you imagine your body gently swaying in the wind, does the rolling around of your sitz bone on your hand help you to sense its shape even more clearly? Do this for some time, and make up your own movement variations to give yourself as three-dimensional a sensory picture of your sitz bone as possible.

- Finally take your hand out from underneath you and sit normally. Sense how differently your two sitz bones press into the piano bench now! When your hand felt your sitz bone so much more clearly, your brain decided to help it get even better, and softened the muscles so you could feel even more detail. When you took your hand away, those muscles stayed super soft which is why that sitz bone feels like it's almost sinking through your chair! Imagine if you could make any muscle in your body do that!
- Now sway in the wind again, feeling how your torso's weight shifts between your two sitz bones. What has changed in the way you do this because of the hand-sitting exercise? Now do the hand-sitting exercise on the other side. Are the effects more or less spectacular here, the changes in sensation more or less dramatic?
- Move your body forward, then to the right, then back, then to the left, then forward again so it move in an entire circle. Sense how your body can make adjustments, where your spine wants to bend or straighten to do this smoothly and easily. When you reverse the direction, does it get more or less smooth?
- Move your body in a circle again, but now leave your head more in the middle so your ribs make larger circles than your head. Can you feel how this keeps your center of gravity balanced, making it feel easier and smoother? Try it for awhile, trying to sense where you can relax some part of your body to smooth out the movement even more.
- Pay a little attention to your feet now, but don't entirely forget your sitz bones. Try to feel both feet and both sitz bones all at the same time. Which presses more, your sitz bones into the bench or your feet into the floor? Rock forward and back – does that make your feet press the floor more and less, or do they press the same all the time?

Finally, just sit comfortably and ask yourself: are you sitting the same as you were at the beginning of this lesson? Are you more or less upright? Are you leaning more forward or more back? Do your eyes look in the same direction as before or are they looking more up? More down? More to the right or the left? And has the way you feel changed since the beginning?

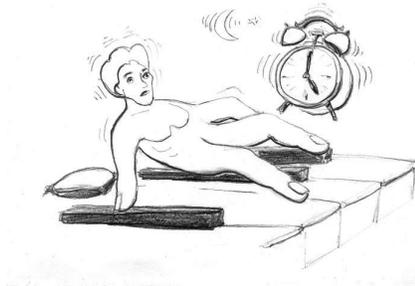
Most of the time we won't consciously do these movements as we play, because we would tend to overdo them. But becoming familiar with them will help you stay supple and capable when you bring your hands to the keyboard.

Group II – Handy Harry Meets Some Friends

Introducing Louis Lumbrical, Freddie Flexor, Tom Thumb and Rex Wrist

NB: Each exercise is written for the right hand, but of course they must all be done with the left hand as well, either immediately after the right or at some later point in time.

Handy Harry is a really little kid. His mom has just brought him home, and still all he can do is lie around – he hasn't even learned to roll over yet!



Lesson II-1 – Handy Harry Lying Down

- Flop your right hand on the keys, so that your palm mashes the white keys down and your 2nd finger rests in between B flat and C sharp, your 3rd between C sharp and E flat, and your 4th and 5th between E flat and F sharp **[illustration #1]**. Let your arm hang heavy – like a suspension bridge between your hand and your shoulder. All the underside of your hand – your palm, and the underside of each part of each finger – should press really snugly into the keys, so as much skin and flesh as possible feels rooted in the keyboard.
- Can you still feel your two sitz bones that press into the chair? Where is there more pressure, on your hand or on your sitz bones? Can you still feel your feet? How do the 5 points of contact compare – your hand, your sitz bones and your feet?
- Uh oh, the wind's starting to blow! Can you sense the wind nudging your body to sway gently, forward and back? Can you feel how the pressure at each of those points of contact changes as you rock gently in the wind?
- How do these points of contact change if the wind blows you sideways, making you sway gently left and right?
- Now move your body again in circles, keeping your hand mashed on the keyboard. Let your suspension bridge stay heavy – it simply hangs between your hand and your shoulder. How do all the points of contact change and relate to each other as the wind blows you in circles?
- Now do all these variations but with only your left hand flopped heavily, comfortably, completely into the keys. Mash your left hand totally into the white keys and explore all these variations in movement.
- Finally do the whole series of movements one last time, with both your hands 'married' to the keys.

Lesson II-2 – Handy Harry Rolls Over For the First Time

- Flop your right hand onto the keyboard again, but this time, don't even be so particular about what notes get pressed down. It doesn't matter much anyway, because now you're going to roll your hand very slowly over onto its back. When my daughter Masha was an infant, the first time she rolled over it was entirely by accident: she was looking up at something on the ceiling, then looking a little further... and a little further... until *plop* what a surprise! Over she went!

Try to make your hand do it like that now: feel it very heavy, and slowly lift your thumb from the keys while your fifth finger and the whole outside of your hand still lie heavy, as if your thumb wants to look at something over *there*, and a little further... and a little further... until unexpectedly *plop*, your hand flops onto its back! Try to do this so slowly it's really like the very first time Handy Harry rolls over. The heavier you keep your hand, the more interesting this feels.

If you do this while staying really relaxed through your entire body, you should feel your arm swing ever so slightly, and this in turn pulls your body a bit to the right. Stay so loose that *you* don't move your body; instead sense the weight of your arm, like an external force, pulling it so it slightly shifts.

- **[illustration #2]**
- Now your hand is lying on its back. So, ever... so... slowly... lift your thumb in this enquiring, inquisitive way, slowly, a little bit at a time... until finally your right hand flops back on to its palm. Then *keep on* rolling to the left: you now begin to lift the outside of your hand, the root of your 5th finger, from the keys, slowly, little by little, until your 5th is up in the air and your hand is lying on its inside edge, on the space between your thumb and 2nd finger. It's as if Handy Harry now tries to look *under* himself and gets all twisted up in the process **[illustration #3]**. Again, can you stay so relaxed that you can feel the loosening effects of this 'hand rolling' elsewhere in your body?
- Finally roll back on to your palm and rest. How does your arm feel now? Is it any heavier? Has its position, the way it stays at rest, changed in any way?
- Repeat this a number of times, always exploring how it *feels* and how the *sensory picture* of your hand, arm and body changes and evolves as a result.
- Do all this with your left hand...
- How does it feel to roll *both* hands slowly, lazily, exploring the movement as if for the first time?

Lesson II-3 – Handy Harry Slipping and Sliding

- Place your right hand way over to the left on the keyboard – as far down as you can reach comfortably. Let your palm and fingers mash the keys down – but your fingers are facing left, not towards the backboard.
- Begin to pull your hand along the keyboard to the right, sliding your palm and fingers so slowly they don't even make the notes sound as each key in succession gets mashed down. **[illustration #4]** And while the heel of your hand is mashing keys down, your fingertips are letting keys up one by one. If you go slowly and quietly enough, the only sound you'll hear is the noise of the piano action as each key in succession pops up because your fingers are no longer holding it down.
- Don't slide so far up the keyboard that you become uncomfortable. Pick your hand up and again gently flop it near the bottom of the keyboard and pull, drag your hand gently so it slides to the right, letting the keys pop up one by one.
- When you slide quite far up the keyboard, instead of lifting your hand and replacing it lower on the keys, leave it where it is and very slightly lift your fingertips. Handy Harry lying on his belly lifts his head to look towards the bass notes. **[illustration #5]** He needs to lift his head like this because now he's going to slide forwards instead of backwards – can you do a slow glissando to the left on the keys, in the direction your fingers are pointing?
- Place your hand on your thigh near your knee gently lift it until the back of your hand touches the body of the piano underneath the keyboard – the panel below the keyslip. Slide the back of your hand slowly up and over the keyslip and the outside edge of the key and let it flop onto its belly on the keys. **[illustration #6]** Repeat many times. Try to stimulate not only the back of your hand, but the backs of your fingers as well. How many little areas of the back of your fingers and hand can you discover anew by sliding them, rubbing them, massaging them on the piano?
- Place your hand on the lower part of the keyboard as before, but this time as you slowly drag your hand to the right, flop it over onto its back and keep dragging, keep sliding – and flop over onto your stomach... and your back... and your stomach... and your back... as you keep sliding... **[illustration #7]**

This sliding exercises awakens the muscles of the hand without giving them anything to *do*. This gentle stimulation is different from massage because your arm is actively joining your hand to the keys – a good and desirable action which resembles what the arm does when you play – and it stimulates the bones as well as the skin and muscles. Your hand becomes more alive because it senses all the parts of itself more vividly.

Lesson II-4 – Handy Harry as Swamp Monster: Hello Louis⁴ Lumbrical!

- With your right hand in midair, palm upward, make your fingers wave goodbye to you. Many people curl their fingers so the tips go in and touch their hand, but here don't curl them at all: just move all four fingers together as a unit towards you, keeping them pretty flat. Your flat fingers fold in sort of towards the heel of your hand. It is *very important that they don't curl!* Learn this movement well, and be sure you can tell the difference between your fingers folding up tightly by curling (which maybe you are more used to) and your fingers waving goodbye by just slightly *curving* as they do here. **[illustration #8]**
- Turn your hand palm down in the air and make the same flat finger waving motion in this position. Are you still sure they are not curling, or hardly at all?
- Now place the exact middle of your palm, precisely half way between your wrist and your top knuckle, on a table edge. Mash the exact middle of your palm into the table edge. The middle of your thumb's middle joint also rests on the table edge **[illustration #9 of Handy Harry lying on his stomach, looking shyly up, his body half folded]**. Your fingers rest on the table, totally relaxed and even heavy.
- Staying in this position, try the 'waving' motion you practiced, keeping your fingers pretty straight and bending them from the top knuckle. **[illustration #9A, B]** First do it lightly, starting with your fingertips in the air. As you wave goodbye, your fingertips tap the table. Try this with various speeds: lightly and quickly, then a little more slowly and lazily, resting on the table top a bit every time you wave – don't bounce right back up into the air but stay a little...
- Do the slow 'waving' motion again, but this time, begin with your fingertips already on the table top. This makes your fingers begin to squeeze the table a little bit, which in turn makes your top knuckles rise.
- Place your entire hand on the table instead of hanging off the edge, and even let some of your forearm rest on the table. Observe your hand extremely closely. It looks like it's just lying there and it's just a hand, but are you sure? What happens if you don't *do* the waving motion at all, but you just *think* about doing it? Can you detect some slight, almost non-existent movement in your hand? What could be in there? **[illustration #10]**
- Now think about the waving motion and perhaps let it even begin to happen, but only a millimeter... Do you know how small a millimeter is? Could you do the waving motion so imperceptibly that your knuckles show just an ever-so-slight sign of life, as if there was some sort of swamp monster in there who's been asleep for seven thousand years but now, because of global warming, he is coming out of his extended hibernation and just beginning to move again? **[illustration #10A]** But he literally only moves a millimeter, that means that your top knuckles rise, but so little that if you blink you would have missed it altogether.
- Now feel the inside of your hand come just a bit more to life so the swamp monster rises *two* millimeters.... And let him rest again.... And then *three* millimeters.... And rest... and so on: each time that monster shows a little more signs of life, let him rest even more profoundly.

⁴ We can substitute female equivalents for all our cast of characters – I'm a guy so I naturally name the parts of my hand and arm after guys as well. But for you girls, how about *Linda Lumbrical* for starters? Or *Lydia Lumbrical*? *Louise Lumbrical*?

Every time he tries to get up above the ooze of the swamp he ends up just sinking down more deeply into it.... But still, gradually, over many, many repetitions, more and more of the monster comes up out of the swamp.... **[illustration #10B]** Your fingertips never curl, but they begin to slide towards the heel of your hand... your thumb slides more and more under the hand as well...

- Don't ever let the monster stand right up – if he ever got loose from that oozy swamp, who knows what havoc he might wreak? No, let your top knuckles rise up a little more, but always leave the edges of your hand lying on the table. All along your fifth finger, and all along your thumb, remain in touch with the table, and only the middle of the underside of your hand rises up...
- Drape your left hand over your right hand and continue to feel that swamp monster coming to life. Now he rises up against the natural resistance the weight of your left hand offers. Maybe your left hand does the monster movement a bit too, as if there are two monsters there, one on top of the other, both trying to wake up and rise up out of the ooze....
- With your left hand on top of your right, begin to slide around on the table... and then while continuing to slide, start doing the monster-growing movement, a little more quickly now... like repeated quick inhalation-exhalations of the monster's lungs... **[extra illustration?]**
- Take your left hand away and just lie there – try the monster-growing movement again – does it feel different now? Does the inside of your hand feel more alive, more powerful in the way it can grow that monster shape?

Lesson II-5 – Handy Harry Sticks his Bottom in the Air

The first part of this lesson is the same as the previous one – but after a few steps it will go in a different direction...

- Just as before, place the exact middle of your palm, precisely half way between your wrist and your top knuckle, on a table edge. Mash the exact middle of your palm into the table edge. The middle of your thumb's middle joint also rests on the table edge. Your fingers rest on the table, totally relaxed and even heavy.
- As before, staying in this position, try the 'waving' motion you practiced, keeping your fingers pretty straight and bending them from the top knuckle. First do it lightly, starting with your fingertips in the air. As you wave goodbye, your fingertips tap the table. Try this with various speeds: lightly and quickly, then a little more slowly and lazily, resting on the table top a bit every time you wave – don't bounce right back up into the air but stay a little...
- As before the slow 'waving' motion again, now beginning with your fingertips already on the table top. This makes your fingers begin to squeeze the table a little bit, which in turn makes your top knuckles rise.
- And now something new: again keep your fingers flat, but when you do that waving motion to squeeze the table, let your fingertips slide towards you on the table – the heel of your hand, which is already hanging off the table, descends even lower. Finally your hand is almost vertical to the table while your fingers remain flat on it. Your hand and your flat fingers form an angle of 90 degrees. **[illustration #12]**
- Stay in that low position and pull your fingers even a little bit more, many times, to really feel that special motion: it's a grasping motion *without the curling element*. Here we inhibit all finger-curling on purpose. The table offers a *constraint* that blocks the curling and isolates the pure work of **Louis Lumbrical**, the muscle that bends the finger as a whole and manifests the hand's arch **[illustration showing Louis' exact location]**. To stick his bottom up in the air, Handy Harry must be able to bend his body into a right angle at his waist. Now he's found a way to practice this move while lying down: he can't actually stick his bottom up in the air yet, but he can 'go through the motions' in this position as a preparation.
- Put your hand on the table again, but this time, don't let your heel hang off the table edge. Instead, lay your whole hand palm down on the table top. Do Louis Lumbrical's waving motion again, gluing the heel of your hand to the table so it can't move. What happens? Your fingertips slide towards your heel, and up goes Handy Harry's bottom! **[illustration #13]** This is an even more intense way to isolate the important work of Louis Lumbrical.

Note: this last movement resembles the "monster" movement from the previous lesson, and raises the question: could there really be a monster hidden inside Handy Harry or is he just a normal child? Perhaps we can never know...

Lesson II-6 – Handy Harry Folds Himself Up To Do a Somersault: Hello Freddie Flexor!

This lesson bends the fingers in a completely different way. The previous movement and this new one are both flexion, but this one looks completely different, and uses a different set of muscles. To make it as clear as possible, first the fingers will experience this movement without using any muscles at all!

- Flop your right hand on the table with all of it, fingers, heel and even all your forearm resting on the surface. Make it as relaxed as possible. This is your starting position.
- Slide your arm and hand forward (away from you) just a tiny bit, but pretend there are little bits of glue on your fingertips that prevent them from sliding. Your fingers stick where they are so your sliding hand makes them curl a little. Slide forward and back, watching your fingers curl a bit and uncurl. It feels a bit bizarre, because they curl and uncurl *without making any effort*: normally **Freddie Flexor** would do the curling but now he's taking a break – it's as if someone else altogether curls your fingers for you! **[Illustration #14, 14A: here Handy Harry's head is at the tip of the fingers instead of the other way around. This way he can fold up easier to do his somersault in subsequent illustrations]** Stop for a moment when you've slid forward, and sense where you can feel some relaxation in this unusual position... and then slide back to the starting position...
- Slide further forward, far enough that the tips of your fingernails stand up on the table. Relax each part of your hand and arm until this feels comfortable. And come back to the 'at rest' position. Repeat many times. **[Illustration #15]**
- Now slide so far forward that all your fingernails 'lie on their backs' on the table, and stay there for awhile. **[Illustration #15A - Handy Harry is now looking half underneath himself]** How does this make your fingers feel... your hand... the rest of your body? Can you sense some relaxation or some 'let-go' in your arm... your shoulder... your back? When Freddie Flexor takes a break, his relaxation can 'infect' other parts of you, making them relax as well... And slide back to the starting position...
- Go even a bit further so that your nail joint *knuckles* touch the table. Do you feel your body has to move forward a bit to help your fingers lie on the table in this strange way? Does that increase your sense of relaxation through all of yourself? **[Illustration 15B: Handy Harry is now looking right back underneath himself up at his own belly, but still lying pretty flat]** And slide back to the starting position...
- Believe it or not, you can go even further: roll so far that your fingers' *middle* phalanges 'lie on their backs' on the table. Be sure that your wrist stays relaxed and lies heavy on the table as well. Handy Harry doesn't try to sit up or stand up: he just curls up. He hasn't the strength to pull himself erect yet so he just stays floppy and curled. **[Illustration 16: now Handy Harry's bottom is part way up in the air]** And slide back to the starting position...
- Roll so far forward that you go past the back of your middle phalange and you are perched on the middle knuckles. At this point, your wrist and the heel of your hand *have* to leave the table, but not because you lifted them up with your muscles – it's just skeletal mechanics that makes them do that. The bones of your hand curl in upon themselves so far that your wrist can't help but leave the table, even though it's still completely relaxed. And slide back to the starting position...

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- Finally roll so far forward that each finger in its entirety 'lies on its back.' All three phalanges and all three knuckles of all your fingers are now lying on the table... **[illustration 16A: Handy Harry has almost done a complete somersault – he's gone as far as she can go without tumbling right over. His legs are straight and only his tippy toes are still on the ground behind him]** And slide back to the starting position...
 - Roll so far forward that each finger in its entirety 'lies on its back' again, but this time take more time to roll back the way you came. Roll back one step at a time, stopping at each resting point to feel how different parts of your arm and body relax and adjust to each new position. How many 'stopping points' can Handy Harry discover in his own somersault?
 - Repeat this slowly, speculatively, many times. Finally let your two hands hang by your sides: sense how different they feel.

Lesson II-7 – Freddie Flexor Helps Handy Harry Crawl like a Centipede

- Flop your hand on the table, and slide your arm forward again to make your fingers curl as you did in the previous lesson, to the point where your middle phalanges are lying on their backs. Your wrist is still on the table and your fingers are comfortably, gently, effortlessly curled into your palm.

Active hand, passive fingers

- Instead of sliding your arm back where you started, simply uncurl your fingers.
- Now slide your arm forward some more, and again uncurl your fingers. Then slide forward some more. Keep crawling forward like this: go all the way across the table if you like – Handy Harry is playing at being a centipede!
- Now go the other way: your arm pulls your relaxed hand back towards you so your fingers flatten out, then your fingers curl so your hand can now slide even further back.

Active fingers, passive hand

- Now crawl forward again but using a completely different effort to make the move: this time make Freddie Flexor do the work! Curl your nail joints so they *pull* your hand forward – now your fingers are active and your hand stays passive. Here your fingers don't curl quite so far: they pull your hand until the nail joint is past the vertical, but not so far that your fingernails lie on the table top. When your hand has been pulled forward, uncurl your fingers so you can pull again, and crawl across the table like this.

From the outside it *looks* the same but the feeling *inside* your hand is completely different. The first time, your hand was floppy and effortless – the 'emptiness' of your muscles allowed you to feel the bones of your hand inside their muscle wrapping. Now, the inside of your hand feels fuller because the muscles are *working* in there...

- Can you crawl *backwards* with your fingers (Handy Harry's legs) providing the power? Now your fingers *uncurl* to push your hand back towards yourself, then they curl again, your fingertips sliding lightly towards you in preparation for another *uncurling* push.

Active fingers, active hand

- Finally, 'centipede crawl' forward and back without even thinking about where the effort is coming from. Let the two ways combine however they want, so it feels totally natural and uncomplicated.
- Review all three ways of 'centipede crawling' so the differences in sensation between them are totally clear.

Lesson II-8 – Louis & Freddie Help Handy Harry Sit Up!

For this one the table needs to be very low – you may want to stand up when you do it.

- Lay your hand flat on its back on the table **[illustration 17:]**. Just rest there for a moment. Let your arm relax. How well does your hand mash into the table when it is lying on its ‘bony back’ instead of its ‘fleshy front?’ If you’re really relaxed, your fingers won’t lie flat but will naturally curl gently upwards.
- Let Freddie Flexor curl your fingers a little bit more. He makes just the tips of your fingers beckon “Come here.” **[illustration 17A:]** Do this very softly – Handy Harry wants to sit up but he’s not quite strong enough to raise his entire body so he only raises his head. This helps you feel more clearly how Freddie Flexor works. First curl your fingers just a bit; then gradually increase the range little by little. **[illustration 17B,C:]** Curl and uncurl, a little more each time until your fingertips curl in gently to snuggle into your palm **[illustration 17D (photo does not exist yet):]**. *Keep it loose*, don’t invest a big effort – your fingertips barely touch your palm.
- Let Louis Lumbrical curve your fingers: still lying on your hand’s ‘back,’ wave ‘come here’ with your whole finger instead of just the tips. Now your fingertips don’t come anywhere near your hand **[illustration 18]**. Make sure it’s just Louis Lumbrical working now instead of Freddie Flexor.
- Alternate between these two ways of beckoning ‘come here:’ do four of one, then four of the other. Can you sense the different muscles you use to do these two different movements?

When Freddie makes an effort, Handy Harry only lifts his head **[see illustration 17]**; when Louis makes the effort, Handy Harry bends at the waist and does a sit-up **[see illustration 18]**! Finger curling activates the *flexor* muscles of the forearm, attached to the fingertips by tendons. Flat finger bending activates the *lumbricals* that are directly in the joint between hand and finger.

- Go back and forth between these two distinct movements many times. Really be able to sense the difference between them and to make sure you are doing one and not the other.

By alternating between the two you will learn the difference between curling and a whole-finger flexion. Make sure you can do either one at will, without getting mixed up! Learn how each *feels!*

Lesson II-9 – Freddie and Louis Get Together: and Harry’s Bottom Rises Even Further!

The trouble with the previous lessons is that when we’re paying attention to Louis, Freddie feels left out, and when we’re paying attention to Freddie, Louis feels left out. They want to work together!

- Lay your hand on the table, but this time, don’t make it flat. If you lay your hand down totally relaxed, there will be a natural curve to your fingers which already leaves your top knuckles in the air [**illustration 19**].
- In this position, if Freddie Flexor works on his own, he will actually pull Louis down towards the table. Try pulling with your fingertips only and see how that effort pulls your top knuckle downwards [**illustration 19A**].
- If Louis alone makes an effort, Freddie get splayed out flat – your knuckle joint gets less curled and your fingertips start to point ‘the wrong way...’ (at least, some people call it the wrong way...) [**illustration 19B**]
- Begin to let Freddie Flexor make a flexing, curling effort, but as soon as Freddie’s effort kicks in, make sure Louis gets in on the action too – as a result, the more Freddie pulls, the more Louis rises *up* in the air instead of being pulled down [**illustration 19C**]. They figured out how to work together! And if you let the heel of your hand and your wrist come up off the table a little, Harry’s bottom now soars even more gloriously in the heavens than ever before!

Lesson II-10 – Handy Harry Bonks His Head – Hello Rex Wrist!

We end this section by letting go of all our concerns about Louis Lumbrical and Freddie Flexor, and reminding ourselves that no matter what Louis and Freddie may be doing, **Rex Wrist** can stay loose – he’s cool, man! **[illustration 20 of Rex Wrist with a cool hat, sunglasses??]**

- Knock on the table as if you were going, “knock knock, who’s there?” Here your loose fist is Handy Harry’s head **[illustration 21]** – when he bonks his head, is his ‘neck’ (your wrist) loose or tight? Of course it’s loose – we go ‘knock knock’ by waving our wrist, not by moving our whole forearm.
- Try the same ‘knock knock’ motion keeping your wrist solid. Notice how different this movement feels: now your arm and hand is more like a weight lifter and less like a gymnast. **[Illustration 21 A, Bof two Harry’s: one football player and one long distance runner...]**
- Go back to knocking with a loose wrist – ahhh, that’s better! Try knocking different things – what kind of different sounds does Handy Harry’s head make as it bonks... a wall? A door? Your own forehead? Your brother’s skull? Oh, no, better not try that one...
- How about bonking the keys? Knocking a key to make a robust, vital yet light staccato, you’ll quickly see how useful it is to keep your wrist nice and loose.
- Also try this with different degrees of looseness or tightness in the wrist. Notice that if you really bunch your fingers tightly, the effort interferes with an easy knocking. But this too is a valid technique – perhaps in some Prokofiev piece such an almost ugly sound might be exactly what the composer wanted.
- Try loosening the fingers so much they just barely keep their wrist shape, and knocking a piano key like that – how does this change the sound? **[illustration no photo yet]**
- Try even letting your fingers hang totally loose. They stay curled because that’s the way they lie when they are at rest, but they no longer make a fist at all. This creates yet another knocking sound. Each one of these timbres is an interesting and useful musical entity. **[illustration no photo yet]**

When a drummer taps the drum, the drumstick must bounce freely back up off the skin – otherwise the tone is damped. There’s a sort of ‘bounce’ in piano playing that has the same wonderful effect on the tone: the wrists must be extremely loose and responsive to achieve it. This Handy Harry bonking exercise helps us develop the same quality which is not just loose, but loose *and* responsive – capable!

Group III – Louis Lumbrical Helps Handy Harry Stand Up

Lesson III-1 – Fingers Beckon “Come Here”, Wave “Bye Bye”

Here we review the work of Louis Lumbrical by isolating it from other movements. We confirm the pupil’s familiarity with the unique action of flexing the finger as a whole. Many pupils when asked to flex the whole finger will curl it instead – hence our current emphasis on a flat finger flexion. Later on curling and flexing will be integrated (see lesson III-13, *Handy Harry Revs His Legs*), but first they must be clearly differentiated.

- Lay your hand on its back on the table and try Handy Harry’s ‘sitting up’ movement again. Make sure it’s the Louis Lumbrical movement and not Freddie Flexor. The fingers don’t curl at all, they stay straight and simply ‘bend from the waist.’ The entire group of fingers stays almost flat and beckon “come here,” not just the tips. **[illustration 21 - already done before]**
- Now bring your arm up in the air and keep beckoning...
- Turn your hand over and do the same movement – now **Louis Lumbrical** is waving “bye bye” instead of saying “come here.” **[illustration21A done before]**

Also note that it’s not the whole hand waving “bye bye,” just the whole fingers. The wrist stays fairly bent, only the lumbricals bend and unbend.

Lesson III-2 – Louis Lumbrical Saves Handy Harry from Falling Off a Cliff

- Lay your fingers down flat on the table, and mash all your fingers and your palm into the table top. Really mash the underpads of your four fingers into the surface. Your whole hand should be flat as a pancake.
- Now begin to slide your hand towards you until the heel of your hand begins to slip off the edge of the table. Handy Harry slides like a snake out to the edge of the cliff and takes a peek over. **[illustration 22B or C – his head is the heel of the hand or the arm, his legs the fingers]**
- Now keep on sliding slowly until your whole palm hangs from the table edge, but your fingers and half your thumb are still mashed on the table. Handy Harry wants to get a closer look at something on the floor and so he keeps sliding more and more of himself off the cliff until most of his torso and even his pelvis is hanging over the edge, only his legs are left on it! **[illustration 22D or E]**
- Whoah! Don't fall! To help Handy Harry stay on the table, grip a little bit more firmly with your fingers and thumb – but don't curl them: grip leaving them flat. Handy Harry stiffens his legs to keep himself from falling right off!
- Relax the gripping effort and increase it many times. There is virtually no visible movement but the inside of your hand galvanizes itself to keep Handy Harry from falling off the table.
- Can you even feel other muscles further up your arm and in your shoulder and back contracting as well when your fingers grip?

Tune into the strong feeling that it's Louis Lumbrical on lifesaving duty here. He's doing all the work to keep Handy Harry "hanging by a thread" – to keep your hand 'hanging' by your fingers.

Lesson III-3 – Handy Harry Comes Up Onto All Fours

Handy Harry Practices Sticking His Bottom Up Into the Air Some More

- Get your whole hand back on the table, mash it again, and repeat the gripping motion you just learned, this time keeping the heel of your hand glued to the table top. This forces your fingertips to slide towards your heel making the top ridge of knuckles rise up in the air. Once again, Handy Harry has succeeded in sticking his bottom up in the air. **[illustration 23 – but we already had this one (with arrows showing the different direction of finger movement)]**

Remember to make Louis Lumbrical work more than his cohort Freddie: use *effort mainly in your hand arch*. Don't pull with too much your fingertips – this would over-curl them, actually emptying out the hand's arch, lowering it and disempowering it.

- Try doing what you should *not* be doing a few times to understand the difference: mash your

hand and just curl your fingertips using the efforts of Freddie Flexor. Now Handy Harry's bottom stays on the floor, his body is uncomfortably squished down onto the table instead of gloriously rising up into the air **[illustration 23B we already had this one as well]**.

- Now stick Handy Harry's bottom up in the air again. When you do the movement the right way, your hand feel great, really powerful, whereas the other way makes it feel yucky. Remember that your heel doesn't slide forward – it stays glued to the table and it's your fingers that slide towards your heel.

It's so much a 'flat finger pull' that the nail joints can even splay – that's OK – let Freddie have a holiday! The whole idea is to activate Louis Lumbrical and develop him. It can actually be a good thing to "sacrifice" the work of the smaller fingertip joint at first, localizing all the sense of effort in that larger, normally inactive top knuckle joint, making it vital and energetic.

Another Way for Handy Harry to Go 'Bottoms Up'

- Place your whole hand on the table again, mash it again, and repeat the whole-finger gripping motion once more – make Harry go bottoms up. But now keep your fingertips glued to the spot so it's the heel of your hand that is pulled sliding towards the tips. **[illustration 23 again (with arrows showing the different direction of heel movement)]** This one is a little tricky: try it slowly and gently at first so that if things go wonky you can carefully 'un-wonk' them.

'Bottoms Up' On Ice

- This time, your fingertips *and* the heel of your hand slide towards each other as your fingers pull. It's as if Handy Harry has found his way onto a skating rink! **[illustration 23 again but with new face (with arrows pointing in all the directions of movement, different expression on Handy Harry's face)]**

If the table top is not slippery enough to do this easily, put an 18th century North German damask tablecloth on the table or, if you don't happen to have one of those handy, try placing a Kleenex under your hand.

Lesson III-4 – Handy Harry on All Fours on the Keys

This is the same as the previous lesson but now done on the piano keyboard.

Handy Harry Almost Falls Off the Piano Cliff

- Lay your fingers down flat on the keys, and mash all your fingers and your palm into the keyboard. Really mash the underpads of your four fingers into the keys. Your whole hand should be flat as a pancake.
- Now begin to slide your hand towards you until the heel of your hand begins to slip off the edge of the keyboard. Keep sliding slowly until your whole palm and half your thumb hang from the keyboard, but your fingers and distal thumb phalange are still mashed in their keys. Whoah! Don't fall! **[illustrations 27]**
- Actually, there's a safety net down there under the keyboard: it's your leg. So try sliding slowly *all* the way off the keys, till your hand flops down onto your leg. Feel each tiny part of the underside of your hand sliding off the edge of the keyboard, so all of your hand and your fingers get a massage from that edge. And feel how nice it is to just let go, to not have to worry about falling but just let it happen, and how good it feels to flop onto your nice, secure thigh... **[illustration 28]**
- Now try stopping yourself from falling again. Begin to slide your hands gradually off the keys towards yourself, but once the heel of your hand is off the keys, grip with your fingers a bit to stop yourself from falling. Feel how this ensures your secure resting on the keyboard. Remember, don't curl your fingers – this wouldn't make them feel so secure. It's when they lie flat that they really feel most comfy: make Louis do the gripping, leaving each of your whole fingers flat. Repeat this gripping motion many times – there's not much external movement but the inside of your hand working like a son-of-a-gun to keep you from falling off the keyboard. Can you again feel that it's Louis Lumbrical (plus those muscles in your upper arm, shoulder and back) who is on lifesaving duty here? He's doing all the work to keep Handy Harry safe and to keep your fingers mashed into their keys. Remember, at this point we are still giving Freddie Flexor a real rest, because many times he has been overworked, and needs some time off. Louis Lumbrical needs to learn how to shoulder the load in this movement.

Handy Harry on the Keys Sticks His Bottom Up In the Air

- Get your whole hand back on the keyboard, mash it again, and repeat the gripping motion you just learned, but without sliding towards yourself. Your whole hand is on the keyboard now, not just your fingers, and so this gripping motion makes your hand "stand up:" your fingertips slide towards your heel and the top ridge of knuckles rises up in the air. **[illustration 23A again but now on a keyboard i.e. 29A]**

Again it's Louis Lumbrical who makes this happen: it's a strong effort that's isolated to the hand arch alone. *Use effort in your hand arch only.* Don't pull with your fingertips – this would curl them and actually empty out the hand's arch, lowering it and disempowering it. Don't push your wrist forward either.

And again it's so much a 'flat finger pull' that the nail joints can even collapse – sacrilege! But that's OK because the whole idea is to activate Louis Lumbrical and develop him. Release any effort in the other joints, localize it all in the metacarpal-phalangeals. In this first version the heel of the hand is glued to the keyboard and the fingertips slide towards the heel.

'Bottoms Up' On the Keys Sliding Your Heel Instead of Your Fingertips

- The same as the previous but now the fingertips stay glued to the spot and the heel of the hand is pulled sliding along the keys away from you towards your fingertips. **[illustration 23A again but now on a keyboard, new arrows of direction]**

'Bottoms Up' On Keyboard Ice

- Now your fingertips *and* the heel of your hand slide towards each other as your fingers pull. You won't be able to fit an 18th century North German damask tablecloth on the keyboard, so even if you *do* have one, don't use it here – just go with the Kleenex. **[illustration 23A again but now on a keyboard, new arrows of direction]**

Handy Harry Uses an Arm As Well As His Legs To Go 'Bottoms Up'

- Go back to the first way Handy Harry stuck his bottom in the air, but now have your thumb play a key as well. Note that your thumb does not go along with your other fingers with this movement but allies itself with your wrist. **[illustration 29B (with arrows pointing in the direction of thumb, wrist, finger, heel movement)]** It's more like Handy Harry's arm than another leg. This gives you an exceptionally clear feeling of how different the thumb is from the other fingers in its function: *they* are attached to the hand; *it* is attached to the wrist.

Lesson III-5 – Handy Harry on the Trampoline

- Let your hand fall onto the table once again – let it flop on the table top so it’s mashed like a pancake.
- It’s time for Louis Lumbrical to get some exercise again – pull with your whole fingers (remember, don’t curl them), but this time let the heel of your hand leave the table. Your wrist comes up so your hand and your forearm form an even line. **[Illustration 30]**
- Now make the movement more vigorous and quick, if you increase the speed and the effort enough, your hand will leave the table altogether! When your fingertips begin to slide, make them so strong they launch your hand up into the air like a trampoline – your fingertips stay flat and slap the heel of your hand. Remember, it’s not the tip of the finger that slaps your heel but the flat pad of the nail joint. **[illustration 30C, D, E, F]**
- Then unfold your hand again, flop back down on the table top, and repeat.

Don’t let your wrist pop up higher than your hand. The top knuckles should be highest, as if they wanted to rap someone behind you. **[illustration 30G]**

Also remember that it’s not your arm pulling your hand up into the air but the power of your fingers themselves that shoots your arm up, just as your ankles and knees power you up when you jump on a real trampoline. Here, your hand arch is like Handy Harry’s ankles and knees. When you’re on a trampoline, a big rope on a crane doesn’t come down and lift you up – you use the power of your legs to jump!

- Try some more trampoline jumping, varying the height your hand reaches. Pretend your hand is in an elevator and you are going to the second floor... the fourth floor... the tenth floor... the *twentieth* floor!

Lesson III-6 – Handy Harry on the Keyboard Trampoline

Let’s try this same trampoline movement on the keyboard.

- Flop your hand down on the keys and pull on them with your fingers to *launch* your hand and arm up into the air like a trampoline would. Feel that effort in your hand itself, a healthy, robust contraction of the hand. Do you remember how happy you felt the last time you were on a real trampoline? Make your hand and arm feel that happy now, and really *use* the power of your fingers as you would your ankles and knees to really exult in that soaring – your hand almost flies!
- Don’t cushion your fall when you land on the keys. Crash down as loosely and heavily as you like. What a sound!
- Try jumping to different spots on the trampoline for a higher or lower sounding crash: can you even compose a piece for ‘trampoline piano?’

Lesson III-7 – Handy Harry is a Roly-Poly

- Keeping your fingers and thumb relatively straight, press their tips firmly together: as firm as a bird beak. **[Illustration 31]** What sort of things could you peck with your bird beak? The table? Your leg? Your forehead? A piano key? What sort of a sound does the piano make when your bird beak pecks it? How is it different from a normal piano sound?
- Now place your bird beak on a key keeping your wrist very low. **[Illustration 31B]** From this position use your bird beak to press into the key: *dig* into it so firmly it pulls your arm forward. The more your bird beak pulls your arm forward, the more it rolls onto the 3rd finger. Your hand is like a roly-poly man, and as it rolls forward he stands up. But your arm is like the roly-poly man's long tail: *it* doesn't stand up, it just rises slightly off the table.

There are three ways to do this which all look identical but *feel* very different:

- 1) *Active hand/passive arm*: Pull your passive arm forward with the strength of your active hand.
- 2) *Passive hand/active arm*: Push/roll your passive hand forward with your active arm. Here your hand still makes an effort to keep its tight bird beak shape, but your arm is the sole activator of the movement forward.
- 3) *Active hand/active arm*: Make both your hand and arm active so they work easily together. It's not even clear which part makes what effort, everything just goes smoothly along. You don't even know which is active and which is passive any more.

Lesson III-8 – Handy Harry Stands Up!

- Lay your hand on its back on the table and once again review Louis Lumbrical's 'sitting up' movement. Remember, don't curl your fingers at all, just flex them – beckon 'come here' to yourself. Or think of it as Handy Harry doing a leg lift lying on his back. **[illustration we've already had this one]**
- Turn your hand over and do the same movement so Louis now waves goodbye...
- Lay your hand on the table and wave goodbye but this time, don't make the heel of your hand stay on the table. Instead, let the waving action pull gently on your wrist so it rises from the table. Do this so gently that you 'discover the movement from within.' Sense how it feels. Sense which muscles work together to coordinate the movement. **[illustration 39]**
- Slowly begin to expand the range of this movement and finally its vigor as well, until Louis Lumbrical gives such a good, healthy pull that your wrist and arm rise as high as they can – Handy Harry stands up!
- Now instead of using all four fingers bunched together to stand up, exercise each of Handy Harry's 'legs' in turn. Use your forefinger alone to do a 'leg lift' lying on your hand's 'back,' then a 'stand up' lying on the palm of your hand (its 'stomach'). Then try the same with your middle finger... your ring finger... your pinkie... Which finger is best at this? Was it the one you normally think of as strongest, or one of the others? **[illustration 40]**
- Finally try combinations of two or three fingers...

Lesson III-9 – Freddie Flexor Saves Handy Harry from Falling off the Cliff

This lesson aims to *stimulate*, not strain the flexor muscles – it is *very* important that you go gently and don't overdo it. Start out with an extremely light movement entirely lacking in strain. To get a stronger stimulation, increase the effort by small degrees but always monitor exactly where the effort originates. Be on a constant lookout for any sense of strain that exceeds the boundaries of good sense. Some of you need not try anything other than a gentle movement; others may feel limber and strong enough to increase the intensity – but never make so strenuous an effort as to cause stress. Try to gauge how much effort is right for you.

- Lay your hand on the table and then slide backwards until your hand falls off the table edge but your fingers are still hanging on, like in lesson #2 earlier this section.
- Now keep going – slide a little more so that only the last two finger joints are on the table. You have to try even harder not to fall off completely! **[illustration 42]**
- Now slide even *further*, till only your nail joints are hanging on to the table edge. It's like hanging from a cliff! **[illustration 42A]**



- In this precarious position, curl your nail joints a little more to pull yourself upwards very slightly. You can't pull yourself right back on to the top of the precipice, but at least you can work to reduce the danger of your falling right off! Do this several times to clearly sense how you're exercising that *other* finger muscle – not Louis Lumbrical but Freddie Flexor. **[illustration 42B]**
- Try this last movement with different combinations of fingers: 2, 3, 4 and 5 each alone, then 2 & 3, 3 & 4, 4 & 5, 2 & 4, 3 & 5, 2 & 5, 2, 3 & 4, 2, 3 & 5, 2, 4 & 5, and finally 3, 4 & 5. **[illustration 42C]**

Which individual fingers work best? Go gently with the ones that seem not to take to the movement so well. Give them a chance to discover how by not forcing the movement upon them. Go so gently, and try so many different combinations, that your hand feels glowing and different afterwards when you hang your two hands by your sides. Your fingers really learned to do something new!

Lesson III-10 – Freddie Flexor and Louis Lumbrical Work Together to Pull Handy Harry Up

This exercise starts where the last one left off: in the “cliffhanging” position, but now hang only by your 4th and 5th fingers bunched together. Freddie Flexor and Louis Lumbrical each know how to pull Handy Harry back up on their own, but they haven’t yet learnt how to work in tandem. They need to cooperate if Handy Harry’s going to climb back on the table most easily and effectively.

- First let Freddie Flexor start pulling... He can pull Handy Harry up a little bit, but soon his effort has no more effect: Handy Harry gets stuck part way... **[illustration III-10.1]**
- Now Freddie asks Louis Lumbrical for some help! When Louis lends a hand and the two of them pull together, Handy Harry comes right up onto the table to rest there on his chest (the heel of your hand). **[illustration III-10.2]**
Notice that now your top knuckles are really high: those little hillocks are very pronounced. These high knuckles indicate just how large a role Louis plays in helping your hand be strong and capable.
- If you want to feel with even greater clarity Louis’ strength and good work, have teacher press gently down on those knuckles. You have to resist teacher’s weight or that wonderful arch will fall – and so Louis becomes even stronger and more potent.
- Next do the same exercise with your 3rd, 4th & 5th fingers bunched together.
- And now with your 2nd, 3rd, 4th & 5th all bunched together...
- What other combinations of fingers can you try?
- Notice that if you imagined all your fingers are one of Handy Harry’s legs, and your thumb as his other leg, when Harry pulls himself all the way up onto the table with one “leg,” his other “leg” can rest on the table too. The pulling motion brings your passive thumb up to the table, where it rests, totally relaxed.

Lesson III-11 – Handy Harry Scratches His Leg with His ‘Fifth Finger Foot’

- Play a high C with your right 5th finger.
- Play the B next to it with your 4th finger, but *don't let go of C*. Feel how your 4th & 5th stand tall together, and notice how your upper arm relaxes when they discover how to do this. [**4th & 5th standing/Handy Harry standing illustration – Handy Harry neizvodljivo: the fingers are vertical but the hand is horizontal – how to make Handy Harry stand tall when his torso must be horizontal???**] They may be your smallest fingers, but nevertheless they are strong in their own right!
- Move your 5th fingertip sideways across its key until it slides onto B and snuggles even closer to your 4th. It's like Handy Harry sticking his two feet together.
- Now Handy Harry's left leg feels itchy. Bend your 5th finger but keep it pressed onto your 4th finger so it scratches the side of your 4th finger nail phalange. [**illustration III-11.1**] How much of your 4th finger can you scratch with your 5th? You may not feel able to do very much, but every little bit counts. Don't strain, but do keep exploring and see if you can discover new little parts of your 4th finger you didn't know you could scratch. By gently trying to go a little bit further than you can at first, you may discover new ways of moving your 5th finger!
- Go slowly... only later, when you get used to this strange movement, try going a little faster. Ahhh, doesn't that itch feel better!
- Stand on your 3rd finger and go through the same slow, exploratory scratching procedure scratching your 3rd with your 4th...
- Similarly, stand on your 2nd, scratch with your 3rd...
- Can you try some other combinations?

Of all the exercises, this one perhaps best illustrates their didactic nature. One thing for sure, you'll never do *this* movement while actually playing! But it brings a new feeling to your finger, hand and arm, a feeling that makes more possible the development of a new pianistic ability.

Lesson III-12 – Handy Harry Slaps the Ground with His Foot

- Sit on a chair, lift your leg up, and then drop it so your foot flops on the ground. Then do the same with your other leg. Go back and forth between your two legs a few times – it’s a funny kind of ‘sit-in-the-chair-walking.’
- This time instead of just flopping your foot, really slap the ground with it. How loud a slapping sound can you make – but *without* making your foot too heavy? It’s a slap, not a stamp.
- How would Handy Harry do that on the table? [**“Handy Harry chair sitting/hand finger stomping” illustration III-12.1**] Extend your arm out above the table top, make Louis Lumbrical wave goodbye a few times, and then just as you let your arm flop down on the table, make Louis *slap* the table top. Your fingertips slap the table which instantly pulls your hand up to stand on your tips. If Handy Harry slaps the table and stands up nicely, your upper arm will feel relaxed because all the effort is right where it should be – in Louis Lumbrical. Make sure you don’t thrust your wrist forward – if it moves forward, it does so passively, pulled along by the galvanizing force of Louis standing up.
- Now try this with each finger individually – and why not for fun start with the ‘weakest’ finger, your 5th!
- When you do this on the piano, can you make a composition up just by slapping different notes with your fifth finger? How about some other finger?

Lesson III-13 – Handy Harry Launches Himself Forward

- Place your hand on the table, begin to curl your fingers, but make sure your top knuckles stay potent so they rise up. Notice that your top knuckles also move forward. Amplify this forward movement. Repeat this many times, allowing the forward movement to develop in range and finally also in speed. Make it more and more vigorous, until finally Handy Harry’s legs are launching him forward. Your arm is pulled forward until your fingers flop over onto their nails – but not any further. [**Illustration III-13.1 – could you draw Handy Harry doing a forward roll as in Aikido? Handy Harry in full Aikido kimono doing**]
- Try the same thing but with only your second finger. Handy Harry sort of stands up on the finger: although it stays quite curled, it is still very springy. Make the movement more and more vigorous, giving your 2nd finger a real experience of just how vigorously it could move when playing piano.
- Try this with each finger in turn. Which one most easily adapts to this vital, élan-filled movement?
- *Add active/passive variations*

Lesson III-14 – Handy Harry Revs His Legs

In this exercise we combine the efforts of Louis Lumbrical and Freddie Flexor in a quick movement instead of the slow pulling we did in cliffhanging. We're going to transform that slow, pulling movement into something quick and effortless.

- Pretend your hand is a prehistoric Handy Harry's car and your fingers are like the driver's legs. **[illustration III-14.1: this should be a basic copy of Fred Flintstone's car, with Handy Harry in the driver's seat]** Scoot your fingertips quickly underneath you so all your 'legs' together try to make the car go. Louis Lumbrical and Fred Flexor are working together now. Your fingertips curl so quickly that they smack the underside of your hand near the heel. **You already drew one kind of like this, Handy Harry running – but you did it without the car.**
- Your 2nd and 3rd fingers are Handy Harry's two legs. Your hand is a Flintstone car! Dangle your hand so Handy Harry's legs lightly press the ground and quickly flick your finger under you to make the car go forward. First one 'leg,' then the other! How fast can you make the car go? Try quickly flick-curling your fingers while staying in one place, like you're just revving your engine before you take off. How fast can you do that?
- Try this with each pair of fingers: 2-3, 3-4, 4-5, 2-4, 3-5, 2-5. Which ones go easiest?

Group IV – Tom Thumb Takes Handy Harry on Some Big Adventures

Imagine that one of your legs was attached backwards and you had to learn to sit, stand, walk and run with it like that. That would be extremely bizarre, right? But this is more or less the situation with your thumb. Tom Thumb is quirky, and works in a very different way from his neighbours the fingers – and so he deserves a whole group of exercises just for himself. Most of us underuse our thumbs at the piano because we just don't know how to use its various complicated movements fully. This group aims to change all that by giving you a more complete 'sensory picture' of your thumb.

Lesson IV-1 – The Woodpecker

This lesson is like Handy Harry bonking his head, but this time your hand is a bird's beak instead of an infant's noggin.

- Make your hand into a bird beak again: press your thumb really firmly against your bunched fingertips. Peck a key with your bird beak. **[illustration IV-1.1: the hand as a woodpecker instead of Handy Harry]** Or peck *anything* for that matter. Your own forehead, your leg... can you peck your teacher? Watch it, she might peck you back! Then peck the key again. The firmer you make your bird beak, the clearer the sound of the peck.
- How fast can you go? Do you know how fast a woodpecker pecks? Can you go as fast as him? Use your wrist to go really quickly. Do you remember the sound of your fist bonking things? What's different about the bird beak's sound?
- If you compress your bird beak moderately, your wrist stays loose and waves a bit when you peck. But if you compress your bird beak absolutely as strong as possible, your wrist firms up too, and so it's more your whole arm pecking and not just your hand. Which way goes faster, a loose wrist woodpecker peck or a whole arm peck?

When you make a bird beak, your thumb *opposes* itself to the fingers quite strongly. This action of *opposition* makes the thumb unique and differentiates it from all the other fingers – it actually moves in a completely different direction. How, in fact can it play at all, when it most easily moves sideways while the fingers conveniently move the keys up and down?

But the action of thumb opposition, even though it moves in a different direction, is crucial to piano playing – in the following exercises we'll discover just what an essential part it plays in what we do at the keyboard.

Lesson IV-2 – Handy Harry Scratches His Other Leg with His ‘Thumb Foot’

- Play middle C with your right hand thumb.
- Play D with your second finger, but don't let go of your thumb's note.
- Move your thumb sideways along the key C until it slides over onto the note D: Handy Harry's two feet (1 & 2) snuggle together and help each other to hold the note D down. **[illustration IV-2.1]**
- Now Handy Harry's right leg (your 2nd finger) feels itchy. How is he going to scratch it? Begin to slide your thumb up the side of your 2nd finger! Slide it as high as the nail joint (Handy Harry's first 'knee' – or maybe his ankle) and back down a few times.
- Now Handy Harry is itching even further up his leg – slide Handy Harry's left foot (your thumb) as high as the *next* finger joint (his 'second knee') and back down again. **[illustration IV-2.2]** Feel how much exercise your thumb is getting, and the new kinds of flexibility your whole hand has to learn to do this movement elegantly and nicely. Can you scratch different parts of your second finger, a little more in front, or a little more behind? How much of your second finger can you cover?
- Can you slide your thumb even higher than your second finger's second joint?
- Later on do that scratching movement a little quicker. Try it at various speeds. How fast can Handy Harry scratch?!

Lesson IV-3 – Thumb Rolling: Handy Harry Does a Somersault

In this exercise your thumb is your Handy Harry's head, your other fingers his body. Handy Harry has never done a somersault before, and he has to practice each little beginning part before he does the whole thing.

- Dangle your hand in the air with your elbow bent so your arm looks like a heron's neck. Lower your hand slowly until your fingers, dangling lifelessly, limply, just touch the table. Lower your hand a *tiny* bit more so your fingers bend a little and your thumb tip comes to barely touch the table.
- Now just move your hand very slightly to the inside so your thumb begins to roll over onto its nail. Don't roll all the way onto your thumb nail right away, just roll a tiny bit and come back, then a bit further and come back then a bit further, many times, until finally, after let's say 25 times, your nail joint touches the table. **[illustration iv-3.1: Harry's head is the tip of the thumb. As the thumb folds he gradually gets further and further into a somersault]** We do it so many times so we can begin to feel every little joint in Handy Harry's body folding and unfolding, smoothly adjusting to the movement. The slower you go, the more details of this folding and unfolding you can feel. The more you enrich this sensory picture of your thumb, the more effortless and elegant will be Handy Harry's eventual somersault!
- Each time when you roll back up onto your thumb tip, keep going – roll a bit further to the right so your thumb lies more on its pad than its tip. This unbends it more, so you can feel even more just how it re-bends the next time.
- Resting on the back of your thumb's nail joint, now begin rolling even further to the inside! Relax your other fingers, your hand, your wrist, your forearm, your upper arm and even your shoulder in a special way to feel just how you can manage to lie down on your thumb's medial phalange – it's like Handy Harry rolling right over onto his back! **[illustration iv-3.2]**
- If you roll even further, all the way onto your thumb's metacarpal bone, now even Handy Harry's legs have rolled over, you completed your somersault! **[illustration iv-3.3]**
- And now finally roll back the same way you came, and end up standing once again on your thumb tip.
- Do this entire rolling sequence many times, and explore different parts of it. How many places in your thumb and even elsewhere in your body can you sense folding and unbending that you never experienced before?

Lesson IV-4 – Handy Harry Draws a Square on the Ground

- Make a firm, secure house out of your right hand by standing it on all four fingers and thumb. If your thumb is too close to your fingers, the fingers make one wall that is rather unwieldy – make sure that house is sturdy by separating your thumb well out from the four fingers. Virtually all the effort for this standing comes from Louis Lumbrical more than Freddie Flexor. **[illustration iv-4.1: Harry is a house]**
- Slide your thumb sideways a little ways towards your fingertips, but don't reduce the weight on your thumb or your fingers. For this entire exercise, both fingertips and thumb continue to press very firmly. Slide your thumb along a line towards your fingers and back to where it began. It's as if Handy Harry is standing up and tries to slide his left foot closer to his right without lifting it off the ground at all.
- Now slide your thumb sideways *away* from your fingers – Handy Harry begins to do the splits! **[illustration iv-4.2]** Don't really do the splits, but let your thumb go little by little further away from your standing fingers and see how your hand must sink down to let this happen – *without* letting your arch collapse. And come back to your middle standing position.
- Now slide all the way back and forth along the horizontal line your thumb has been tracing on the table.
- Slide your thumb along the other axis – that is, slide forward, away from your body, staying firmly on the table, till your thumb rests close to your fingers and maybe even touches them – don't strain to do this but if you can fairly easily, go ahead. And back to neutral.
- Slide your thumb away from your fingers, towards your body, and back to neutral. Notice how flexible your hand must be to accommodate all these sliding movements. Let your hand become suppler, try to sense where your hand could let go more to let your thumb slide farther – your arch may even sink a little to accommodate this. Let it descend somewhat but keep it potent – don't let it feel weak or empty, don't let it poop out.
- Try sliding your thumb in each of these “four cardinal directions” of movement again. Take your time, and begin to explore little variants in the direction. Instead of straight forward, angle off a little to the right or left. Instead of exactly sideways, curve a little forward or back. How many new places can you discover where you never slid before?
- Finally move your thumb in a big circle around on the table surface, visiting in turn all the places you've already been, and returning to the central neutral point from each point on the circle in turn. How about a circle in the other direction? How about a big square – can you travel along the outside lines of a square to four distant corners with your thumb? How about a diamond shape? **[illustration iv-4.3: Harry tracing his sliding foot along various planes on the ground – I will draw these for you]** The more variations you try, the more you discover just how amazingly supple your thumb can be.

Lesson IV-5 – Handy Harry Draws Circles in the Air

Stand Handy Harry firmly up on his thumb leg, and bunch your other fingers together loosely as if Handy Harry has tucked his other ‘legs’ up underneath him. **[illustration iv-5.1]** Now instead of your thumb sliding, let’s teach Handy Harry to move his body in the “three cardinal directions” you learned yourself earlier in sitting.

- **Lobster Rocking:** Move your arm a little forward and back – now Handy Harry is rocking like you did when you turned yourself into a lobster. Of course Handy Harry can’t flex his back as much as you did, but can he stay loose even though he is standing firmly on his ‘thumb leg?’
- **Accordion Rocking:** Move your hand left and right to imitate how you turned yourself into an accordion in sitting. Do this as loosely as possible but of course don’t let your ‘thumb leg’ collapse!
- **Corkscrew Rocking:** Twist your hand this way and that as if your thumb were a screwdriver – Handy Harry is now turning himself into a corkscrew like you did before.
- **Gyroscope Circles:** Now combine those three movements so your hand does a big circle while still standing on your thumb.
- Have Handy Harry stand on one of his other legs, let’s say your 2nd finger, bunch your thumb and other fingers loosely under you, and repeat this series of movements – the three cardinal directions for your hand plus the big circle to finish.
- Repeat them while standing on your 3rd, 4th and 5th fingers in turn...
- Finally play a very slow scale with standard fingering, doing four wrist circles on each note.

Lesson IV-6 – Reverse Opposition: Handy Harry Does Some Strange Sideways Rocking

- Sit in your chair and push on your left foot. Try to feel how the force of that pushing transmits through to your pelvis, making it rock to the right. Normally we would stiffen against that push to stabilize our bodies, but let your pelvis go, let it rock – It's the 'accordion' move from Group I that opens your ribs on one side while folding them on the other. But now the effort to rock your pelvis comes from a left leg push. When you use other muscles than the usual ones to do a movement, it feels very different inside though it looks the same from the outside.
- Stand your right hand up on your thumb (Handy Harry stands on his left leg), and really stand on the very tip of your thumb – not the flat of the pad, not even the crease of the nail. Now let Handy Harry imitate the movement you just did with your whole body: when your thumb pushes on the table, it makes your hand and arm move to the right. **[illustration iv-6.1: Harry pushing with his thumb leg to make his body and other leg move away – but without falling!]**

This movement is called *reverse opposition*, where your thumb 'un-opposes' itself from the hand. Try to feel what an unusual set of muscles you need to use to do this strange pushing.

- Try bending the nail joint of your thumb so it partially collapses to the *left*. Now when you push to the right, gradually straighten that nail joint. It makes you push through a wider range overall. Straightening a bent nail joint is an important component of your thumb's overall reverse opposition movement.

Lesson IV-7 – Handy Harry-Alligator Makes a BIG Yawn

- Imagine your arm and hand is a sleeping alligator. Rest your right arm, wrist, hand and fingers on a table so they are mashed, but slip your thumb in underneath your hand so that it can be the alligator's lower jaw. Just feel how nice it is for your alligator to doze in the hot Florida sun...
- When he wakes up, what's the first thing he does? He takes a big *yawn*. Don't stand up on your thumb's tip. Instead, leave the entire alligator's lower jaw on the table – leave all three phalanges of your thumb lying there. Roll onto your thumb somewhat so it is even more under your hand, and in that position see just how wide you can open that alligator's upper jaw. Is it so wide he could swallow a horse?! Try that several times.
- Try yawning again but stand up on your thumb now to open alligator's jaws even wider! Could you now swallow a hippopotamus?

What if your alligator suddenly realized someone was watching him? He knows yawning is rude, but his arms are too short to cover his mouth, so he tries to pretend he wasn't yawning at all but just "exercising his jaws."

- Try to fool everybody by yawning as wide as you can and then closing your alligator jaws extremely slowly, so slowly you can hardly see them move... and then open them the same slow way.
- While alligator is yawning as wide as he can, imagine that a little birdie lights right in his mouth. Can you close his jaws so slowly that he doesn't even harm the birdie? Practice this one many times.
- After exercising his jaws for some time, Mr. Alligator may start to feel a bit hungry – uh oh, what now? Well, that birdie is right there and he's awfully hard to resist.... What a nice snack he would make... suddenly *snap*, Mr. Alligator's 'jaws' clamp shut super fast and voila, he's gobbled up a nice tasty breakfast...

There are *five* ways to do this one:

- 1) Your active thumb pushes your relatively passive fingers up
- 2) Your active fingers pull your passive hand up
- 3) Combine these two to make it more smooth, easy and natural.
- 4) Your active arm pushes your passive hand and fingers up – this one only works if you allow your thumb to stand up, turning the movement into a kind of 'passive thumb pushup'
- 5) Combine all these efforts so you really don't know which one did the movement – this is the 'integrated' one

Lesson IV-8 – Alligator Grows Some New Teeth.

When alligator yawned, your bunched fingers formed his upper jaw. Now what if this was a strange alligator, who could close his teeth one at a time instead of his whole jaw? Here you do a thumb push-up individuating each finger in turn.

- Stand on your thumb tip, and open your alligator jaw once again.
- Now 'un-bunch' your alligator's upper jaw; let your fingers spread apart from one another. Ah, take care that tension doesn't develop in your shoulder as you try to do this. Let your shoulder drop slightly as your fingers gently spread apart. Your alligator now has four jaws!
- Now teach your alligator a trick that *no* alligator has ever been able to do in real life: bite down with one of your 'jaws' while the others stay wide open! Use your fingers as four individual alligator jaws, and try 'biting' with each one in turn, several times for each jaw. Which one bites best? As one finger bites down, does your thumb push-up weaken or can you really keep your other fingers soaring high up into the air?
- Finally stand on your thumb, yawn really wide, and then wiggle your fingers quickly as if they were playing some fast note pattern, *without* losing the potency of your thumb push-up.
- Continuing to wiggle your fingers while standing tall on your thumb, begin to move your arm forward and back as if your thumb was a roly-poly that rocks around but always comes back to the vertical.

This exercise is excellent for teaching the *differentiation of function* between thumb and fingers. Generally we avoid making a big effort with our thumbs because we don't know how to localize the effort to its big muscles while leaving the rest of the hand sensitive, relaxed, lithe and moveable. But the thumb really works in a very different way from the other digits – doing this exercise well helps unlock its vast, largely untapped potency.

The next exercise builds further on this idea of tapping the thumb's unsuspected potential for powerful, differentiated movement.

Lesson IV-9 –Tom Thumb and the Articulated Screwdriver

This exercise demands many unusual movements of your thumb, so remember as you go through the variations to take many rests. Let your thumb ‘feel how it feels’ after each new and unfamiliar experience by taking a break. Your learning will be better when your thumb has a chance to ‘think things over’ and adjust while it’s taking a breather.

- Sit in a very sturdy chair, one that’s so big and heavy that if you tried to push yourself over backwards it wouldn’t budge. What happens if you *do* try to tip your chair up onto its hind legs? It’s so solid that your foot slides forward on the ground and your leg straightens out instead. Try this first with one leg and then the other. Repeat it many times (note: this may not work very well on a carpet).

Slide on your thumbnail edge

- Now rest your hand on a table top, and push away from you with your thumb on the table the same way your real leg did on the floor. Don’t stand up on your thumb – lay it sideways flat on the table, so that the crease between thumbnail and skin lies on the table. **[illustration]** Push on that so that you keep a good, strong pressure on the table but slide away. Your fingers will naturally pop up in the air a bit, don’t worry about that, let them do so – just keep push-sliding that thumb, that’s the important thing. Repeat this many times.

You should feel the effects of this pushing all the way up to your shoulder. Often if you do it well, your shoulder will relax and drop forward slightly. The healthy pressing of your thumb takes over from your shoulder’s unconscious, counterproductive holding effort, and it lets go.

Slide on your thumb pad

- Put the *flat pad* of your thumb on the table right at the edge (so your entire hand, including your fingers, hangs off the table). **[illustration]** Press on the table and push your thumb to slide it away from you in this position, feeling what effect the movement has on the rest of your arm, shoulder and body.

Slide at all the angles in between

- How many different angles between ‘thumb on its nail crease’ and ‘thumb on its pad’ can you find to do this thumb pushing movement? Can you sense that each of these angles evokes a slightly different feeling in your shoulder?

The thumb screwdriver movement

- Begin the movement with your thumb on your pad, then twist your thumb through all those angles you discovered as you go through the movement, so you end up with your thumb on its

nail crease. Your thumb is like a screwdriver – with your right thumb you *unscrew* the screw; later with your left thumb you will screw the screw further *in*. Note that your entire forearm twists as well – how does *this* movement feel in your shoulder?

Make sure your fingers don't tense as you do this. Let your hand fold naturally in upon itself as a natural result of your thumb twisting in this unusual fashion. Leave your fingers floppy and loose.

A further differentiation

- Before doing the first movement again, bend and straighten your thumbnail joint a few times. Then begin the sliding movement with that nail joint bent, and straighten it gradually as your thumb is sliding away from you. Try all the variations:
 - Bend your thumb then straighten it as you slide on your thumbnail crease.
 - Bend your thumb then straighten it as you slide on your thumb pad.
 - Bend your thumb then straighten it as you slide beginning at some angle between your thumbnail crease and thumb pad.
 - Bend your thumb then straighten it while you go through the entire screwdriver movement.

Always go slowly, trying to *sense* all the effects of moving in this strange way. Don't make it an exercise, make it a lesson! Learn by sensation!

- Grab your right thumb with your left hand (use your left thumb and all your fingers to grab). With your left hand acting as teacher, leave your right thumb totally inert and take it through all the variations of this lesson, passively: the left hand provides all the energy for the movement, your right thumb just lies there like it's dead, and lets your left hand drag it and twist it...
- Finally, go through this entire exercise with your thumb on a piano key, or rather, *in* the piano key. Really 'make a hole' in the keyboard by depressing the key, and then push-slide your thumb right into that hole, and go through all the variations you've already explored.

Lesson IV-10 – Tom Thumb Helps Handy Harry Take Some Giant Steps

- Begin with a thumb push-up: stand on your thumb and stretch your 2nd finger to the sky. If your thumb was Handy Harry's legs and your finger his arms, he would be *stretching* and yawning as big as can be! **[illustration]**
- While in the middle of this giant stretch, let Freddie Flexor do a little bit of individual exercise. If your 2nd finger were a heron, it's as if the heron's head wants to bend this way and that to take a look around. Things look very different when he's so high up, and he wants to check things out! **[illustration]** So you stand up on your thumb, stretch your 2nd finger to the sky and then curl your nail joint just a little – waggle it!
- Actually, it's impossible to curl only your nail joint: the one next to it wants to flex as well. Let that happen – it will feel less strained.
- Now let Louis Lumbrical join the game. Add his flexion to Freddie's, curving/curling your finger more and more each time until eventually your 2nd finger gets all the way down to the table. This is different from the original thumb pushup because now your second finger is curved like the bow of a bow and arrow.

Take a step without stepping

- Try the whole 'rearing up, curving in and coming down' again, keeping it slow but making it a more integrated, fluid motion.
- Now try it again, but when your 2nd fingertip comes down to stand on the table, have it stand a little further away from your thumb than before. Handy Harry is trying to figure out just how big a step he could take, if he really tried. **[illustration]**
- Each successive time, stretch your curved 2nd finger even higher and then have it land even further away from your thumb – but never let it lose its curve entirely. Eventually your 2nd can stretch as far away from your thumb on the table as your 5th finger could! Now the arch between thumb and 2nd is very low but it is still curved – it maintains its arch quality.
- After really stretching out as far as you can, raise your curving 2nd finger and step back a little closer to your thumb. Reduce the stretch gradually. Explore the entire area – how many different spots can you touch with your curving, half-walking 2nd finger? How many *dozen* spots? How many *hundred* spots?!

Lesson IV-11 – Tom, Freddie & Louis Help Handy Harry Take Even BIGGER Steps

Repeat the entire previous exercise step by step, but stretching out with one of your other fingers – your 3rd, 4th and 5th in turn. But remember one crucial thing: your 2nd finger still curves the way it did before. Even though it's not playing, it curves like a heron's neck and acts very much alive – it's as if your 2nd really wants to stretch and play, but it decides in the end to let one of the other fingers in on the game.

Lesson IV-12 –The Handy Harry Leg Slide Exercise

- Place your hand on the table top, and once again make Handy Harry stick his bottom up in the air with the help of Louis Lumbrical.
- To differentiate your thumb in this movement, leaving it entirely straight and flat, sweep it towards the tips of your fingers as your lumbricals work to stand your hand up. The heel of your hand stays on the table, your entire thumb lies on the table the whole time – it's as if the entire length of your thumb was a broom, and the broom sweeps the table clean by moving towards the fingertips. Of course, it can't *reach* the fingertips but the closer it gets close, the more your hand stands up into its arch structure – even more strongly than before.

Tom, Freddie & Louis Back on the Playing Field

When you return to a repertoire piece, try a funny experiment: play all your finger notes with a motion like the one from exercise 11, and play all your thumb notes with the screwdriver motion from lesson 9. How different does this make your hand feel? More important, what difference does this make to your sound? Then play as you usually do, but remember the sensation these unusual movements gave your hand. Does your hand feel different, and does it move differently? Does your hand remember what it learned about itself from the exercises, and can it make a different sound because of this?

PART II

Group V – Handy Harry Takes His First Steps

Lesson V-1 – Handy Harry Walks with His Legs Tied Together

- Play C & D with your 2nd & 3rd fingers together.



- Start teetering from one to the other like you're on a pogo stick, trying to balance and just about succeeding.
- Keeping these two fingers squeezed together, can you teeter so far to the left, onto your 2nd finger, that your 3rd finger lets the key D rise? Then when you teeter to the right, your 3d plays D again. Keep teetering further to the right until the key C rises, then teeter back to the left to play it again – all the while your fingers are glued together. It's like walking with your legs tied together! **[illustration]**
- Do the same thing on D & E with your 3rd & 4th.
- Then on E & F with your 4th & 5th.
- Finally play B & C with 1st & 2nd, in the same way. Notice how it's a little more difficult when the thumb is involved: you have to twist your hand into an unusual shape and position to do it. Help the student, by guiding her physically, to make thumb and 2nd teeter just as well as the other pairs.
- Slide thumb down 2nd finger to equalize

Lesson V-2 – Handy Harry Paddles His Feet in the Water

- Dangle your hand so that fingertips 2 & 3 barely reach the keys. ‘Paddle the water’ with them, first so gently that the notes don’t even sound – the keys don’t go down. **[illustration]** It’s a light slap with your ‘finger ropes’ that makes little ripples on the water.
- Lower your hand just a tiny bit so that now the keys begin to descend, but just a little bit – not enough to make a note sound. Now Handy Harry’s feet are making slightly bigger waves.
- Increase the speed of your fingers, or lower your hand just a little more, just enough so the notes begin to sound.
- To play louder, don’t press more, just increase the speed of your fingers so they still just brush the key, go ‘through’ the key and ‘out the back door.’
- To make an even bigger splash, *lift* your fingers before you paddle the water with them. This makes your sound even louder but keeps it totally free.
- Keeping this totally free finger movement, try going faster and faster. What a *splish splash kersplash* Handy Harry’s making now!! **[illustration]**

Note to teacher: lifting and slapping the fingers is a great way to help a very young child play legato passages. The hand may be too small and undeveloped to withstand the stress of standing firmly up into its arch structure, but this movement stands the hand up automatically, without any intention to stand it up. The intention might create strain, but this vigorous movement more or less launches the hand into a standing position without the child ever thinking about standing. Let the fingers remain as wobbly as they like, make no attempt to correct any collapsed nail joints – it’s too soon for that, just help them to ‘walk’ in this strange way, and observe how the hand assumes whatever version of verticality it is comfortable with at this point.

Lesson V-3 – Handy Harry Walks like Daddy Long Legs⁵

- Play any 5-finger pattern, *lifting* each finger as absolutely high as possible immediately before it drops into its note. The finger should drop lightly, as if it's a rope, instead of digging into the key. This means the hand must be held high enough so that once the finger has played, it *looks* like it's standing firmly but really it's more 'dangling lightly' in the key. Standing too firmly *inhibits* you really lifting with vim and vigor. The feeling is one of robust freedom.
- Finger lifts after as well.
- Thumb can lift because its not going into inversion. HB

This exercise is another one especially valuable for the very young pupil whose hand skeleton isn't developed enough to bear the stresses of overholding and standing firmly. She can acquire a sense of mobility and agility without trying to express a structural power she does not yet possess.

Lesson V-4 – Handy Harry Tests the Waters⁶

A – Tai Chi walking

- Stand up, and bend your knees very slightly a few times. Bob up and down a little bit.
- When you bob 'down,' stick your right leg a little out in front of you. It's as if you were going to take a step, but don't actually take it. Instead, just let your foot touch the ground... don't shift your weight onto that leg! Pretend you want to feel the water with that foot, but the water's so cold you don't really want to put your foot right in. Tap the ground with your right foot, like a blind man tapping the ground with his cane. Even bend your left knee a little more or a little less to help your right foot tap the ground *without* putting any weight on it.
- Finally, leave your right foot on the ground in front of you and begin to *slowly* shift your weight forward until your right leg is bent and your left leg has straightened out. Now your right foot is bearing all your weight, while your left foot remains on the floor behind you but almost lifted off. Move back and forth between your two legs – shift your weight from one to the other without ever lifting either foot off the ground. Which foot bears your weight better? Where do you feel more comfortable, forward or back?
- Finally with your weight on your front, right foot, lift your back left foot off the ground and bring *that* leg out in front of you, again using it like an antenna-sensor to feel the ground without bearing any weight. You begin to take a step but don't complete the motion – it's only complete when the weight shifts. Explore the entire area your left foot can reach comfortably while all your weight remains on your right foot. Inhibit your strong desire to place your weight on that left foot.
- Now begin finally to shift your weight slowly, sensing every millimetre of the way, onto your left foot. And explore the sensation of shifting your weight backwards and forwards, from the front

⁵ Based on Robyn II #11B

⁶ My version of Robyn's Grandfather's Clock (II #12)

left foot to the back right foot, all the while never lifting either foot from the ground. On this side, where do you feel more comfortable, forward or back? Are you always more comfortable on the right foot or left, or is it rather the forward or back foot that always best bears your weight?

- Take several of these strange steps, pausing each time to first sense the ground with your totally unweighted foot out front before gradually shifting your weight forward onto that foot.
- Now try the whole procedure but walking backwards!

B – Walking on the Keyboard

- Put your 2nd finger on the note C and try to stand up on the note the same way you stood in Tai Chi walking – that is, don't straighten your finger completely; instead, feel a springiness in your finger that comes from having both Louis Lumbrical and Freddie Flexor take part in the effort. **[illustration: Handy Harry as a Chinese practitioner of Tai Chi with the pants etc]** Breathe your wrist a little left and right, forward and back to make sure you are standing really well – both securely and moveably.
- Now use your 3rd finger to feel the note D – what happened to your 2nd finger? Did it continue to stand well, nice and springy, or did it abandon its secure, springy standing and empty out even ever so slightly? Don't actually play the note D, instead, just use your 3rd finger to play around *with* the key. Make it go down just a tiny bit and then see how it bounces back up by itself. Try to use the key as a lever to feel the weight of its hammer way inside the piano. Depress the key a bit further to feel the weight of that hammer even better, but don't go all the way to the keybed. When you waggle-wiggle the key with your 3rd finger, you get a better chance to feel how heavy the hammer is, because you aren't just pressing the key all the way down automatically. All this time, ensure that you continue to stand well and sinuously on your 2nd finger, just as you stood well on one leg while the other explored the ground.
- After you've felt the weight of the hammer for some time, finally play the note D and hold the key down. *Still* make sure your 2nd finger doesn't lose *any* of its standing security. The top 2nd knuckle will often fall an ever-so-tiny amount, but that is enough to weaken the whole structure – don't let it happen! Instead, when you play the note D, a moment arrives when both your 2nd and 3rd fingers are standing really well – both knuckles soar high and your arch is really seen in both fingers without being rigid.
- Continue to stand on your 3rd finger's note D, and pick up your 2nd finger to wiggle *its* key C, jogging it many times to feel the weight of *that* hammer. Is it the same or heavier or lighter?
- Walk very slowly back and forth between your 2nd and 3rd fingers, pausing at each step to feel the key just as you paused in real walking to sense the ground with your 'leg antennae.'

Repeat this keyboard walking exercise with each pair of fingers in turn.

Lesson V-5 – Handy Harry Skips Slowly

- Press your 2nd and 3rd fingers together and keeping them like that, play the note C with your 2nd. Then move your hand like a roly-poly to the right so that, with your fingers still banded together, your 3rd finger plays D. [**Illustration – Handy Harry like a roly-poly**] It's a funny way of playing a 2-note slur where you do it more with your wrist than with your fingers. It's Handy Harry walking with his ankles tied together again as in lesson 1, but this time he does a 'step-hop:' after playing the two notes in succession, let your wrist fly away from the keys.
- Use this 'step-hop, step-hop' to play C-D, D-E, E-F, F-G, etc.
- Do the same thing going down, that is C-B, B-A, A-G etc. with the fingering 3-2, 3-2, 3-2...

This exercise aims to make it kinesthetically clear just how much the wrist participates in phrase shaping. Later on, when the fingers individuate to play their notes, the wrist should continue to play its crucial role – without the wrist movement, the phrase doesn't happen. But here we isolate the wrist to make it totally obvious and easily felt.

- Now try the first 2-note slur again, but this time use the Tai Chi walking motion you learned in lesson 4. Remember that with your fingers individuated, your wrist still helps keep the movement fluid and lithe. The music of these slurs will dance when your fingers, hand and arm do so!
- Play a series of 2-note slurs with 2 & 3. C-D, D-E, E-F, F-G, etc. going up the keyboard.
- The same going down the keyboard...
- Repeat each of these 6 steps with each other pair of adjacent fingers. Save your thumb and 2nd finger for last, because the thumb is the trickiest.

Lesson V-6 – Three-Legged Handy Harry Skips

- Bunch *three* fingers together, let's say 2nd, 3rd and 4th. Keeping them glued to each other, do a 'roly-poly' movement to play C-D-E, then E-D-C. Your wrist rotates right and left and flies away from the keyboard at the end of each 3-note group.
- Now using the Tai Chi walking movement with those same fingers, play a series of 3-note slurs going up the keyboard – C-D-E, D-E-F, E-F-G, F-G-A, etc.
- Then a series of 3-note slurs going down the keyboard.
- Do this same exercise, first 'roly-poly' style and then 'Tai Chi Walking,' with 3-4-5.
- Finally do the same with 1,2 & 3.

Lesson V-7 – Slow Skipping on FOUR Notes

The same as the previous lesson but with 2, 3, 4 & 5, then later with 1, 2, 3 & 4.

Higher wrist HB



Lesson V-8 – All FIVE Notes –Whoops, Don't Fall Over!

- Play all five notes 1-2-3-4-5 in 'roly-poly' style with your fingers all bunched together, and when you get to your 5th finger, let your hand fall on its side to the outside. Then do a 'roly-poly' 5-4-3-2-1 and fall to the inside!
- The same but with the Tai Chi Walking movement of your fingers.

Lesson V-9 – Staccato I: Let's Go Hopping

Use the 'Fred Flintstone Car' motion of your fingers to play a series of staccato notes. First with one finger, then with all your fingers in a row. **[illustration: Handy Harry like RoadRunner]** These are called elliptical staccatos because of the elliptical path your fingertip follows. I also call them "Out the Back Door" – here done relatively loosely. Your fingertip doesn't need to finish tucked snugly against your palm but just somewhere near it.

Lesson V-10 – Staccato II: Let's go Pecking

- Play the same notes but this time don't individuate your fingers from your hand – make your hand into a bird beak and let your entire forearm make the staccato movement, straight up and back from the key. **[illustration: Handy Harry with your fingers his head this time – a bird beak head. i.e. Handy Harry as a sort of Cone Head]**
- The same movement, but this time let your wrist be a little flexible – see how the sound and feeling changes.

Lesson V-11 – The Bellows

Stand on thumb, raise finger and forearm at exactly the same rate and lower them so finger plays. Like breathing or operating a bellows. It's a thumb push-up, here used to play a series of notes or a little tune. [**Handy Harry doing leg lifts**]

Lesson V-12 – Watch Out for that Alligator – Snap!

- Stand on your thumb and make your second finger an alligator's upper jaw. Pretend your head is in his jaws and you *don't* want him to close them... but they inexorably get closer and closer until... crush, your 2nd finger play a note. **[Andy Alligator with Handy Harry's head in his jaws]**
- Now raise that upper jaw as high as you can and then let it *snap* shut as quickly as possible! Your 2nd finger plays again, with a structure supported snap!
- Finally pretend you have a head made of such bouncy rubber that when he snaps his jaw shut it bounces open again – your 2nd finger plays a structure supported snap staccato.

Group VI – Handy Harry Finds Friends to Play With – Chords & “Octaves”

New Lesson 1 – Thumb Pushup Morphs Into “Bridge Walking” M d l V

Lesson VI-2 – Can Your Bridge Tip Without Collapsing?

- Play ‘C and G’ with your thumb and 5th finger. Holding onto those two keys, move your arm forward slowly so that your thumb-5th stands up into its arch structure. It makes your hand into a bridge with two pylons. How high does this movement make the center of the bridge’s arch? If you played a smaller interval, could you make it even higher? Move your arm gently, slowly forward and back to test the strength and security of this bridge. Can it, like a willow tree in the wind, ‘bend without breaking?’ Don’t let the pylons collapse but let the whole structure move this way and that while maintaining its integrity.
- Make your hand into the same bridge, and this time while standing on your thumb, keeping your hand’s arch very firm, lift your 5th finger to play one note closer to your thumb. Don’t let the arch get wobbly, it keeps its exact shape. Make especially sure your thumb keeps its erect shape. The whole arch tips up a bit so it balances on your thumb while the other leg of the arch, your 5th finger, first rises into the air and then roots itself in the key one note closer than the first. Then ‘walk’ your 5th finger one more note closer, making the interval again smaller, using this strange, firm arch tipping technique. How close can you make your 5th finger ‘walk’ towards your thumb? Could it even reach the adjacent key so thumb and 5th play the interval of a 2nd?
- Tip your arch onto your thumb to raise your 5th in the air again, but now each time you 5th descends, have it play one note further *away* from your thumb. How far away from your thumb can your 5th walk? How big an interval can you stretch between thumb and 5th *comfortably*? Don’t stretch so far that you strain. The point is to keep feeling your arch’s potency which derives from both firmness *and* moveability.
- Do the same ‘tipping’ exercise, but this time raise your *thumb*, by tipping your hand arch onto your 5th finger. Again, first have your thumb play one note closer to your 5th each time, then begin to play one note further away each time. How does this feel compared to the first part of the exercise? Even more bizarre? Easier? Different?
- This time don’t tip either pylon up but move your wrist left and right leaving both pylons rooted in their keys. They have to bend to let this happen – can you detect exactly which of your thumb and 5th joints flex, and how much? This adds a further dimension of stability *combined* with flexibility to your hand’s self-image...
- Review the first movement you did: move your arm forward and back with your pylons rooted in their keys. Remember, here your fingers don’t need to be as flexible as in the sideways movement – they can remain standing straight, whereas when you move sideways their joints must bend.
- Combine steps 1 & 2 etc etc AF
- Combine the forward-back-left-right movements to move your hand in a circle... clockwise... then counterclockwise... How’s *that* for moveable stability!

Lesson VI-3 – Use Your Bridge to “Go Fishing”

Create your bridge again using your thumb and 5th fingers, on any two notes that are comfortable for you – not too big a stretch but not too cramped either.

- While standing really tall in your hand arch, drop your 2nd finger into a black note somewhere in between your thumb and 5th. The first few times don't even make it play its note – just drop your finger lightly on to the key surface, as if the fisherman dropped his hook but there was a thin sheet of ice on the water.
- The same, but now let your 2nd finger actually play its note – your fingertip breaks through the ice. First do this without really involving your arm – let it stay inert while your finger raises and drops lightly.
- Now raise your arm as you raise your finger, then drop them both simultaneously. Make sure that involving your arm in the movement doesn't weaken your arch. Your arm breathes to help your finger move smoothly, and your arch learns to remain stable while this is happening.
- Finally, raise your arm and lower it slowly while you drop your finger in several times for each single movement of your arm. This effects a third differentiation – the arm breathes while the arch remains stable, and the finger moves independently of both.
- Do all these steps with your 3rd finger.
- Both 2nd and 3rd

Lesson VI-4 – Jumping and Rolling in the Ice and Snow

Do you remember taking a running jump to slide on a clear patch of ice in wintertime? Dangle your hand loosely, envisioning a C major chord but not tensing your hand into that shape just yet. It's important that your hand stay loose and then automatically, lightly form itself to the chord shape in the instant your fingers touch the keys. But we're going to play that chord in some unusual ways.

- First imitate that running-jumping-sliding movement. Move your arm forward until your fingers fall into the keys. They reach bottom, the chord sounds, and you *keep sliding forward* until your fingertips hit the fallboard. Do this many times. Skidding on the keys this way forces your arch to stand up into the chord's shape whether it wants to or not!
- The same, but when you slide in and hit the backboard, don't leave the keys. Keep holding on to them and slide back out until you almost fall off the keyboard. Then slide in again. Repeat many times.
- Play your chord the same way, but now your foot hits a patch of bare pavement under the ice and catches. Your fingertips try to slide but they catch on the keys and stick to them, forcing your wrist to roll forward over your hand. Feel this movement simultaneously strengthen your arch and relax your arm.

Lesson VI-5 – Shake the Piano

Handy Harry has been at the gym working out, and his muscles are getting amazingly strong. He thinks he can lift a whole piano up!

- Play a comfortable interval with thumb and 5th, and then begin to press those two keys more and more firmly. Play *piano* but press *fortissimo*. What does your hand do? Most likely it stands up into its arch shape.
- Keep grabbing the piano like this, as strong as you can, and begin to try and shake it. Pretend you are so strong that you could actually lift the piano up over your head with your hand, and *grab* it and shake it as if you were preparing to do just that.

Don't overdo this exercise. The effort must be as strong as possible, because that is what develops the musculature to deal with the articulations and control of the key so necessary to colorful piano playing. But at the same time as you are making a maximal effort, try to avoid strain. Or rather, take your effort to the point of strain but don't leave it there for any length of time. Be wise! Build up your strength gradually, by degrees, sensing yourself the whole time and monitoring the level of strain so you don't overdo it and actually hurt something!

Group VII – Handy Harry Can Now Walk All Over the Place – Scale Prep.

Lesson VII-1 – Cross-Legged Walking – Passing Your Thumb Under

Part A

- Place your thumb on the note B, and raise your 2nd fingertip up high like that alligator's upper jaw, then curve it down into the note C# so you stand up extremely well on those two notes.
- Your thumb continues to stand on B, your 2nd flies up in the air again and descends, wafts down this time onto A#. Stand well on *these* two notes (A# and B).
- Using your thumb as a springboard, raise your 2nd high up to the sky, keeping its tip a little curved down, and alternate between C# and A#.

Part B

- Place your thumb on the note B, and raise your 2nd fingertip up high like that alligator's upper jaw, then curve it down into the note C# so you stand up extremely well on those two notes.
- Then let your thumb leave its key allowing your 3rd finger to stand on D#.
- Let your 2nd finger leave C# allowing you to tuck your thumb in under your 3rd finger, getting ready to play the note E. But don't play that note yet, just get your thumb as far under your 3rd finger as possible. You should really feel the thumb muscles, especially around its metacarpal bone, working very hard to push your thumb *further* under your hand – they really exert themselves and make a clear effort. In this sense this lesson is really not just 'sensory education' but physical exercise as well.
- Holding your thumb in its almost-cramped position under your 3rd finger, move your arm forward and up, or backward and down, to make your thumb get further away or closer to its note E without actually moving your thumb independently at all. Your thumb remains 'inert' while your arm moves it around. As if it were a broken arm in a sling or something. You can even move your arm back and down so far that your thumb touches the surface of the key.
- Now make your arm go even further back and down, still not moving your thumb independently but using your whole arm to move it into its key and actually play the note E. Your 3rd finger's arch must be very strong when you do this. It has to be a very powerful lever that your arm uses to move your clamped-but-passive thumb.
- When your thumb has been firmly rooted in its key, finally let go of D# with your 3rd finger, and play F# with your 2nd finger. Begin the same process again and continue on up the scale.

Part C

- Start your scale off the same way, but when you get to D# and are ready to play E, this time *don't* move your arm at all. Tuck your thumb under your hand so it is above its key, and then keeping your 3rd finger arch really stable drop your thumb into its key without lowering your arm

at all. Don't let go of D# but repeat this thumb-dropping motion many times. This is *reverse opposition*, where the thumb does the opposite of its natural grasping motion.

Part D

- Start your scale off the same way: when you get to D# and are ready to play E, again don't move your arm at all and do tuck your thumb under your hand in preparation for this next truly bizarre movement:
- Keeping your 3rd finger arch really stable, pull your thumb back towards your face. Your thumb metacarpal rises straight up and becomes more horizontal, while your thumbnail which was pointed towards you twists so it points more away from you. Then return your thumb to its tucked-under position. It's a kind of screwdriver motion. Unscrew and screw your thumb by lifting it and tucking it many times.
- When you are really used to this movement, screw your thumb a little further down so it actually plays the note E.
- Continue on up your scale, and each time you get to a thumb note, use this bizarre movement to play it.

Part E

- Repeat Parts A, B, C and D descending.

Lesson VII-2 – Handy Harry Gets Ready to Run

- Play C-D-E extremely quickly with your right hand 1-2-3. Was it even? Did all three notes sound the same loudness? First try this by jumping off the last note and flicking your arm up into the air (an excellent variation on this is the same using a B major scale instead of C major).
- The same notes, the same fingering, the same super-fast speed, but hold all the notes down – overhold them. This helps you to perceive more clearly any hidden unevenness. It also helps you to *feel* where exactly the “fall-down” is in your hand (the underlying cause of the unevenness).
- The same as step 1 but with the notes F-G-A-B, fingered 1-2-3-4.
- The same as step 2 but with the notes F-G-A-B, fingered 1-2-3-4.
- Using the hopping-launching-flipping up technique, play C-D-E, wait, take a breath, F-G-A-B, wait take a breath, C-D-E the next octave up the keyboard, wait, take a breath, F-G-A-B the next octave up the keyboard, wait take a breath, etc.
- Only when you can do this last step with real *élan*, real *aplomb* and a sense of vital confidence, try playing two of these groups more quickly – not entirely together yet, but with the breath between the two groups reduced to a minimum.
- Finally eliminate the breath altogether, play the two of them at one go – Handy Harry is really running!

Group VIII – Handy Harry Drinks Too Much “Raspberry Cordial” – Rotation

Lesson VIII-1 – Handy Harry Does Some Warm-up Leg Stretches

First try some leg stretches with your real legs, not your ‘piano legs.’

- Stand up, put one heel on a chair, and straighten that leg. Bend forward and feel a gentle stretch along the back of your leg. Where do you feel it the most: in your calf, behind your knee, or in your thigh – your hamstrings? Lean further forward to increase the stretch, but go gently – don’t force anything.
- Try stretching the other leg now. Do you feel the stretch in exactly the same place in this leg, or is it somewhere else? Which leg stretches further?

Now it’s Handy Harry’s turn,

- Mash your 2nd finger nail joint into the edge of the key – play the note with as splayed a finger as possible **[illustration]**. Let your arm relax completely, but don’t make *any* effort at all in your finger to curl or even curve it. Keep your wrist high but let your top knuckle be the lowest.
- Now begin to slide your finger forward on the key. Keep pressing to give Handy Harry’s leg the same kind of good stretch you just gave yourself. Slide all the way forward until your entire finger is mashed into the key. Rest there for a minute, letting your arm be totally heavy.
- Slide back out until only your fingertip is on key, and then repeat this in-out movement.
- Try this with each finger in turn.
- Try it with groups of two, three and finally four fingers. Which groups are most interesting for you?

Lesson VIII-2 – Handy Harry Needs to Lie Down

- Slide your whole thumb into a white key – Handy Harry is feeling so tired after all his workouts (or so lazy) that he just needs to lie down... Let all three bones of your thumb lie down in the white key, with your hand lying down beside in the keys as well – whatever keys are comfortable. Again feel the entire underside of your hand, both your palm and your ‘under-fingers’ – to mash the keys.
- Now Harry feels like he wants to roll over: leaving your thumb where it is, begin to roll your hand to the inside so it lazily folds over your thumb and eventually flops onto the keys on the other side of your thumb. Your hand is now to the inside of your thumb instead of outside, and lying on its inner edge. The entire edge of both your thumb and your 2nd finger now lie on the keys. **[illustration: Harry lying with his face in the gutter, a ridiculous smile plastered across his face]**
- Return to normal lying down.
- Harry seems to be both incredibly lazy and really restless – now he wants to roll the *other* way! Rotate your forearm so your hand begins to roll onto its outside edge. The entire edge of your 5th finger – all three bones – and the outside of your hand press into the keys. Keep rolling slowly... little by little... until finally your hand flops over onto its back, to the outside of your 5th finger.
- Return to lying prone on the keyboard.
- Harry wants to roll to the outside again, but in his sleep he stuck his leg out to the side so it stops him from rolling. **[illustration: 5th finger to the outside, other fingers to the inside – Harry lying on the beach on his back with one leg curled under the other – left leg curled under the right]** Roll your hand to the outside again, but as you begin to roll, stick your 5th finger more out to the side while angling all your other fingers to the *inside*. With your fingers like this, when your forearm rotates, it makes the other fingers separate out from the 5th finger. They go to the inside, while he gets squashed more to the outside. You can still turn your hand 90 degrees but not much more.
- Roll to the outside in this same weird fashion so that this time you stand up on your 5th finger while still using the rotation to separate out your other fingers from your 5th – they go ‘in’ while it stays ‘out.’

Lesson VIII-3 – Drunken Jumping

- Put your thumb on middle C. Take a look at the note C *three* octaves higher up the keyboard. Handy Harry actually thinks he can *jump* that far! But because he’s had a little too much ‘raspberry cordial,’ his coordination is a little off, and when he uses his ‘5th leg’ to land on high C, your 5th finger stands up but your arm rotates to bring the other fingers to the inside – he can’t stand up straight but goes all wonky. Your *thumb* ends up going to the outside, the same as your 5th, while your middle three fingers go to the inside.
- Jump up to a high note letting your right thumb fly further to the outside than the other fingers. Then jump to a low note, play it with your thumb while your 5th flies up into the air – your hand has rotated the other way. Keep jumping a very wide interval rotating your hand one way when you land on the high note, the other way when you land on the low note...

Lesson VIII-4 – Harry Gently Tests Some Very Thin Ice

Descend a piano key slowly, ever so gently, until, somewhere near the bottom but not quite, it seems to catch on something. If you go too quickly or strongly, you’ll go past this point without noticing it. Keep going slower, more gently, until you can detect this point 2/3 to ¾ of the way down where the key seems to get stuck on some obstruction.

This obstruction is the escapement. A little stick in the piano mechanism pushes up and rests against the hammer’s *knuckle* before it slides off the knuckle and launches the hammer onto the string. **[illustration: piano mechanism]** When you play a note normally, this takes place so quickly that there’s virtually no friction – if any, it’s imperceptible. But if you reach this point where the stick pushes on the knuckle very slowly, and just rest there, you can feel resistance – the stick tip gets stuck on the leather of the knuckle (it’s actually deerskin), and doesn’t want to slide past. So you press just a little more and it slides off. This last little part of the key’s path to the keybed takes place rather suddenly. You feel like you are crunching the key down to the keybed to get it past the resistance of the escapement – but you have to *feel* the escapement first before you can then crunch past it.

This process of descending the key to the escapement, feeling its momentary resistance, then crunching through it is the closest we pianists can approximate how a harpsichordist plays. Harpsichordists rest their finger on the key and exert such a slight pressure that the note does not sound but the key descends imperceptibly, just enough to bring the plectrum into contact with the string.

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Lesson VIII-5 – Looks Like the Ice is Just Thick Enough – But Not Totally Firm

Descend the key silently then lift it up only half way. Play the note.

Appendices

Appendix 1 – What to do besides teaching kids to play a piece by reading the notes and playing them on the keyboard...

Singing

Tapping

Sing while tapping

Playing by ear

Sing and play together

Name the notes without reading

Articulations, dynamics without reading – by ear

THEN read the notes!