MASTERS OF THE KEYBOARD

MASTERING THE CHOPEN ÉTUDES

Companion to GENIUS OF THE PIANO



ALAN KOGOSOWSKI

MASTERING THE ETUDES

FREDERIC CHOPIN AND THE ART OF THE PIANO



Chopin at the piano at home, pencil drawing by Jakob Goetzenberger, 1838

MASTERING THE ETUDES

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ALAN KOGOSOWSKI

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"Never displace the natural position of the hand"

- Jan Ladislas Dussek Instructions on the Art of Playing the Piano Forte or Harpsichord", 1799

"Genius for the pianoforte should be - like genius in general a gift which takes a new road and accomplishes unprecedented things: things which it takes others a little time to learn.

'Such pianoforte geniuses were Beethoven, Chopin, and Liszt; they perceived new means, solved the problems of new effects, created 'improbable difficulties' and wrote a literature of their own.

'It can be asserted confidently that in this sense nothing has been added since. It is indeed a very astonishing fact that other people have the power to do that which only one could do formerly. But he who stands alone when he appears in public and is only imitated later on by others, who compels pianoforte builders to consider new principles and who creates a new literature in which experienced pianists do not find their way at once, has a lawful right to the title 'genius of the pianoforte'."

- Ferruccio Busoni,

Allgemeine Musik-Zeitung, Berlin, March 1912

MASTERING THE ETUDES CHOPIN'S ÉTUDES AND THE ART OF THE PIANO

(Corresponds with each parallel chapter of Genius of the Piano)

Chopin's twenty-seven *Etudes* constitute a virtual compendium of piano technique. In the course of the series we find the paradigms for everything our hands could ever be called upon to do. Thus, by examining these miniature masterpieces, we are able to uncover exactly how the piano is played, how the hand works at the keyboard, and what we really mean by 'technique'. We are able to address the physical mechanism we all share – how the hands operate, and how we actually control the movements of our hands, both physically and mentally.

The series of *Etudes*, or *Studies*, by Chopin, is one of the cornerstones of the piano repertoire. Each *Etude* deals with a specific question of piano technique, and the set as a whole covers everything a pianist could ever be called upon to do. The reader is taken on a journey through the rich terrain of the entire set in the order in which they were published, but grouped in twelve chapters in such a way as to reveal a different area of investigation in each. Each chapter thus becomes a self-contained unit within the whole.

Composed between the ages of nineteen and twenty-six, these *Etudes* unveiled a new world of musical sound. In Chopin's hands the piano now became a quasi orchestral instrument capable of producing elemental surges as well as gossamer waves of sound, something quite new and distinct from the chamber instrument it had been treated as up until then. Even Liszt – then just twenty years old – who had been trained by Carl Czerny in the old-school Viennese style of piano technique, with its emphasis on mechanical drill – scales in single notes, thirds, sixths, octaves, arpeggios in all keys – was startled at the possibilities revealed by Chopin.

From the perspective of a performer – one recognized as a unique authority in the performance of this music – the reader can share the secrets of the virtuoso pianist. Information about all aspects of performance – physiological, musical and stylistic – is imparted in a way not only of interest to professional and amateur, but to the ordinary reader, who will be 'let in' on the world of the virtuoso, and at the same time learn about physical processes which we all share in common, and about the entirely avoidable danger of *Repetitive Strain Injury*. This is one of the most fascinating and instructive areas of human creativity – one of relevance and application to everyone, musicians and non-musicians alike.

Besides being the best studies in the art of piano playing ever conceived, and also being representative in many ways of the whole direction taken by European music, Chopin's *Etudes* are exquisitely beautiful and enjoyable simply as great music. For the most part no longer than two and a half minutes' duration, the self-contained perfection of each *Etude* makes it a veritable tone-poem, and as the composer covers every element of piano playing and piano music without ever repeating himself, there is enormous variety from one *Etude* to another throughout these twenty-seven miniature masterpieces.

The Essence of Mastering the Etudes

If you are a Martian and you are reading this book in the 25^{th} century, trying to figure out what humans were doing in the 19^{th} and 20^{th} centuries, before they blew themselves up, this book concerns the very best thing they were doing, and it's the best thing they *ever* did – you may be able to teach yourself to play the piano like the most exciting of them all, a quirky Russian Jewish fellow by the name of Vladimir Horowitz. You might even be able to do better – it's possible. That's providing you can find a piano, as all man-made music, played by individual people with hearts, minds and souls, became obsolete in the 21^{st} century with the universal adoption of 'virtual music', music composed, reproduced and marketed by computerized methods.

If you are a particularly clever Martian – or even just an open-minded and attentive one – you will notice that playing the piano revolves around one fundamental issue: the application of the human body's physiological resources at all times in the most sympathetic ways possible. That is to say, one should not fight against the body's natural inclinations, but work with it in the directions that its design and structure demand, or *request* – it's not our enemy, after all: it's on our side.

This fundamental concept, which, with their obtuseness and combativeness – even against *themselves* – very few humans ever understood, can be subdivided into three main areas, which are the principal subject of this book:

1. *Position*. The positioning of our physical resources – body, arms, fingers, and most of all *our hands* (this aspect known to all doctors as "*position of function*"). Position of our hands is the most important because the effects of the position of our hands carries through to all other areas. It is of paramount importance in everything we do, down to each *individual* note as well as groups of notes, on the piano.

2. *The design of our hands*. Human hands were built to *grasp* things – including notes – being constructed of four jointed fingers and an *opposing* thumb, the latter separate and distinct from the other fingers and needing to be allowed to remain free and loose, and *never* being pushed to operate in the same up-down manner as the other fingers.

3. *The movement of our hands* – not by means of having them struggle to stretch from one place to another, but by gently and smoothly *displacing* them with the unforced participation of their supporters, the forearms – which are willing, waiting and wanting to do so. Freedom of physical movement is inextricably linked with the flow of ideas from our brains.

Then, you also need heart and soul, and this book can't help you there. It is about how *physically* to play the piano: the physiological in conjunction with the aural effect – how to hear and *think* about what you're doing. Horowitz was slightly lacking in the heart and soul department, being more self-centred and neurotic than the average human – even more than the average celebrated performer – but as for the physical and aural control, he had it down to a fine art. So you should have quite a lot to go on by reading this book.

But even if you don't want to play the piano, the co-ordination of mind and hand that comes with an understanding of the principles involved will improve your ability to do anything at all. Tactile function and brain function go together. So good luck!

ALAN KOGOSOWSKI

Alan Kogosowski's stature as an articulate and persuasive communicator as well as a pianist of rare ability and charisma has been acknowledged on both sides of the Atlantic. His debut in Chicago was hailed 'Chopin in the Hands of a Master' by the Chicago Sun-Times. Decorated by the Polish branch of the Knights of Malta and the Vatican for his Chopin recitals in London, his performances have created the same excitement among his audiences as did those of his illustrious predecessors Ignaz Paderewski and Artur Rubinstein. Kogosowski was invited to perform on numerous occasions for members of the Royal Family – for Queen Elizabeth the Queen Mother, for Prince Charles and Princess Diana, for the Duke and Duchess of Kent, and for Princess Alexandra.

In the *Schubertiade* concert series at *Sotheby's* in London, which he created and hosted for ten years, Kogosowski presented musicians and singers from around the world, whom he introduced, accompanied and together with whom he performed. It was at these musical evenings in London that Kogosowski developed his own style of welcoming an audience into the world of the musician, and of making his listeners feel as if they were his partners in the journey of musical exploration, an involved and essential part of the musical and artistic experience.

As a throwback to the multi-leveled activities of pianists of the past, Alan Kogosowski has introduced two major works to the concert repertoire. He orchestrated the *Trio Elégiaque* in D minor by Rachmaninoff, a work the composer thought about in orchestral terms but never orchestrated himself – thereby creating a new concerto, the *Concerto Elégiaque* in D minor. This was premiered by Kogosowski as soloist with the Detroit Symphony Orchestra under the baton of its chief conductor Maestro Neeme Järvi. The recording of this work became a best-seller, going 'straight to the top of our list', said the *American Record Guide*, which considered the work worthy of being regarded as Rachmaninoff's '*Fifth*' Piano Concerto.

The success of this Rachmaninoff orchestration led to a consummate reconstruction and orchestration of Chopin's unfinished *Third Concerto*, a work which the composer tried to settle down to completing for ten years, during the same period he was writing the *Etudes*. Chopin eventually published the first movement as a piano solo, and the other two movements as incomplete solos. This realisation was also premiered by the Detroit Symphony Orchestra, to mark the 150th anniversary of the death of Frederic Chopin in October 1999.

Several television films have been made of Alan Kogosowski playing the music of Chopin. *Kogosowski plays Chopin at the Guildhall* captured a recreation of the last public performance given by Frederic Chopin himself, which took place in 1848 at the Guildhall in the City of London. More recently, Kogosowski created a series of six programmes on Chopin's life and music, filmed live in London, with introductions to all the music, as well as superimpositions of evocative imagery. *Frédéric Chopin - A Life to Remember* premiered in 2003 and was singled out by *The New York Times* as an '*Outstanding Documentary*'. The series is available as a double-DVD set from www.kogosowski.com.

Also available is the 'Hand-book' for computer users and everyone else using their hands, *How to Prevent RSI - The Michelangelo Code*.

Alan Kogosowski's special understanding of the workings of the hand and of piano technique is due to several exceptional teachers. First, Leo Shalit, old-school cultivated European gentleman from Riga, with a distinguished pianistic backround and a deep understanding of the piano and its literature, who attended masterclasses of Rachmaninoff's colleague Alexander Goldenweiser in the inter-war years, inculcated in the young Kogosowski a feeling for 'dead-weight' looseness and suppleness, a crucial element in the manner of playing developed by Chopin and Liszt. The outstanding Australian teacher, Roy Shepherd, a student of Alfred Cortot, further enhanced this feeling for suppleness – "souplesse", as Chopin always encouraged.

Next, Michel Block, superlative, refined French pianist steeped in the pianism of Chopin and Rachmaninoff and a protégé of Alexis Weissenberg, a master of it, took this grounding in suppleness and demonstrated how it must be understood and monitored on an ongoing basis. He showed Kogosowski the essential key to all piano technique (see *The Philosopher's Stone of Technique*, chapter 10 *Genius of the Piano*).

Finally, Roger Woodward, challenging, original Australian pianist, trained initially by a pupil of Rachmaninoff, later studying in Warsaw, showed Kogosowski the crucial role of 'hand positions' – the over-riding importance of correct positioning of the body and hands in everything we do. If we position ourselves correctly, then we can *truly* relax, and turn our attention to the next thing on the agenda; the fingers will automatically find their mark with the exact degree of nuance and musicality.

The distinction between 'musical' and 'technical' has been a commonplace since the time of Mozart and Clementi, and while some pianists – we are people, after all – may be more tasteful, refined, emotional or passionate than others, the distinction is misleading, and completely useless. Not only is musicality serviced by technique, but the two are so closely intertwined as to be inseparable. Technique is the means by which we produce the sounds we wish to hear. Michel Block said "fifty per cent of technique is in the ear," by which he meant that half of any given technical question consists of accurately defining *exactly* what sounds one wishes to produce.

The same applies to the ethos of the music: if we don't know where it came from, what circumstances and ideas gave it birth, and what it was intended to express, then a major part of it is lost on us, though great music does have an intrinsic universality. It is the need for listeners to understand both elements that inspired the writing of the companion book to *Mastering the Etudes*, *Genius of the Piano*.



Mastering the Chopin Etudes

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Synopsis

- 1 Opening up the spectrum of piano playing from that designed for a chamber-sized fortepiano to that organically conceived for a modern grand, with an orchestral spectrum of sound, expanding the scope from a centralized area of the keyboard to a range of six octaves.
- 2 The basic anatomy of the hand and how it works, with the central importance of the thumb and the need to understand how it may be used without tightening and straining the whole hand, the forearm and the carpal tunnel in the wrist. The crucial role of fingering, and when cheating isn't cheating.
- 3 The cultivation of 'singing tone', simulating the human voice through manipulation of the sonority and reverberation of notes, imitating the breathing patterns of the voice and the nuances of phrasing, and the basic difference between the extensor and flexor muscles the muscles operating the fingers which must be used to produce singing tone.
- 4 Flying over the keys with the greatest of ease in daredevil music, which can only be accomplished through close hand positions. It also requires daring, panache and showbiz, which can't be taught. Sorry.
- 5 Tone colouring through calculated degrees of touch and pedaling. The central importance of hand positions in everything from tone colour to making the fingers fly over the keyboard with sureness and confidence.
- 6 The unsung hero, our left hand our 'Cinderella' hand and how to help it fulfill its task of supporting the prima donna right hand in everything from wide-spread chordal accompaniments to fast and brilliant scale and arpeggio passages.
- 7 Making sounds float out of the piano, through total control of the fingertips, and perfect symmetry of the hands' movements.
- 8 Easy and unstrained displacemant of left hand positions in conjunction with pointed touch produced by small flexor muscles, along with the need to develop lightness and nonchalance in manner of playing and approach to everything.
- 9 Orchestration with ten fingers, creating on the piano a panoply of colours and nuances, lights and shadows, to parallel the coloristic range of an orchestra, and controlling different strands of sound at once.

- 10 Focusing all the movements of our fingers, hands and body to create a level of control over the piano similar to that of a great conductor over a virtuoso orchestra.
- 11 Complete mastery, to the point where the piano and pianist are one, and where the piano ceases to be a single instrument but instead an orchestral medium for waves of sound and existential epics, Tolstoyan novels in three minutes.
- 12 Now we know everything there is to know, so we can sit back and let our fingers do the working.

Mastering the Etudes

"Never displace the natural position of the hand" - Dussek

Chapter One

A WHOLE ORCHESTRA WITH TWO HANDS

Etude No. 1 in C major: Hand Positions; Thumb; Posture

Chopin's first *Etude* can be seen as a *homage* to Johann Sebastian Bach. But it was primarily something else – a piece of music unique on its own terms, representing a pivotal moment in the history of the development of piano technique. In that two-and-a-quarter minutes of music, composed at age nineteen, Chopin unlocked a whole new world of technical and artistic possibilities for the new and still

developing keyboard, by opening up the limits of what could be expected of the hand.

The hand was now, for the first time, required by Chopin to range in wide-spread arpeggios over five octaves in quick expansions and contractions. No composer – with the exception of Beethoven in a few rare examples – had ever dared write music for the piano where the individual hand positions were not contained within the eight-note span of an octave. It was the natural way of things harmonically – all the elements of any particular key being contained within a single octave span – and even more so physically, as the natural span of most hands is around an octave.

'Hands' were used as measurents for centuries – for instance in describing the height of a horse – the original 'hand' supposedly dating from the tall King of England Edward 1st in the 13th century, whose hand was used as the template for this unit of measurement (his foot was used to establish *that* unit of measurement). Occasionally there are hands which are considerably larger than the norm – those of Rachmaninoff, Lhévinne, and Artur Rubinstein being salient examples – but these are extremely unusual, and in the case of pianists do not fundamentally determine the quality or nature of their playing (a handful of pieces, such as Schumann's *Toccata*, are more easily within their grasp – that's the only advantage they have over normal mortals).

Chopin had small hands, being hardly more than five feet in height, and Liszt, for all his wide-ranging pyrothechnics, was also slight of build and had no more than average-sized hands. It is probably fair to say that ninety per cent of people have hands which span eight notes, i.e. basically the compass of an octave. So the idea of writing music for the piano where hand positions extend beyond this span never really came up during the first century of the pianoforte's existence, and the mere half-century that the 'grand piano' was in existence before Chopin wrote his first *Etude*.

By 'hand position' – a critical, *essential* concept in the understanding of piano technique and the causes of repetitive strain problems – we simply mean the position in which the hand finds itself while the fingers play whatever they have to play, before it moves along to the next position.

Here, for the first time on a consistent basis, the *apparent* hand positions are expanded not just beyond the eight-note range of an *octave*, but to ten and *eleven* notes – over and again, four times in each bar. And four times in each bar they *contract*, in order to regroup and spread out again. There were hardly ever passages in piano music before Chopin which required hand positions of this size, or rather, 'extension'. Most certainly no-one had ever written a composition which required this kind of extended hand position, or *seemingly* extended hand position, consistently throughout a piece. The basic, natural 'hand position', fundamental to all piano music of the classical period, including all of Mozart, Haydn and nearly all of Beethoven, was a *sixth* – the span of six notes, embodied in the classic accompanimental figure known as the 'Alberti bass', which consisted of a *fifth* or a *sixth* with a *third* incorporated within this position. Which is to say, the hand was never required to stretch more than the distance of six notes – a *sixth* – before moving on to another playing position.

The first subject of Beethoven's *Les Adieux* Sonata, Op. 81a, has a left-hand accompaniment figure built on a sequence of *tenths*. It's an awkward, lumbering passage, but then, that's probably what Beethoven had in mind. There is also an instance in the first movement of the next sonata, *Sonata* in E minor, Op. 90 – on the second page, where the left hand is required to play an accompaniment figure of broken chords spread over a *tenth* in each beat. There is a momentary instance in the last movement of the '*Moonlight*' Sonata – another prototypically Romantic work – where the left hand is made to take in a span of a *ninth* three times in a bar, and that is also strikingly unusual. A more extended example occurs in the accompaniment to the middle section of the scherzo of the *Hammerklavier* Sonata. (There is also a four-bar sequence in the first movement, in the left hand, just before the end of the exposition.)

By comparison, notice a similar middle section to the *Hammerklavier* example in the *scherzo* movement of Beethoven's *Pastoral* Sonata of seventeen years earlier. This 'trio' fulfills a similar function musically, suddenly casting us into the furtive minor mode for contrast in the middle of a bouncy *scherzo* movement. But in the *Pastorale* Sonata the left hand accompaniment is in simple broken octaves, whereas in the *Hammerklavier* scherzo it is broken *tenth* chords.

The above examples are rare instances of such a figure before Chopin, and all in prototypical Romantic piano works. They last only a short while, but if the pianist lets his hand *grasp* for the *tenths*, the hand will become strained. The trick is to try as much as possible to keep the hand in its 'natural' position, that of a *sixth*, and move it along briskly but with ease from position to position. The first note must be released like a hot potato, as the second note is a full *tenth* away – beyond anyone's unstrained span. The hand should move quickly and *laterally* – i.e. without stretching, grasping, or twisting around – from the first note to the next note and the next little group of notes.

Another dozen years would go by before Chopin was to establish the chord of the *tenth* – as opposed to the chord of the *sixth* and the *octave* – as the basic unit of pianistic harmony. This new building block of pianistic sound transformed the quality of sound emanating from a piano from that of a keyboard sound to a much broader, svelte sound, orchestral in quality and dimension.

The only reason to expand the span of the 'hand positions' in piano music is to create the sound texture of multiple instruments. That is to say, the aural effect becomes that of a small orchestra. The expanded hand-position is equivalent to expanded chordal blocks. Chordal blocks are the fundamental building blocks of orchestral music: in an orchestral score a chord is played by several instruments, over a widespread range. The use of many instruments affords the possibility of much chromatic variety – crisp, clear flutes playing the upper notes of the same chord in which cellos and double basses play the weightier lower ones.

But the availability of many colours is only a by-product of the fact that the orchestra has many players: the *true* distinguishing feature of an orchestra is that the chordal harmonies can be spread out over several octaves, thus lending a depth and breadth to the sound that is unachievable by a solo violin, flute or pianoforte.

Chords in diatonic harmony contain all their components within the space of a *sixth*, so the only reason to expand the span of apparent hand positions in piano music is not harmonic, but textural – i.e. to create the sound texture of multiple instruments. That is to say, the aural effect becomes that of several instruments playing at once. With Chopin's new way of writing for the piano, the piano was now capable of an orchestral range of sound, and the pianist was no longer a mere keyboard operator but rather more like a conductor, controlling waves of sound with chromatic strands throughout the texture.

Chopin's innovation of writing music where the chordal span of a *tenth* is carried on *consistently* throughout a piece – in so doing, establishing a new kind of pianistic texture – seems like a simple idea, but it was to the sound of the piano what the invention of the wheel – also a simple and obvious idea with hindsight – was to transportation. The result of this new concept of chordal distribution on the keyboard was an exponential expansion of the scope and possibilities of the kind of sound which could be produced on a piano.

That's the musical, textural, side of the story. Now back to the physical.

The Beethoven examples quoted above last only a short while, but if the pianist lets his hand *grasp* for the *tenths* it will become strained. The trick is to try as much as possible to keep the hand in its natural position of a *sixth* and move it along briskly but calmly from position to position. The first note must be released like a hot potato, as the second note is a full *tenth* away – beyond anyone's unstrained span. The hand should move *laterally* – without any kind of twisting, turning or stretching – from one note to the next note and the next. Chopin always emphasized *lateral* movement.

Physically, a *sixth* is our natural hand position – much more so than an octave, the span of which is pushing the hand to the extremity of its natural possibility. The natural position of the hand when dropped loosely by our side is the span of a *sixth*, so in order to accommodate a basic harmonic and textural unit of a *tenth*, there is going to have to be some sleight-of-hand.

That's what Chopin's first *Etude* is all about. If we think of this piece as being playable only by pianists who have unusually large hands, then we have missed the whole point of this *Etude*. In actual fact, this is one of the rare examples in the piano literature where it is probably more convenient to have a large hand – but that is *not* the purpose of the Etude. The reason we should all study this piece is in order to accustom our hand to moving from one note to another without stretching it out.

Surprising as it may seem, and to the continual amazement of most students, amateurs and even professionals – the size of the hand (given an average natural size, of course) is immaterial, and even freakishly outsized hands like Josef Lhévinne's and Sergei Rachmaninoff's won't do us much good. Lhévinne and Artur Rubinstein could comfortably stretch an *eleventh*, and Rachmaninoff famously could stretch a *twelfth* – an octave plus a *fifth*! However that's completely unnatural, almost grotesque, and virtually impossible to believe without seeing such a thing with one's own eyes.

Hand size – theoretically, at any rate – doesn't enter into the equation of the first *Etude* and the fundamental element of piano playing and hand usage which it exposes.

Even if one *could* stretch a *tenth* or *eleventh* with ease, the hand would still be *stretched*, and therefore not in its *natural position*. The resulting strain from the continual repetition – '*repetitive* strain' – of the stretch of anything greater than the hand's natural span – as it falls when it is in an unforced, limp state – will become crippling in a very short space of time, no matter *how* big one's hand. *Our hands are not supposed to stretch at all. Not ever*.

The secret in the first *Etude* is *not to try* to stretch the hand positions – in fact, to *ignore* the 'extended' hand positions implied by the extended chordal blocks, and keep our hands in their natural position, meaning *not extended any more than the distance of a* sixth – six white notes on the keyboard.

What exactly *is* the hand's '*natural*' position? This is the first thing all pianists, as well as everyone using a computer keyboard, or mouse, must understand and grasp.

The 'natural' position of the hand is a loose fist with the fingers hanging easily. If we are to avoid strain, and even injury, to our hands – and in the case of this first *Etude*, just be able to play it *at all* – then the hand has to stay as close as possible to this natural position at all times.

To gauge this natural position precisely we need only drop our arm limply by our side. The way the hand is positioned when we drop the arm in this way is what we call its *natural state*, and that's just how we must try to keep it at all times, as far as we possibly can. There's no strain when it's in this position. There *is* strain with any divergence from this relaxed position – which is to say, stretching it out. Rachmaninoff's gigantic hands would be just as subject to this principle as ours, so size of hands is really almost irrelevant in this context.

A spread-out, or splayed, hand position, which then becomes set, or fixed, will always injure us, and quite soon. The hand should *never* diverge for more than the briefest moment from its natural position when relaxed – where the fingers are naturally close together in this loose fist, encompassing a span on the keyboard of a *fifth*, and never more than a *sixth*. We must endeavour to keep the hand in that position at all times, moving it along quickly and easily to the next position – '*displacing*' it from one group of notes to the next.

That is one of the basic secrets of 'technique', and it is clearly demonstrated by Chopin in his first *Etude*. It's clear because of the complete impossibility of playing this piece without the right hand seizing up in a cramp unless we actually do keep it in a loose, natural, contained position, and move it along freely and easily without stretching it.

In the course of the *Etudes* Chopin will deal with every aspect of piano technique, from fingering to tone-production, variations in touch, hand symmetry, sound range, phrasing style, and of course emotional projection. But the first essential is to *position* our hands, through carefully considered *'hand positions'*, in such a way that the fingers are free to accomplish all these things. In the next chapter we will see how important it is to gauge the hand's position with exactitude – not just the *size* of the hand position, i.e., how extended the hand is required to be, but also the *angle* at which the hand is placed on the keyboard at each and every point.

Position is everything. It is essential for a golfer before he swings, a tennis player before he hits, a builder before he builds, and a pianist when he addresses the keyboard. If we've got the positioning right, we can virtually go to sleep when we perform. The fingers will find their mark automatically, just as the golf ball will head for the green automatically if we have prepared the shot correctly – the stroke itself is a foregone conclusion to the set-up, just as the actual playing of each note on the piano is a direct consequence of the positioning of our hands.

On the computer keyboard a lot of us can actually get away with 'hunt-and-peck' style typing – using just the index finger of each hand. It's not very professional, but a lot of people can manage quite happily, especially if they are using the computer for tasks other than typing letters and documents continually. With 'hunt-and-peck' typing our hands fall automatically into their ideal position for work – their *natural* position. On the piano, however, hunt-and-peck won't get us very far. We have to use *all* the fingers if we want to play anything much more than Chopsticks (which is naturally, automatically – in fact unavoidably – played 'hunt-and-peck' style). So we've just got to get it right. Not many do, however, and in the long run many fall by the wayside.

When a musical and eager child of seven or eight begins to take piano lessons, he or she usually gets the placement of the hands and fingers more or less perfectly. Within a few weeks or months, that child is usually playing Mozart rather well, with a Mozartian touch that's often difficult for adults to achieve. Problems usually start developing around the age of thirteen, and continue through the teen years. By the late teens, many drop out and never play again. Those who have their heart set on pursuing a musical career will persist and try hard to ignore the developing problems, but these become embedded and slowly wear away at the young pianist's musculature.

The main troublemaker is the need to play chords, or chordal harmonies. On the computer keyboard, no matter how fast we type, it's always one key at a time – with an occasional ctrl-alt-delete or 'shift' to break up the flow, but these are few in the overall scheme of things. On the piano, however, the harder the pieces we play, the more complex the accompaniments in the left hand as well as the multiples of notes required to be played at the same time by both hands.

What happens when we play a chordal accompaniment to a melody, if we haven't been conditioned by years of thought and practice to watching our hands in order to make sure that the natural position is maintained at all times? In most cases, a student will allow his hand – usually the left, where chordal accompaniments most often reside – to become *fixed in a set position*. Instead of using the fingers individually, as does a typist, or a young pianist playing Mozart, he or she allows the hand to fall into a pattern of operating clumsily like a paw. They find the chord and then clump the hand down on it, instead of playing the three or four notes of the chord *as individual notes*.

Next the hand remains in this fixed position and clumps about by twisting and turning, or by small rotations. We can see this clearly with many popular or Blues pianists, or pop singers accompanying themselves – especially when they try to make the chord reverberate by tremolo-ing it: they twist their whole hand from side to side, a little like Fred Astaire or Gene Kelly waving a straw hat.

These popular-music pianists are unaware that unlike Fred and Gene, who were loose as loose could be, their hands have become fixed and rigid. Fred and Gene were shaking their hands *from the wrist*, but these pianists have tightened all the long muscles extending from the hand through the wrist, and the wrist is just as fixed as the hand is on the chord. These pianists are shaking their hand *from the forearm*.

Shaking or rotating – this is not the way to play the piano. Firstly there is no clarity in the sound of the notes and no ease of performance, the arms and wrists being in a continual state of strain. Significantly, carpal tunnel problems will develop before long because of the continual tightening in the forearm and wrist – home of the Carpal Tunnel.

The first *Etude* moves up and down the keyboard not in a sequence of broken chords of the *tenth* and *eleventh*, let alone 'arpeggios'. It moves up and down in a repeated pattern of a *fifth*, then a *fourth* and finally a *third*. This is essential to grasp, fully understand, and vigilantly monitor at all times if we are to play this *Etude*.

Our natural inclination to stretch the hand to encompass the extended position of a *tenth* is entirely based on our perception of the *harmonic* structure of the piece. Harmonically, the ubiquitous '*alberti*' chord of Western keyboard music has now been subverted from a chord of the *sixth* which has the *third* included inside it, to one where the central *third* has been removed and placed outside the octave span – it is now the *top* interval, added above the octave.

Therefore, even if you belong to the one percent of pianists who can stretch a *tenth* comfortably, your hand is still incapable of stretching that *tenth* in the way that the broken chords of Chopin's first *Etude* divide its component intervals. Bar one might not be too uncomfortable if you have a large hand, but already in bar two the first interval becomes that of a *sixth*. Thereafter, it occurs sometimes as a *fourth*. On a couple of salient occasions, this first interval becomes a *seventh*. Whether it is a *fourth*, a *fifth*, a *sixth* or a *seventh* – all of these come up regularly throughout the *Etude* as the first interval – because of the layout of the *Etude* this interval must always be played by the thumb with the index finger. The span between the thumb and the index finger is of course the largest span among the fingers, but it still has its limits, and a *seventh* is right at the upper limit of a single grasp of 1 - 2, and a *sixth* is stretching things too far for most pianists.

But even the sequences which begin with a *fourth* – an easy enough interval for thumb and second finger – are problematic. These sequences, as it turns out, are almost trickier than the ones beginning with a *seventh*, because the *fourth* segues in each case to an interval of a *fifth* in order to complete the octave, and in this *Etude* that interval must be played by the second and fourth fingers. The second and fourth fingers *cannot* stretch an interval of a *fifth* naturally. No-one's hand can – not without injuring it; we feel the webbing at the base of the fingers seem to start to tear from doing it just once, let alone repeatedly, as it must in this *Etude*.

The only conclusion from the above conundrum is that *each and every note we ever play must be treated – as an ideal, of course – as if it is a whole hand position*.

Sometimes two adjacent notes will fall comfortably within the reach of the fingers playing them, those fingers lying in their natural position. But even in these cases, the angle at which the hand lies as it plays each note will change: the position and angle of the hand on the first note of the C major *Etude* is different from that which it should ideally adopt for the second note, even though the span between the two notes played by thumb and second finger is quite manageable. The position and angle of the hand on the first note of the C major *scale* is slightly different from that which it should ideally have for the second note, and the third, and so on.

We will learn a lot more about the position of the hands *vis-à-vis* every note as well as every grouping of notes through the course of this book. The overall effect of understanding that each note must be approached individually and separately, given its own treatment and its full value as an individual, is that *most of our playing becomes in effect* non legato.

That does *not* mean *staccato*! – it means we must never get stuck in the keys in an attempt to play with a finger *legato*, tying the notes together physically. *Legato* is an aural effect – an *illusion* which we must create without making the fingers yoke themselves to adjacent notes. We must *treat* it as an illusion, one that we create with a variety of techniques – pedal, combinations of voices, above all full value given to each individual note. If each note has its due, then the aural effect will be smooth – *legato*.

Why should pianists feel guilty about having to use artifice – not articicial techniques, but calculated techniques nonetheless – in order to create a legato sound? Singers do it with every phrase, with every breath they take, in order to tie the notes together in a *legato* line.

Acoustically, tying notes to each other (and overlapping them, which only an instrumentalist can do, of course) has an adverse effect on the desired aural impression of *legato*, because the reverberation of notes – the overhang (even when they are released) – means true *legato* is compromised while previous notes are still sounding.

Physically, it has a negative effect, because fingers which hold down notes while others take center-stage are compromised.

Throughout the course of this book we will learn a lot more about the position of the hands in relation to a) every individual note, and b) every group of notes. Having to play each key separately – from both the physical and acoustical point of view – makes most of our playing in effect *non legato*, but this is solely for the purposes of the physical reality of the sound production, not the aesthetic discussion. What we are trying to do is stop our fingers becoming 'glued', so to speak, to the keys in a vain attempt to create a legato *sound*.

So we have a major principle here. The principle is this: we must play each and every note that we ever play – in anything – by displacing the hand from one key to the next while keeping it in its natural, at-ease position. Sometimes two adjacent keys are comfortably within the reach of the fingers which are to play them; however even in these cases, the angle of the hand changes after it has been displaced from one key to the next. Thus the new key must be addressed separately and individually, in what is in effect a non legato manner; not 'staccato', but definitely not legato. Another crucial element is playing the piano, and this is gigantic – the univited pachoderm (elephant in the drawing room) – and being able to *continue* playing it, is the correct management and operation of the thumb. A considerable number of pianists have developed supposedly mysterious problems in their thumbs, and these become debilitating enough to temporarily or permanently halt their careers.

The importance of the thumb's looseness, flexion and disconnection from the rest of the hand – i.e. *it should hang away from the hand as much as possible* – cannot be over-emphasised. The natural position of the thumb – i.e. the way Nature made it – is flexed and hanging loosely away from the hand, about two and a half inches away from, and below, its neighbour, the index finger. A lot will be said about this in future chapters. If you get this right, you're most of the way there. Without understanding and mastering the use of the thumb, one will *never* be free of the threat of RSI, tendinitis, carpal tunnel syndrome and any other kind of strain of the hand, wrist and arms.

The thumb must be *bent*, *curved*, *flexed* – whatever you want to call it. Just make sure it isn't straight. This cannot be stressed enough. If the thumb is straight, it is unavoidably and relentlessly tightening and straining – injuriously – all the muscles, tendons and nerves at the base of the other fingers – especially the index finger, its nearest neighbour, upon which it more often than not presses when it is rigid – as well as its own base, the side of the wrist, and the long muscles going up the inner side of the forearm. Just don't do it.

The trouble is, the thumb has a tendency to straighten and stick out rigidly unless we watch it carefully. It's partly because of laziness on the thumb's part – it's easier for it to simply follow the leader with the other fingers. The other fingers are designed to point in a forward direction – unlike the thumb, which is entirely constructed to *oppose*, i.e. move sideways and only sideways.

Also, the thumb simply does this straightening and sticking-out motion as an automatic reflex action when we are just yawning and stretching. However that reflex action lasts only a moment – not long enough to do any damage. If we held this position for any amount of time, we would soon start to cause strain and then injury. When playing the piano, if we don't watch the thumb constantly, and we let it fall into its lazy, reflex, 'default' position, we will find ourselves playing for five hours with the thumb semi-permanently in this dangerous mode. The result is RSI in no time, because the strain is prolonged and *repetitive*.

This tendency to straighten is also forced on the thumb by the need to grasp implements with pressure. The thumb might seem to be able to exert more pressure when it is straight: imagine the mode our thumb immediately slips into when we are trying to twist a cap off a jar that is sealed tight – it goes rigid and straight as can be. But it is being injured when it does this over any protracted time. Or repetitively. It even almost seems to bend *backwards* at such times – 'seems' because backwards is a physiological impossibility for the thumb or any of the other fingers. It is actually the muscles and tendons at the side of the wrist and forearm which are pushing the thumb into a backward position. The thumb itself cannot bend back.

In his huge scientific treatise *Physiological Mechanics of Piano Technique*, Otto Ortmann wrote:

"Knowing the location of a muscle and its various angles of pull will readily prevent the assignment of impossible mechanical conditions... it will aid in distinguishing normal muscular fatigue from the fatigue of incorrect co-ordination."

The angle of pull of the fingers does not include the direction backwards. Yet the thumb straightens almost to the point of seeming to bend backwards if it is left to its own devices and not monitored vigilantly. We thus need to watch the thumb all the time – certainly until it gets into the habit of hanging loose and bent at all times, but even beyond that. An experienced pianist watches the thumb constantly to ensure that it is always bent. Both of them. He knows that *the thumb cannot be loose if it is not bent*.

If we're going to avoid tendinitis and other forms of RSI, we must keep our mind on our thumb as much as we possibly can. Surgical instruments, golf clubs, gardening tools, carpentry tools, scissors, pens, the necks of musical stringed instruments – all of these must be held loosely and with a *flexed*, i.e. *gently curving inward, thumb*.

What has all this got to do with Chopin's first *Etude*?

Everything. The first *Etude* is all about playing the piano *with the fingers*, while minimizing the involvement of the arm and wrist to the greatest extent possible. It is about *not tightening our hand into a fixed, rigid, set position*. In this *Etude* this is an almost unavoidable tendency, because of the chordal basis of the piece, broken chords moving up and down the keyboard as quasi arpeggios. They're not arpeggios at all – they're chords of a *tenth*, sometimes *eleventh*, repeated up an octave three times and down again. If we do allow our hands to become set in fixed positions we simply will not be able to get to the end of the piece – or the first page for that matter.



Ideal position of the thumb, the position in which it should be at all times: bent at the joint, hanging away from the rest of the hand a good couple of inches, much looser than the other fingers, in fact almost lifeless. It should **feel** lifeless. The hand itself should lie on the keyboard as it falls, in a loose fist, over a space of about a 'sixth', gently curved As with our hands, our *body* must also be positioned correctly, so that it can give maximum support to our arms and hands. Although Chopin will show us that the fingers themselves must be the primary focus of our energies, and their independence – not just from *each other*, but *from the hands and arms* – should be our main objective, our posture at the piano is of crucial importance in providing the freedom we need for the fingers to be able to do their job properly.

If we sit with our back straight and our upper body pointing forward we can gain all the support in the world from the centre of our upper back – between the shoulder blades – and minimize tension in the forearms. In effect, we must use the piano bench **not as a seat** on which to perch ourselves comfortably, but as a **fulcrum** on which to pivot our body.

When we sit on the bench with our full weight, our spine inevitably becomes curved, the vertebrae pressing down on each other. Apart from the long-term physical problems this will cause, we lose all the advantage of having the power of our torso back up the thrust of our arms and the strength in our fingers. Instead, our whole body should be poised and ready for action, like a leopard – not relaxing and passively leaving our arms to carry the burden of struggling to hold themselves up in the air. With the correct posture, the weight of our body can be distributed to create reserves of energy and power which will back up our fingers.

As with dancing or playing a sport at a high level, it actually *feels* good when we use our hands and body correctly and accomplish a physical activity perfectly. It puts us in another zone, one where all the tension flows out of our back, through our body, down through our arms and out of our fingers. We feel as if we are flying.

When we sit comfortably in or on a chair, we are making ourselves *apparently* comfortable, but we are not providing any support for our arms if they are to be raised and outstretched. Once we raise them to the keyboard they are out on their own. There is no back-up, no help from anywhere. And while it may seem like a small imposition, if we do it to them for hours, they're going to get very tired. We are hunched over when we sit in a chair – this is our body's position by definition of sitting in a chair. It's perfectly comfortable and more or less allright if all we are intending to do from this position is relax or watch television. But if we are intending to actually *do* anything from this position, we are going to have to engage muscles to raise our arms and operate our hands and fingers.

When a pianist walks out on stage and takes his seat at the piano you can tell immediately if he's master of the piano or if he belongs to the ninety-five percent of performers who may be talented and eager but will sooner or later – usually sooner – develop carpal tunnel problems and tendinitis.

How can we tell this? If someone sits down on the piano bench as if it is a chair, then they are not placing their body in a position whereby the arms and hands will be able to function freely and naturally for any protracted period of time, or accomplish complex repetitive movements with the hands and fingers. Specifically, the muscles at the top of our forearms are working unnecessarily on a long-term, unrelieved basis. Just try it, without the distraction of a keyboard. Or try doing something with your hands on a tabletop from a comfortably seated position. How long can we hold our arms up and out horizontally without them starting to feel like fifty-pound weights? We start to feel the strain right away. Now try moving the chair back a little and sitting more forward, closer to the edge. We're not sitting purely for relaxation purposes now, as in an armchair. We are in a working position, *pivoting our body on the forward part of the chair in order to be poised for action by our arms and hands*. Our elbows are no longer by our side but thrust back. And the big job which those muscles in our arms formerly had to do has now completely evaporated. The task of maintaining our forearms in a horizontal position now falls naturally to the much larger muscles higher up – those in our shoulders, and even further, in the top and centre of our back.

The piano keyboard is much wider, of course, than a computer keyboard, or the kind of task we would be working at on a table top, such as writing a letter. So in order to balance ourselves, and not fall off the bench when we move from one part of the keyboard to another, it's necessary to balance ourselves by putting one leg – the right one most of the time – *forward* and the other one back. We're actually *pivoting* our bodies in this way, the chair becoming a fulcrum rather than a chair.

That's why piano benches are just that – *benches*, rather than chairs with backs. This is a comfortable and secure position for our bodies, and there's an added advantage in that our backs are stretched out straight. In the normal armchair-style sitting position this is not the case at all – when sitting normally our backs are *curved*, the vertebrae pressing down on one another, and our shoulders are hunched up. The disadvantages of this require no explanation.

With the computer keyboard it's not necessary to adopt this poised position for our legs -a little like a tiger getting ready to pounce. It doesn't do any harm, and may even make us feel more secure and relaxed, but it's not necessary to avoid strain.

Sitting forward towards the edge of the seat, however, is definitely better when we are playing the piano – where we are using our hands assiduously, and over a wide lateral range – as they are not impeded by the extra, unnecessary, tiring strain of simply holding up our arms. Also, by this means our back can be stretched out straight, and can lend reserves of support to our forearms and hands.

Sitting forward, with a straight back, is always helpful whenever we're working on a table top or keyboard with our hands over an extended period. For serious piano playing it's indispensable.

All Russian pianists sit at the piano in this way. Very few others do. (There's a reason for that: by sitting up high, perched atop a seat looking down at the keyboard, pianists with less-than-complete mastery – who are defensively nervous about their abilities – have a sensation of power, of control; but this feeling is misplaced.)

Vladimir Horowitz never in his entire life slackened his ramrod straight, forward-inclined posture when performing. Perched on the edge of the piano bench, he unfailingly maintained a straight back and forward-leaning torso, as did his great predecessor Anton Rubinstein. One could make geometric drawings of every photo ever taken of Horowitz at a piano, on tracing paper placed over any of the photos taken of him at any stage of his life, from early youth to old age, and always see the same perfect triangle of straight back at 25 - 30 degree angle, absolutely horizontal forearms (no 'high wrists', low wrists or any other such nonsense), and perpendicular line from his nose down to the edge of the keyboard, more or less exactly above middle C.



Anton Rubinstein and Vladimir Horowitz in perfect playing posture (the sketch of Rubinstein a prized possession of his youngest pupil, Josef Lhévinne)

Glenn Gould famously sat on a piano bench 14 inches high. He took this bench with him wherever he went in his performing days, and said that the piano he played was not as important to him as the bench. When Gould was ten years old he injured his back as the result of a fall from a boat ramp on the shore of Lake Simcoe in Canada. His father then made an adjustable-height chair for him, which Gould used for the rest of his life.

However, the low sitting position he famously – and outlandishly – adopted was the result of an understanding of the operation of the *extensor* and *flexor* muscles which operate the fingers – of which we will hear much in the course of this book – and that optimum finger strength and clarity is only achieved through the *flexors*.

Optimum finger strength and clarity is achieved *only* through the use of the *flexors*, and these are brought more into operation the lower one sits: the flexors *pull* the fingers, while the extensors stretch them and force them to *strike* the notes. The first and foremost principle of piano playing is that the fingers must *pull* the keys. '*Draw* the sound from the piano,' said Chopin. Glenn Gould's teacher, Alberto Guerrero, took this as a central principle of piano playing – pulling the keys instead of striking them from above – and thereby gave his young pupil the means by which he would be able to achieve stunning finger articulation, separation and clarity of each note – particularly advantageous in the keyboard works of Bach.

If we sit high, with our arms inclined downwards, we feel nicely comfortable and more in command than if seated lower (especially shorter pianists, and those with a Napoleonic complex). However, a higher position short-circuits our ability to use the *flexors* of the fingers freely. Try it – without a keyboard: if you wish to simply activate the ends of the fingers, in a pinching, pulling motion, you naturally raise the hands, inclining them upwards from the wrist. Inclined downwards, it is much harder to pull the ends of the fingers inwards.

The ideal position of our arms in order to be able to pull the fingers inwards – i.e. to allow the *flexors* of the fingers to operate freely – is *horizontal* to the keyboard. However, sitting lower – with the arms thereby inclined upwards – will increase the capacity of the flexors to pull the fingers towards the palm. Thus, if one wishes to play predominantly 'fingery' piano music, as in the music of Bach, a lower sitting position is decidedly better; if one wishes to command a broader textural scope, with chordal and wide-ranging passages, as in the music of Rachmaninoff, a slightly higher position is better. Horizontal is the optimum balance.

In his *Introduction to the Art of Playing on the Pianoforte*, Clementi strictured that the hand and arm should always be completely horizontal. His pupil Kalkbrenner, as well as Dussek, Hummel, and all other authorities, agreed fully with this attitude. A fellow by the name of John Baptist Logier even invented a contraption he called a 'chiroplast' – a brass and wood device which was clamped to the keyboard – that 'assured a correct hand and arm position', and determined 'positively' the correct height of the piano bench for each individual – the objective (quite rightly) being that the arms should be perfectly horizontal to the keyboard. Logier, a German who settled in England in his twenties, made a fortune from his 1814 invention. Logier, as well as Kalkbrenner, who firmly advocated this odd device – was right. There IS an exact height of piano bench for every pianist – one which determines the angle at which the back can lean straight in to the piano and at which the arms will be perfectly horizontal (or slightly inclined upwards) so that the flexors of the fingers can operate freely.

Clementi went on to say that the hand and palm should be stationary and only the fingers should move. This is *exactly* correct. It is of course an impossible ideal, but it is the ideal to which we should strive. Chopin and Liszt advocated exercises of a kind to promote this ideal – which we shall discover in later chapters. Super craftsmen such as Michelangeli and Horowitz would almost make a game of this – seeing just how still they could keep their hands and arms – and body – while moving *only the ends of their fingers* – i.e. the *flexors*.

 I_t is rare to hear a note-perfect performance of Chopin's first *Etude*, one in which its fulminating spirit emerges with clear definition, and yet in which all the notes come out correctly – especially in the central section, where we move through a series of arpeggios – or broken chords – that are extremely awkward to negotiate. This series of modulations shows Chopin even at this early age already using far-reaching modulations with a seamless ease and fluidity comparable to Bach and Mozart. This episode moves in a Bach-like manner by step through a sequence of related keys. At the central point of the *Etude* we find ourselves in the distant key of A major without having noticed any abruptness in coming to this particular key, and over the following bars we move steadily and equally imperceptibly back to C major, arriving, as always in Bach, with a feeling of complete inevitability.

The A major arpeggio at the centre of the *Etude* is the most awkward of all to negotiate physically, and can only be played by moving, or *displacing*, the hand, not just from one *position* to the next, but from each *note* to the next – in a *non legato* fashion, i.e. without actually connecting any of the notes. If we do try to connect them, our hand will be forced to twist and turn, and we won't be able to play this arpeggio.

The elemental, fearless, extroverted, quality of Chopin's first *Etude* was emphasized by Sviatoslav Richter, considered with justification by many to be the greatest pianist and all-round musician of the second half of the twentieth century. With all his peculiarities, Richter was certainly in a class apart, nothing like any other pianist. He was an existential artist in the manner of Anton Rubinstein – perhaps the only other pianist with whom we might think of comparing him. Like the legendary Rubinstein, with Richter there was never the slightest concession to pianistic or platform niceties, elegance or polish. The music was all-enveloping, all-consuming. Performer and music literally became one. Nobody cared about wrong notes or impatient abruptnesses, although at his best, on a good day, Richter could play more right notes than any other pianist.

In a live performance recorded in 1963, we hear Richter bringing out the organpoint bass line of the first *Etude* with uncompromising strength of purpose and forward movement. The right hand arpeggios are spectacularly played, but they take a back seat to the dominating bass line, which unequivocally evokes Bach the organist.

For the fulminating rush up the keyboard of each arpeggio, with crystalline clarity, no pianist could ever surpass Martha Argerich's performance at the 1965 Chopin Competition in Warsaw – also recorded live. The first *Etude* is, in fact, the ultimate piano competition piece, demonstrating a larger range of contrasting pianistic qualities than almost any other work – power with clarity, poise alongside daring, nerve yet control. It deals with the right hand only, of course, but anyone who can play the first *Etude* even passably well knows what they are doing.

James Huneker, the late-19th century New York music critic, writer and author of books on Chopin and Liszt, was very much a man of his time, given to unabashed hyperbole, in a prose style very much in keeping with the age of Sarah Bernhardt, in which he lived. Nevertheless, Huneker did understand Chopin.

Of the first *Etude*, he wrote, "*Here in all its nakedness is the new technique; new in the sense of figure and pattern, new in a harmonic way. The old order was fairly horrified at the modulations, the younger generation fascinated and also a trifle frightened. A man who could thus explode a mine that assailed the stars must be reckoned with. The nub of modern piano music is in this study. With this study Chopin unlocked... the kingdom of technique.*"

In the next chapter we will explore the basic anatomy of the hand and see how it actually works. We will discover the central importance of the thumb and the need to understand how easily it can be strained, thereby tightening and straining our whole hand as well as the forearm and carpal tunnel. We shall see the importance of fingering, and why it is prescribed in detail by Chopin in the next *Etude*.

Chapter Two

NEW INSTRUMENT, SAME HAND

Etude No. 2 in A minor: Hand Positions; Use of the Thumb; Fingering; Mirror image hand positions

 \mathcal{W} ith the second *Etude* we see Chopin approach the basic question of the

anatomy of our hand from a completely different angle. We are now going to look at the way our hands are actually constructed, and understand the crucial importance of the thumb. We'll find out why the thumb affects our entire ability to use our hands without strain. If we can master the correct movement of the thumb we can avoid not only temporary strain of the hands, but also the long-term afflictions of *tendinitis* and *carpal tunnel* problems. This subject is of on-going relevance to *everyone*.

The first two *Etudes*, dated November 2^{nd} , 1830 in the manuscripts carefully copied out by Chopin's elder sister Louise, are probably the most significant of all the *Etudes*, and two of the most original piano pieces ever written. Most of us will never be able to perform them satisfactorily, but they are both essential for every pianist to learn and try to understand – understand them the way we might take apart a watch mechanism and understand it. The lessons they teach us apply to almost everything we will ever play. These two *Etudes* zero in on the fundamental concern which confronts us when we approach the piano keyboard: how to physically accomplish what is required of us without straining our hands and arms, and even injuring them.

That primary necessity – without which we cannot proceed to a level of pianism of any real sophistication or quality – accompanies all our efforts at the piano because of the mechanical nature of the piano. We are, after all, operating a machine, unlike any non-keyboard instrument. There are mechanisms involved with wind instruments, certainly, but those instruments are primarily and above all dependent on breath and breath control. With string instruments – which have no mechanism at all – a hollow sounding box is being acted upon by the vibration of strings which are played for the most part by a bow which is a virtual extension of our arm and body.

A keyboard, however, requires the same dispassionate treatment as a control panel confronting a pilot. The last thing a pilot needs to worry about is straining his arms and incurring carpal tunnel syndrome when he's trying to successfully land a jet plane. If his arms and hands are causing him strain and he is in fact thinking about them, or even aware of them, better not to be on that plane. The first requirement of technique in playing the piano concerns our actual physical situation – the positioning of our body and hands – in relation to the actual sound that we wish to produce. We must first identify the natural 'hand position' – the position the hand would be in if it were completely unstrained and unencumbered – for every phase of the piece to be played: every section, every phrase, every note.

That's always the first thing we must get right, and that is what Chopin's first two *Etudes* are all about.

In the first *Etude* we learnt that we must *never stretch the hand out* – other than momentarily, in short quick bursts, or grasps – and thereby let it become set in a fixed position, because we'll quite simply injure ourselves. We literally won't be able to get halfway through that *Etude* if the hand is set into a splayed position, which it will automatically do unless we watch that it doesn't.

The hand will do exactly the same thing in the second *Etude*, also becoming set in a fixed position, thus rigid, and from that rigidity strained – unless we take positive steps to ensure that it doesn't. In the second *Etude*, the lurking 'fixed' position is *also* a stretched one, but instead of being displaced up and down the keyboard over four octaves, the stretch is now one which moves along in steps. *The hand must, as ever, stay as much as possible in its natural position, diverging only for the briefest moment in order to grab the stretched chord – or, in the first Etude, broken chord*.

As we learnt in the first *Etude*, all pianists, as well as everyone using a computer keyboard or mouse, must understand the 'natural' position of the hand – a loose fist with the fingers hanging easily. If we're to avoid strain, and then injury, to our hands, we have to keep them as close as possible to this natural position at literally all times. They need to diverge from it in order to play stretched chords, true enough, but these divergences have to be in the nature of a 'breakout' – jumping back to the natural position as quickly as possible, with a flick of the fingers.

Chopin maintained that the natural position of the hand is the basic starting point of piano playing, and that the ideal hand position – the one in which the hand is most relaxed and in its natural state – is the position it's in when the fingers are resting on the notes E - F sharp - G sharp - A sharp - B (or B sharp). This is instantly clear when we look at our hands as they are positioned on these notes, the long middle finger having unrestricted room to stretch out over the black note G sharp, not being forced to cramp up in order to accomodate a white note. On either side of it, the next two longest fingers – the index finger and the fourth one – also rest unhindered on black notes, while the thumb is allowed to *hang down* and fit perfectly into the position required by the lower white note E in the right hand, B or B sharp in the left, and the fifth finger also has a white note onto which it can drop easily without the hand having to twist or swivel in any way.

By contrast, when we look at the hand as it rests upon the first five notes of the C major scale - C - D - E - F - G - we see that in that position the thumb cannot naturally hang down, the index finger has to scrunch up, the third finger is bottled in, the fourth contracted, and the fifth raised. C major may be the easiest key to read, but it's the worst key of all to play, Chopin asserted understandably - no mixture of black notes with white ones to parallel the contour of the hand. The key of C major is the easiest to read because it has no sharps or flats, but on the piano, because of the design of the keyboard, that translates into *no black notes*. Because black notes are recessed *and* raised half an inch, they allow our hands to manoueuvre about in positions which are much more suited to their natural contour than a flat surface. A completely flat surface is the *only* surface that white notes provide, as with computer keyboards. *This is the main reason that keyboards give rise to chronic hand problems*. With the computer keyboard it's *all* flat; with the piano keyboard there are some contours thanks to the black notes - we must take full advantage of these.

Chopin had his pupils accustom themselves to the ideal five-finger configuration, E - F sharp - G sharp - A sharp - B (sharp), by resting their hand upon it gently, getting used to connecting with the keyboard in this manner, then gently and easily – *without any force or strain* – depressing each of the notes one by one.

From Carl Mikuli, we also know that Chopin recommended beginning to play scales with the ones where the white notes were intermingled with plenty of black ones – the best scales of all being B major for the right hand and D flat major for the left, then progressing only gradually to the more awkwardly configured scales, ending with the hardest, the most awkward of all – that of C major.

Physically, the second *Etude* addresses exactly the same problem as that which concerned the first, but you could never possibly realize this simply by listening to the two pieces. Everything 'musical' about these two *Etudes* is in the sharpest possible contrast. This juxtaposition of two vastly different sounding *Etudes* dealing surprisingly with the same physical question is a pattern which Chopin establishes here at the outset and will follow in a number of pairings throughout the series.

Where the first *Etude* was extroverted and grand, in blazing C major, the second is hushed and intimate, in the relative minor key, A minor. Where the first was built upon wide-ranging arpeggio-like passages extending from one end of the keyboard to the other, the second consists of a meandering chromatic scale tightly contained within the central area of the keyboard. Where the first *Etude* was founded upon a majestic organ-like bass, the second is underpinned by light and playful *pizzicato* chords, like juggler's balls bouncing gently up and down.

Even the kind of piano one needs to play these two *Etudes* is entirely different. The first *Etude* requires a strong, sturdy, orchestrally full-bodied piano, with a solid action we can grip with vigorous abandon as we grasp the sequences of diatonic chords lustily displaced over four octaves. The second *Etude* requires a piano with the lightest possible mechanism, one where our hand can remain completely calm and float effortlessly up and down the keyboard. The first *Etude* requires a full application of the pedal, the second the merest touch – or better yet, none at all.

But the fundamental technical problem is *exactly* the same, even though it is approached from opposite ends of the sound spectrum. That problem is the basic one for all pianists: how to use the hand – the *right* hand in this case – in every position, no matter how awkward, without tightening and thereby straining it. In both *Etudes* awkwardness of hand position is stretched to the limit, and the objective is to reduce it as much as possible. That requires *identifying* the hand positions accurately, and only thereby keeping the hand completely free. And the key to that freedom is *the thumb*.

Let's see just why it's so crucial to keep the thumb free. If we turn our hand over and look at its construction we can see that the thumb is much more than just a finger. It's not really a finger at all – it's virtually *half the hand*. It closes with the other half – the half with four fingers sticking out from its mass – to *grip*. When in a relaxed state, the thumb falls *below* the rest of the hand.

Next, the thumb isn't constructed at all in the same way as the other fingers, nor is it designed to be used in the same way as the other fingers, with vertical movements. The other fingers have *three* joints, including the knuckle, which move the finger up and down. The thumb has only two, and they move it from side to side.

The thumb is *not built to strike*, as are the other fingers (who also should not 'strike', but rather press, or de-press – press down). The thumb is designed to '*oppose*' – as its defining movement is technically known.

On the piano, or any keyboard for that matteer – piano, harpsichord, organ or computer keyboard – the temptation is to let the thumb be used in the same way as the other fingers, moving in an *up-down* direction. As the thumb is not built to move in this direction – it can only be *forced* to move vertically – this movement is very awkward for it, and immediately straining. With this unnatural movement of the thumb comes the accompanying disaster of the huge, fleshy chunk at its base, which operates the movement of the thumb – a major component of the hand itself – being raised unnaturally to the level of the other fingers.

This 'tendinous expanse' of the base of the thumb emanates from the base of the hand, where it meets the wrist, and all movements of it are controlled from that point. If we operate the thumb from this point – the base of the thumb – it becomes untenably strained. You can feel the smarting pain at the side of the wrist very quickly when you use the thumb in this way. The strain is especially acerbated when we hold the thumb in this raised position in a prolonged manner, even after just a few seconds. The strain becomes crippling to the hand, and we just have to stop playing altogether for a moment and drop the hand into a resting position until it recovers. Over time we can do ourselves real damage.

Therefore, one of the absolute essentials of piano playing is to carefully monitor the thumb to ensure that it does not slip into the mode of behaving like the other fingers, i.e. playing the keys with an up-down motion. That motion will inevitably tighten the thumb, and then strain, even *injure*, the nerves and muscles connecting it to the forearm.

The muscles which control the movement of the thumb all originate high up in the arm – at the top of the forearm, by the elbow. If the thumb tightens, that means we're tensing, or *contracting*, the muscles and nerves which extend up the underside of the forearm. We can feel it immediately. After a short while there'll be jabs of pain in the forearm, which eventually turns into *tendinitis*. If we go on acerbating this situation by tightening the thumb in this way, before long the narrow tunnel in the wrist, known as the *carpal* tunnel – through which all the nerves to the hand and fingers run – will become inflamed.

For a pianist that's fatal. But it's also debilitating for non-pianists, whose capacity for movement of the hand is diminished by the very same process – the aggravation of the nerves and muscles inflaming the carpal tunnel is produced by the same incorrect and strained movements of the hand, and the thumb in particular. *The moment the thumb becomes rigid, it tightens and strains the nerves and muscles going through the carpal tunnel and up into the forearm. Disaster.*

The first effect in this particular *Etude* is that we literally break down with cramp and simply cannot continue. If the pattern is continued over time, it's *Carpal Tunnel Syndrome* down the line, and not so very far down the line. It's a streetcar named Carpal Tunnel whose last stop is the surgery. Many pianists have had their careers curtailed in this way, and they never realized it was all just a question of a simple adjustment in the movement of the thumb. Exactly the same applies to the way we use the computer keyboard. Chopin's second *Etude* consists of a quiet, sinuous chromatic scale which weaves its way up and down the keyboard with nonchalant suavity. With its regular pendulum swing, the humble left hand part keeps the momentum of the scale going, while in the right hand Chopin has added a chord to the scale on each beat, co-inciding with the jugglers' balls in the left hand; this regular little chord makes it obligatory to play the scale with only three fingers – the third, fourth and fifth.

And here's where Chopin's genius shines: you can only play this scale if the thumb – which comes in only on each chord, four times in each bar – is *completely* free and loose. If it tenses at all, the hand will seize up, making it completely impossible to continue with the scale. So if you're playing this *Etude* and you *can* get to the end, you've got the freedom of the thumb right! The point, however – the point of this book, in fact – is that you won't be able to get it right unless you've understood it.

Exactly the same situation applied in the first Etude - it's impossible to get to the end of that Etude unless the thumb stays completely loose and never allows itself to remain – even momentarily – stretched out sideways or contracted inwards as the hand negotiates the wide-spread arpeggiando passages. Here, in the second Etude, the looseness of the thumb is addressed in the context of a natural impulse towards an *up-down* movement, a movement of the thumb which must be avoided at all costs.

The trick here – the *only* way this piece can be played – is to *release* the little two-note chords on each beat in the right hand *as soon as they've been played* – specifically the lowest note of the chord, that played by the thumb. Otherwise these little chords will tie down the lower half of the hand, and strain the upper half as it tries to play the chromatic scale with the weakest fingers of the hand, the third, fourth and fifth fingers.

The strain begins immediately, before you even play the second note of the scale, because the stretch of the *sixth* in the chord on the beat is already well beyond that of the natural position of the hand. The first *sixth* chord, as well as the second one, are *major sixths* – a large-size *sixth* – and because of the chromatic scale in the soprano part, the hand is unnaturally stretched to accommodate that *sixth* between the thumb and third or fourth finger.

As well as *releasing* them immediately, the thumb should also play its notes extremely lightly. It should be as light as a feather, almost as if it is hardly there at all; it should glance off the note it has to play, dust it nonchalantly, as if it is not important. It simply must not hold on to it.

One can injure oneself in no time at all with this particular *Etude*, as with the first one if one doesn't consistently release the thumb in that Etude's wide-ranging passages very quickly – instantly, in fact. One contemporary critic, Ludwig Rellstab – a caustic commentator who took delight in being spiteful about Chopin, but who later did a complete *volte face* when he realized that he was entirely alone, and even asked Liszt for a letter of introduction to Chopin when he visited Paris – complained about the *Etudes* when they first came out: "*If you're going to try to learn these pieces*," he wrote in the Berlin musical journal 'The Iris', "*it would be advisable to have a surgeon standing by*."

It was Rellstab who said that the first movement of Beethoven's C sharp minor Sonata suggested to him a vision of "moonlight on Lake Lucerne," which is why it has ever since been known as the 'Moonlight' Sonata. "I've written better sonatas," Beethoven complained. "Why does everyone always go on about the C sharp minor?" Everyone has always gone on about Beethoven's C sharp minor sonata because first and foremost it's a striking and deeply moving work, but also, a catchy title is always an aid to public recognition.

Nevertheless, it's probably a good thing that Chopin's second *Etude* didn't become saddled with a title, courtesy of Rellstab, such as '*The Unplayable*,' or '*The Surgeon's Delight*,' the kind of name which could easily become attached to a piano piece in the mid-19th century. The first English edition of the G minor Ballade was entitled '*La Favorite*'; the first set of Nocturnes, Op. 9, '*Murmures de la Seine*'; various mazurkas '*Souvenirs de la Pologne*'; the two Nocturnes, Op. 37 '*Les Soupirs*'; and the unquestionably diabolical-sounding Scherzo in B minor '*Le Banquet Infernal*', all of which Chopin would of course have hated.

The second *Etude* is a celebrated *tour de force* for all pianists, one which most of whom work at their whole lives. It is no more than a minute and three quarters long. It's quiet and it's innocent-sounding in a gently seductive way, but it's deceptively clever. This *Etude* is one of the pinnacles of piano writing. Chopin has neatly separated the tasks to be performed by the two halves of the right hand – the thumb and second finger in the lower part; the third, fourth and fifth fingers in the upper, and he has given us the possibility of playing this near-impossible scale by having it accompanied by a left-hand part which complements it physically in an ideally supportive manner.

The purpose of the second *Etude*, as with *all* the *Etudes*, is to guide us towards complete independence of the fingers. Not just independence from *each other*, but independence *within themselves* – independence of one finger-joint from another, as well as independence of everything else that we use when we play: independence of the hand from the wrist, independence of the wrist from the arm, and independence of our arms from our body. To play the second *Etude*, one half of our right hand has to be independent of the other half.

There are two essential considerations to piano technique, and they go handin-hand. The first is the positioning of our hands and body. The second essential – which is strikingly addressed by the second *Etude* – is the question of *fingering*.

Fingering was one of the major preoccupations of Carl Philipp Emmanuel Bach's "*Essay on the True Art of Playing Keyboard Instruments*", and for a very specific reason. At that time, the concept of using all the fingers was brand new, introduced by the greatest keyboard virtuoso of the age, Johann Sebastian Bach. Up until that time, use of the thumb by the right hand had been largely avoided, as was that of the little finger. The extreme lightness of the harpsichord's action allowed – even *encouraged* – the playing of melodic passages and runs without the anchor of the thumb tying the hand down to the keyboard. The fingering system used by Bach, which became known in Germany as "*Bach's fingering*," and which his son's great treatise promoted, called for the thumb to "pass under" the hand in order to connect hand positions in scale and arpeggio figurations – which means, to all intents and purposes, *all lateral movement* over the keyboard – with a firmer, stronger grasp of the keyboard than was formerly possible.

Conversely, the other fingers would pass *over* the thumb when going in the other direction. '*Passing the thumb under* (or *over*)' became a cornerstone of keyboard technique, but Chopin would significantly alter this conception, as we shall discover in a later chapter, when we come to the question of the lateral movement of the hand.

The whole question of the role of the thumb was to become central with the piano, as the new instrument's firmer action required a much stronger grasp of the keyboard than did earlier instruments; and related to this grasp of the hand, a method of grouping notes together in 'hand positions'.

We have seen the need for clear definition of these groupings, or *positions*, in the first *Etude*. But the interconnection of these 'hand positions' would bring with it the need for a whole new approach to the way in which the thumb was treated.

'Passing the thumb under' describes what appears to be happening when we move from one hand-position to another, because the thumb is the point at which most new hand positions begin. It is the anchor of any 'hand position', and it is around the thumb that each hand-position must pivot in all scales, arpeggios, broken chords – in fact, almost all lateral movements of the hand. But what's *really* going on – or *should* be going on – is a *displacement* of the hand. It is our task to ensure that this displacement be done as quickly and effortlessly as possible, without allowing the thumb to become *trapped*, or stuck beneath the hand.

Any amount of tucking the thumb under – or just simply pressing it against the hand – will stiffen it and strain all the muscles connecting the thumb to the forearm, especially those at the base of the thumb by the side of the wrist. We feel the strain and potential injury right away. *This action is the major source of all debilitating hand and arm problems for pianists*, with carpal tunnel syndrome at the top, or rather the end. It's that inevitable streetcar.

But our main concern at the moment, in the second *Etude*, is the fingering of scale passages *not* involving the thumb – a highly unusual circumstance, one we will not encounter anywhere else in a protracted sequence other than in Chopin's second *Etude*. Chopin is harking back to the fingering generally employed on harpsichords, and in fact, the lightness of this *Etude* ideally requires a piano of light action, one requiring the lightest touch and pressure from the fingers.

Chopin was the first pianist to realize the vital importance of planning the correct fingering for each and every note at any given point in a piece. With the sole exception of Rachmaninoff, who sometimes recommended specific fingerings for certain passages, Chopin remained practically unique in this understanding. He believed that there were certain principles of fingering which apply to everyone – because we all have the same anatomy, the same hand structure. Larger hands might find large chords easier, or long, thin fingers may have their own preferences, but the basic principles of movement apply to everyone.

Chopin makes the point here by writing an *Etude* which can only be played with certain fingering patterns, and he writes, in the score of one of his pupils, the exact finger with which we must play each and every note in the right hand. The fingering which Chopin has so meticulously written out in the right hand in this *Etude* is not at all eccentric or unexpected: as the only fingers which are available for the melodic scale passages are the 3^{rd} , 4^{th} and 5^{th} – due to the fact that the thumb and index finger are occupied by the two-note chords on each beat – there are in fact few alternatives.
Some of Chopin's fingerings are certainly unorthodox, as, for example, passing the longest finger of the hand over the shortest, without recourse to the thumb – as Chico Marx liked to do as a stunt – and Chopin has no hesitation at all about using the thumb on a black key – a practice rigorously avoided by the 'Old School', as one might avoid a black cat. These unusual fingering patterns may have arisen from the special character of Chopin's own rather bony and flexible hands, but for the most part they are quite unavoidable, and are the only ones possible, for *any* hands. Perhaps Chopin included the fingering simply to reassure his student, and others, none of whom had never seen such writing for the piano, that this *Etude* was indeed playable, and that they should persevere.



Etude No. 2 in A minor, with penciled fingerings by Chopin

The *real* purpose of 'fingering' – selecting exactly which fingers are to be used always on each note – is, however, *not* to satisfy the preferences of the fingers – which are basically just weak little appendages at the ends of our hands and no more than subservient pawns – but to determine the position of our *hands* at each and every moment.

If the position of the hand is correct – i.e. exactly as it *should* be at any given moment in order to produce the optimum sound desired with the least possible strain of the hand and arm – then we might just as effectively play the notes with the end of a pencil or the end of our nose. The finger itself is no magic stick – it's a simple little mechanism with a couple of small muscles in it. The *position* in which we place the fingers, and our whole physical configuration, is what counts, and *that* is what 'fingering' does.

As we have already observed in the first *Etude*, *positioning is everything*. If a tennis player or a golfer places his body and arms in the right position, thereby *preparing* his shot perfectly, the actual stroke itself becomes a foregone conclusion, and he doesn't even have to think about it, concentrating instead on the next move. Stockbrokers tell us not to worry about our shares' ups and downs – the only thing that counts, they assure us, is that we be well 'positioned' for future movements of the market.

One of the most important uses of fingering – the most important, if you forget about the function of actually make the note go down and 'sound' (which can equally be done by a pencil-end) – is to determine the position of our hands so that they can be in '*mirror-image*' of each other. Mirror-imaging of the hands is of major importance and it's a constant consideration.

As the position in which our hands find themselves is far and away more important than any other factor in allowing the fingers to do their job, and as the fingers will do the best job possible if they are completely free to do so, and if the primary determiner of that freedom is the position of the hand, one of the most important factors becomes the *angle* at which the hand is positioned.

What does '*mirror-image*' mean here?

Hold your hands out – do you see how the left and right hands face each other in a mirror image? Now slowly angle one of the hands outwards. The other hand instinctively and automatically wants to counter-balance it in the opposite direction – to exactly the same degree that the first one is angled. It requires an act of will and physical effort to prevent it from doing so. The same principle applies when one hand is angled *inwards*. Same thing with our feet, legs, arms, eyes, ears – there is natural pull for the two sides of our body to mirror each other, especially when we have two versions of them. They balance each other. There's even a left and right side of the brain, which need to be in balance.

This anatomical principle applies in everything we ever do, and certainly in everything we play on the piano. For the optimum effective use of our hands we should have the two hands balanced inversely at the same angle against each other at every point in a piece of music. This alignment will alter with each phrase, in fact with each and every note. Let's just look at the first line of this *Etude*. As we can see, the left hand, on the surface, seems to be pretty well locked in to a set of hand positions – it consists of a simple pendulum swing of the hand from one chord to the next which is consistent throughout the piece. The right hand's manoueverings are *much* more complicated, and there are obviously many more notes involved. But if the right hand is to be able to accomplish its task comfortably, the left has to be in synch with it at all times in a perfectly balanced 'mirror-image'.

The left hand is not as locked in to a fingering pattern as may at first seem to be the case. In order to balance the right hand in mirror-image, the left hand's fingering can and *should* be adjusted, employing the unorthodox configuration 5/3/1 and 5/4/1in the alternating chords instead of the obvious 4/2/1, 4/2/1. Although it seems innocuous enough when we look at the left hand alone, the standard 4/2/1 fingering, or even 5/2/1, angles the hand slightly towards the *left*, i.e. facing *away* from the center. Because of the natural way in which our hands form a mirror-image, the right hand is forced into the same angle, inversely, i.e. *away* from the center – in the case of the right hand, outwards towards the right.

At this angle, in this position, the 3^{rd} , 4^{th} and 5^{th} fingers of the right hand become squeezed into a strained, scrunched-up position which is debilitating. But with 5/3/1 and 5/4/1 in the left hand, the right hand automatically angles more towards the center, releasing the struggling 3^{rd} , 4^{th} and 5^{th} fingers. Now the hands are not angled *outwards* but slightly *in* towards the centre of the keyboard. At this angle the truly difficult passage – the chromatic scale – is able to work with the unavoidable fingering 3, 4, 5 *and* release the little chords on each beat. Angling the *other* way, it was *not* able to release those little chords, whuch hung around, tightening the thumb and handicapping the upper part.

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observed here in the second *Etude*. This may seem to the reader to be a case of being let in on secrets – 'tricks' of the virtuoso performer – almost in the nature of magician's tricks, that are somehow not quite proper to be spoken of in polite pianistic society, and if one does use them, one should only do so on the quiet, and talk about it as little as possible, for fear of outraging people with the possible implication of 'cheating'. We are referring her to the occasional preferability of taking certain notes written for the right hand with the left, and vice versa.

This Etude provides us with a clear instance where 'cheating', or 'simplifying', is not the issue; the question is how do we achieve the correct hand position for each and every situation – not just every bar, and measure, but every note. Because frankly, without the correct hand position in every beat, we will simply not be able to play this fiendishly difficult piece of music – we won't even get to the end of the second line, if we do manage, with a lot of strain, to get to the end of the first.

The very first note, or chord, places us in the invidious position of having to move the whole hand immediately, even as it plays the first note – i.e. it is a complete 'hand position' of just one beat. If we have already absorbed the lesson of the first *Etude*, and we now take careful note of hand positions, so that we move the whole hand along laterally, easily and smoothly, from one position to the next, without twisting or swiveling it around around, or stretching it to grasp at the next hand position – we will already be on the right track.

But with a hand position of just one solitary beat – in this case A/E/C, played by 5/2/1 – we are in a very weak position, unable to rest with any comfort or firmness on this first chord /hand position and having to throw the hand over to the next note, A sharp, in a kind of lunge. It cannot really be done without twisting the hand, or playing the first chord in a stretched, awkward manner, the third finger stretched out unnaturally in the direction of the A sharp.

In this case, it is not cheating, but natural hand positioning to play the first beat as a two-note chord, A/E, with the thumb and the index finger, allowing the bottom note of the chord, middle C, to be taken by the left hand in a *tenth*. This *tenth* is easier than most *tenths*, as it is right at the beginning of the piece, so we can prepare for it. Also, it need not be very firm – in fact the lighter it is the better: we need just pick the two notes lightly, *pianissimo*, with a pincer movement.

Now we have a new hand position in the right hand, one lasting the whole first beat of four notes: A/E - A sharp - B - C. This is an infinitely more secure way in which to begin this *Etude*, sparing us the stress and weakness of having to throw the third finger over the little finger – or over the fourth, if we use Chopin's fingering. Either of them is very fragile for an opening hand-position, as whichever one we choose, it will last no longer than a semi-quaver before we have to throw the hand onto the next position, and what's more, throw it without any support underneath, like jumping off a cliff on to an adjacent crag, or from one rooftop to another. With this new hand position, we have a secure foundation for the first four notes of the scale – i.e. the notes to be played while the hand is in this initial, unchanging position.

Now that we have 'simplified' the opening right-hand chord, it is tempting to play the four notes in the upper part with 2 - 3 - 4 - 5. This seems the easiest and most natural fingering, but our objective is to achieve – at every point – the most natural and unchanging *hand positions*. Fingering is at all times the servant of *hand-positions*. With 2 - 3 - 4 - 5 the hand is forced into a scrunched-up position, from which it will have to open out in the next position – creating a gear-change.

A gear-change right at the beginning of our journey! One beat after we have pressed the accelerator and moved off the starting line! **5** - 3 - 4 - 5 is actually better in this situation than the apparently easier 2 - 3 - 4 - 5, even though we are beginning on the weak little finger. But it is *not weak* in *this* position, because the *hand* is in a comfortable position – not stretched, not scrunched, but opened just the right amount.

Position is everything. If you are in the right position for it, you can play a piece better with the end of your nose than your fingers. There's nothing magical about fingers, unlike voices, which *do* have special qualities. If our hand is in the wrong position, we can't play a passage comfortably or securely with the best-trained fingers in the world.

The second hand-position in the *Etude*, beginning on beat two – can also be improved. If we take the lowest note of the right-hand chord, E, with the left hand – perfectly easy for the left hand in this case, as it creates the chord of just an octave, not a *tenth* – then the second hand position will begin on the very secure position of a two-note chord, C sharp/A, played by 3/1.

The secureness of this position is derived not from its being small – just a *third* instead of a three-note *sixth* chord, but from the fact that the hand glides into it easily and smoothly – without any expansion or contraction – from the first hand-position.

In this configuration, the thumb slides smoothly and easily across from E to A. The upper part is completely unhindered in its scale trajectory – the angle of direction of the upper part of the hand, the third, fourth and fingers, is unchanging. If we have to 'cheat' in order to create smooth transition from one hand position to another, so be it!

Similarly, at the end of line one – the last beat of the second bar – we have another opportunity to take one of the right hand's little chords with the left hand without disturbing the integrity of the score in any way. At the same time, we are able to vastly improve a hand-position. In this case, the hand is required to take another of those unsupported leaps – the whole hand having to jump from a hand position at the top of the phrase to one a third lower, with nothing to support this freefall leap. Not only is it an unsupported leap – or transferral of the hand from one position to another – the weakness is compounded by the fact that the new hand position is distinctly different from the previous one: the E played by the index finger in the new position causes the hand to twist around and change its angle quite considerably.

If we take the bottom note, C, of the little chord in the right hand – just dusting it with the tip of the left hand thumb, then we have created a brand new hand-position in the right hand, starting on A/E, played by 5/1. In fact, this is hardly a new position at all, as the hand moves very little from the preceding hand postion – only the top note, the fifth finger, has to move – such that the position of the hand is made smaller. But the hand doesn't actually have to move anywhere. A no-brainer.

In the next bar the same possibility arises again – in the corresponding place: the fourth beat of the bar. Once again, the left hand can comfortable take one note away from the chord in the right hand, thus – *and this is the crucial point of all these* '*simplifications*' – we enable the right hand to stay quiet, in a less busy sequence of hand positions; i.e. it doesn't have to jump about from one position to another, with positions varying in size and angle: *that's* the killer for causing weakness and strain.

This instance is another of those cliff-jumpers if played as written – the hand has to leave the postion on the third beat – starting on D sharp/C/A – and jump, with no support underneath – no safety net – to a completely different sized position a *third* lower, on B/A/E – the different size brought about by the stretched position of the thumb and index finger necessitated by the A and the E. By taking the E with the left hand, the right hand can stay in the same position in which it found itself previously, and thus have a hand-position which lasts more than a full bar.

But wait, there's more! This particular hand-position, having lasted more than a bar already - from the middle of the third bar to the third beat of the fourth - can be extended still further, to a thrilling one-and-a-half bars of unchanging hand-position, and thus no danger of weakness in the melodic line or wrong notes.

Of course, we allow the left hand to take the two-note chord in the lower part of the awkward *augmented seventh* chord in the right hand on the last beat of the fourth bar. This chord as written is awkward and straining *not* because it stretches the hand close to its limit of stretchability, but because it forces a sudden expansion of the hand from a scrunched-up position to a much different position. In order to preserve the hand position – the position that has now gone on for six beats – the scale passage in the top part should avoid the thumb – which would make the hand twist around and start a *new* hand position – thus 2 - 5 - 4 - 3 - 2 - 5 - 4 - 3 – and thereby slide easily into the reprise of the subject starting in bar 5 – on the *two*-note chord of A/E.

A long-enduring hand-position is the holy grail: the less we have to swivel around, jump from one position to another, alter the shape of the positions into which our hand is forced, much the better. It is in fact almost impossible to make a mistake – play a wrong note – when a hand-position doesn't change. We can think about the weather, or what we had for dinner, or how many unsold seats there are in the hall, and our fingers will automatically play the right notes firmly and securely if our hand-positions are correct. It's the *change-over points* between hand-positions which are the weak links – *that's* where the fingers are insecure.

One more example to illustrate this central issue:

In the central section of the *Etude*, beginning half-way down on page two, with the gradually building series of modulations, there is a recurring spot where it seems natural and easy to play a note with the thumb – in this thumbless *Etude* (thumbless as far as the top part – the scale passage – is concerned). The first thumb-opportunity occurs at the very end of the first bar of this middle section, and that one is OK, but then it occurs again, in the first beat of the next measure.

Here, we have a different situation, one which forces the hand to twist around in order to play the notes immediately following the thumb note. *Twisting and turning is always a bad sign*. We may be able to do it at home, in a slower and more relaxed practice tempo, but when it comes to performance, a twisting hand bodes no good.

Twisting means an awkward change of hand-position. Or an incorrectly defined hand position: by using the thumb at this point we have actually created *two* hand-positions in the one beat – each no more than two semiquaver notes' duration.

By using the seemingly weaker fingering of 3 - 5 - 3 - 5 (how could the fifth finger not be a weaker option than the thumb?) we instead achieve a hand position which is firm and unchanging, blending beautifully with the hand-position that came before it and the one that comes after it. The hand virtually glides into the next position – covering the second beat of the new bar; it is in fact almost the same hand-position, continued.

At the same time as all this is going on in the right hand, we must watch the mirror-image positioning of the hands in relation to each other. Chopin has given us the possibility of playing this near-impossible scale by having it accompanied by a left-hand part which complements the right in an ideally supportive manner from a physical stand-point – but we must be *aware* of the physical dynamics of the positions.

All of the above discussion of hand positions – a clear identification of which is necessary in order to establish the correct fingering, and *vice versa*, correctly chosen fingering being essential to creating smoothly progressing hand positions – assumes as a central premise that *each individual note is* **itself** *virtually a hand position*. That is to say, each and every note must be approached as if it is our only concern at that moment, no matter how quick the moment, and thus each note is given its full value in terms of weight, pressure, length, relation to simultaneously sounded notes, as well as previous ones, and every other consideration.

The ultimate effect of this concept is that to all intents and purposes there is a virtual *non legato* approach to *each note*. This will not cancel out the effect of *legato*, or of '*finger legato*' – quite the contrary, as we shall see.

In his famous 'Versuch' – Essay on the True Art of Playing Keyboard Instruments, Carl Philip Emanuel Bach wrote that "notes which are neither staccato nor legato are held for half their value unless the word tenuto is placed over them." Another well-known manual, 'Klavierschule' of 1789 by Daniel Gottlob Tűrk, claimed that "when playing notes in the ordinary manner, that is, neither staccato nor legato, the finger should be lifted shortly before the written value of the notes requires it."

This eighteenth century approach is exactly right! These authorities may have been speaking of 'keyboard instruments' in general, but in fact they were accustomed to the sound of large, reverberant harpsichords, as well as the new fortepiano.

By 1803, when the pianoforte was virtually alone, harpsichords having for all practical purposes disappeared, Clementi introduced the idea of "finger legato" in his manual, *The Art of Playing the Pianoforte*, insisting that one should "keep down the keys of the instrument the *full length* of every note."

Although the piano was now well and truly established, Clementi was accustomed to a much thinner-sounding, much less reverberant instrument than are we – there is almost no comparison. From an aural point of view, therefore, holding down notes for their full value was essential on Clementi's piano, in order to compensate for the lack of reverberation. Beethoven asked for this *specifically* – to hold down the notes – via the sustaining pedal – for long periods in slow quiet movements, famous examples being the first movement of the *Moonlight* Sonata and the slow movement of the 3^{rd} concerto – both composed in 1800.

Holding down the notes with the fingers did not introduce any great physical problem, because the keyboard action was much lighter than that which was to develop over the next century -i.e. the action which we know today.

But Clementi's advice about holding notes for their full value is therefore not helpful in the context of modern instruments. It is in fact detrimental – from both the acoustic point of view: the overhanging reverberation from each note will cause a blurred, muddy sound unless there is a slight gap after each note, in order to clear the air – and also the physical point of view: on a firmer actioned piano, unless we release all the notes at the earliest appropriate opportunity, they will lock the hand into rigid positions, by way of some fingers unnecessarily holding down notes too long, creating 'excess baggage' for the hand.

Technically, the second *Etude* is indeed difficult, but an even greater challenge

is the *psychological* one. It's frightening to walk onto a stage and have to expose one's weakest fingers – the fourth and fifth – and send their fragile sound productions out on their own into the dark yonder. Without all the fingers supporting each other, with the whole hand operating as an entity itself, any pianist will feel exposed and nervous. The imposingly powerful Sviatoslav Richter, who possessed the most awesome technical equipment of any pianist in the world, would quake before this tiny piece. When performing the twelve *Etudes* Op. 10 as a set, he'd hesitate and sometimes skip over the quiet but treacherous second *Etude*. And Richter was certainly not the only pianist to feel this way about this little *Etude*. It is not Chopin's aim here to make us nervous, however – which is the effect this *Etude* invariably has on any pianist, no matter how often he plays it – but tohelp us in the pursuit of complete finger independence.

Apart from the daunting challenge of playing the flowing melody of this *Etude* with the third, fourth and fifth fingers of the right hand alone, these three fingers in a completed exposed position, the most intimidating thing about it is the actual *speed* it must go. If it went along gently, at a leisurely pace, it would still be a sinuously atmospheric, seductively beautiful piece of music, and a very valuable *Etude* indeed. But Chopin has given us a definite metronome indication – one which makes a big difference.

In fact, Chopin has given us a metronome marking for every one of the *Etudes*, and although, like all great music, the tempo might vary, without loss of musical sense or quality, according to the particular piano being used, or the acoustics of a particular concert hall, Chopin's indications are right there in front of us, and they're quite specific. Nearly *all* of Chopin's metronome markings are decidedly on the fast side. That is to say, faster for the most part than we would instinctively choose to play them on a modern Steinway. There are several reasons for this.

Firstly, Chopin was very much akin to Mozart. When Mozart said that Andreas Stein's daughter Nanette was in danger of squandering her talent by not acquiring "great rapidity... that which is the most necessary, the hardest, and the principal thing in music – tempo," he was talking about rhythm and forward movement, which are the definition of ordered sound – which is what we call 'music'.

Chopin felt exactly the same way. For all his supposed dreaminess and use of *tempo rubato*, he believed music should always *move* and never become mired in self-indulgence or exaggeration. '*Tempo*' is the principal, most necessary thing in music.

Then, the size and power of a modern concert grand is far beyond that of any piano of Chopin's time, and the sound is much fuller than that of the Pleyel pianos he used, which were light and pearly sounding. A fuller sound automatically requires more breathing space to resonate.

The lighter sound of the Pleyel is a very French thing. The French still use the expression '*jeu perlé*' – 'pearly playing' – to describe an ideal to which they aspire. French pianists in general have always had a distinct predilection for the music of Mozart – whom they call '*Mozzaar*' – where their '*jeu perlé*' can be shown to best advantage. It's the kind of *sound* they like, more than a question of the musical content or emotional substance. Thomas Beecham's *bon mot*, "The English don't really *like* music; they just like the sound it makes," would have applied better in a paraphrased form to the French, who have always prized style at least as highly as substance, if not higher. The kind of music they prefer is that which presents an elegant, charming, smoothly tailored sound world, dramatic on occasion but always within the bounds of decorum, with finesse but with no great amount of depth. '*Mais c'est charmant*', was the best compliment Saint-Saëns could pay his young protégé Leopold Godowsky.

Although a modern Steinway *can* produce the sound of smooth pearly runs, that's not what it was designed or built for. The action of a Steinway is much heavier, requiring a great deal more pressure and weight behind the finger-attacks, in order to fill a two-and-a-half-thousand-seat auditorium with a rich, multi-coloured sound of orchestral depth. On Chopin's light-actioned Pleyel, you could sit back and let your fingers glide like feathers over the keys.

If you did that with this particular *Etude* at its required speed on a Steinway, nothing would come out – as Mozart remarked of pianofortes of his time. Unless, perhaps, you had Horowitz's specially altered Steinway with its extremely light action. But even then, all you could be sure of is a greater degree of control of the finesse, or quality, of the sound. A 9-foot Steinway is a completely different proposition to a Pleyel grand of Chopin's time.

The second *Etude*, which taxes the weakest fingers to the limit, was designed to be played on a light-actioned French piano of Chopin's time. It's much harder, and completely nerve-wracking, on a modern grand at the speed Chopin has requested. But nevertheless we must try.

Even with his special light-actioned Steinway, Horowitz steered just as clear of this *Etude* as did Richter. Like Josef Hofmann, Horowitz played a number of the *Etudes* often, all his life, but certain ones he resolutely avoided. And if a pianist is going to be spooked by any of the *Etudes*, the second *Etude* will surely be the first!

But the challenge is there. Hence the pressure and the nerves which not only Richter and Horowitz felt, but which all pianists feel when approaching this piece. There are all kinds of mental calculations which have to be made in order to try to meet this challenge: 'How fast can I take this *Etude* and still get to the end without breaking down with a cramp in the right hand?' is the first question to ponder. Then, 'exactly what sound level do I need to maintain in order to have the hand at it's optimum lightness for this piece?,' and 'how quietly can it be played on this piano in this hall at the desired speed without losing control?'

These questions interrelate inextricably, of course, as do most considerations of art and technique, and the calculations can be fine indeed. Often, however, it might seem like a better option just to skip over this *Etude*.

In the end, the most daunting aspect of performing the second *Etude* as part of the set of Op. 10 comes from playing it immediately after the first *Etude*. On its own, it's a difficult and intimidating little piece, but perhaps not completely impossible. Following straight on from the first *Etude* it does becomes almost impossible, because of the vast gear-change in technical demands.

Chopin has addressed the same essential technical issue in these two *Etudes*, namely, the importance of clearly articulating each and every hand position in a piece. The first *Etude* pushes our endurance to the limit with *fortissimo* passages in which we have to fight to resist *extending* the hand positions, i.e. stretching the hand out, while the second *Etude* has our hand contained within a small, circumscribed position, and the struggle in this case is to prevent it from becoming too tight and constricted.

In both *Etudes* we are aiming at an almost impossible ideal of keeping the hand completely loose all the way through. But it's an *ideal* – something to which we must aspire, even if it is not completely practical. And that's the whole point of *Etudes* – especially Chopin's *Etudes*.

Stopping the hand from tightening may be the primary objective of the first two *Etudes*, but it's an ideal, then, which is not realisable in practical terms. Plainly put, our right hand is usually exhausted by the end of the first *Etude* – complete looseness here being an impossible ideal, and we are not ready to go straight into the second *Etude* without a break, both mental and physical.

On top of that, the second *Etude* requires more anticipation than most pieces of piano music - it's just like taking a deep breath before swimming underwater for a minute and forty seconds, which is the length of time it takes to get to the other side of this piece.

Perhaps it was more a matter of having to play the second *Etude* immediately after the first which gave Richter pause, and not simply the intrinsic difficulty of the *Etude* itself, which he could certainly manage. The similarly gossamer, quicksilver Etude by Liszt entitled '*Feux Follets*' – the fifth of his *Transcendental Etudes* – elicited from Richter the lightest, fastest, most magical performance ever.

But in that famous performance, recorded live in 1959, Richter hadn't just played Chopin's first *Etude*!

One of the best performances of *all* the *Etudes* comes from a rather unexpected source. The great German pianist Wilhelm Backhaus, despite his later persona as a Beethoven and Brahms specialist, with a somewhat uncompromising, rigorous Germanic approach, was in his youth one of the most brilliant of all virtuosos, with a fearless Horowitzian technique and sparkling lightness. With a Romantic shock of hair and debonair manner, Backhaus was, at the age of twenty-one, first-prize winner of the Anton Rubinstein piano competition in Paris in 1905; second prize went to the twenty-four year-old Hungarian pianist Béla Bartók (who remained resentful of Backhaus for the rest of his life).

Backhaus' repertoire during the first half of his career, which was based in England, where he was much admired, was likewise a Lisztian/Horowitzian one, with all manner of Lisztian transcriptions and the like. This is a little less surprising when one remembers that Backhaus was a student of the Scottish-German pianist and composer Eugène d'Albert, one of Liszt's favourite pupils – also, like Backhaus, a rigorous Beethovenian (known as "the little giant"), as well as a Lisztian.

Backhaus recorded the entire set of Chopin's twenty-four *Etudes* in the early 1930s. It was the first – and never really to be surpassed – example of what was to become a common practice in the era of LP recording, the phenomenon of 'complete' recordings. There doesn't seem to be any trace of constriction or difficulty in Backhaus' very fast performance of the second *Etude*, and on its completion, he fancifully improvises a nonchalant arpeggio in A major as a cadence – not something that would be dared by anyone who hadn't been born in the 19th century. Perhaps Backhaus was breathing a musical sigh of relief at having conquered the one-and-a-half-minute little monster, or – rather more likely – demonstrating a witty, Chopin-like dismissal of the extraordinariness of his just-accomplished feat.

But as we are neither Chopin nor Backhaus, let us take a deep breath, and do what a pianist's got to do.

 $I_{\rm n}$ the next chapter we will see Chopin try to simulate the human voice.

In this context, we will examine the crucial distinction between the two different types of muscles which operate the fingers – the *extensors* and the *flexors* – a clear understanding of which is necessary to everything we ever play, but one which is absolutely *essential* for the cultivation of 'singing' tone.

Chapter Three

SONGS BEYOND WORDS

Etude No. 3 in E major: Singing tone; extensors and flexors

From his youth, with nights spent at the Warsaw Opera together with his youthful love Constantia Gladkowska, for whom he composed the 'Adagio' of his first concerto – a work which had great significance for him, one which, according to Liszt, "he had a marked fondness and which he frequently liked to repeat" – through his years in Paris among great opera singers and composers, till the day he died, when one of his dearest friends, Delphine Potocka – a most accomplished singer and pianist, and the person to whom he dedicated the F minor concerto when it was eventually published – sang to him, Frederic Chopin was surrounded by a whole culture of lyric expression. He loved beautiful singing, and it influenced all that he did as a musician.

For his third *Etude*, composed during his first year in Paris, Chopin exploited the vocal possibilities of the piano in a work of the most moving feeling and emotion, one which seems clearly and truly to be *speaking* to us. More than that – speaking *for* us. It's as if the composer is telling us of the feeling inspired in him by thoughts of his far-off home, family and friends. He did not yet realize that he would never again see his homeland. The music is all the more moving because it is not Chopin's particular home and childhood which is being evoked, but rather the emotional archetype engendered by those thoughts. It's our *own* irretrievable places of the heart which we recognize in the heart-rending phrases of this music.

Significantly, and touchingly, Chopin's original manuscript, is dated, in Polish, '*Paryż, 25 Sierp. 32*' – Paris, 25th Aug., 1832. The twenty-two year-old is proud of the fact that he is in the greatest of all cities, making his own way. But also, by using the Polish language, and by geographically placing his manuscript, it's as if Frederic Chopin is writing a letter home. His heart was still in Poland, where it would always be. The nostalgia contained in the E major *Etude* seems to convey that at a subconscious level Chopin knew he would never return to the happiest time and place of his life.

On the surface, this *Etude* seems not to be a technical study at all. Gentle, inward and musing, it contains one of the most beautiful melodies ever composed. Ineffable – that which cannot be expressed in words – is the only way to describe it. But people will always try to express emotion in words. "*Tristesse*" – sadness – is the name by which this *Etude* was widely known for many years, though most people don't know why, though it is certainly an appropriate title for this deeply nostalgic piece of music. '*Tristesse*' was the title of the French version of the song arrangement of this *Etude*, which was very popular around the early twentieth century – particularly in Poland, where it was sung in Polish, with lots of lovingly murmured, nostalgically soft '*sh*' sounds.

But the emotion and thought behind Chopin's melody is so clear and palpable that it hardly requires words, and not verses of dated sentimentality. One of Chopin's longest-standing students, the young German pianist Adolph Gutmann, who was also his loyal friend and helper, in later years reported various things Chopin supposedly said and did. Among these was the claim that Chopin said 'he had never in his life written another such melody' as that of the E major *Etude*, and that once when he heard it played he raised his arms and exclaimed " \hat{O} ma patrie!" The first statement may be true, the second is totally unbelievable. But that's what people wanted to hear, as it confirmed the general opinion of this melody, so that's what Gutmann peddled.

Whether he said it or not, and whether Chopin did or didn't think he had ever written a more perfect melody, we can say with confidence that *no-one* – not even his friend Bellini – ever wrote a more beautiful one.

What of the classification of this piece as an '*Etude*'? True, there are some awkward passages in double-notes in the middle section – *very* awkward – but the immortal melody of the main section – what's hard about that, technically speaking?

If we look closely, and bear in mind what Chopin was trying to do with the newly developed instrument in terms of vocal expressiveness, we can see that he is very *much* preoccupied with technical considerations in this *Etude*. The E major *Etude* brings us directly to the enormous contribution made by Chopin to the concept of treating the piano as a *melodic* instrument, by tricking it into forgetting that it's a percussive instrument. Chopin was the one who, more than anyone else, ingrained the idea in everyone's consciousness that we can *simulate* the human voice on a piano in a consistent way, even though the instrument tries as hard as it can to stop us.

Why should we imitate the voice? Why not accept this percussive instrument for what it is and simply produce percussive sounds with it? That's what several - most -20^{th} century composers, most significantly Stravinsky, Prokofiev and Bartok, would do nearly a century later. But even these early 20^{th} century 'avant-garde' composers did this in a specialized way, aiming more at a percussive *effect*, or effects, than an overall percussive aesthetic, and this for the most part during their 'enfant terrible' years. Prokofiev would become *very* lyrical in his maturity, and there was a strong sense of lyricism in his music even when he was young and iconoclastic.

The reason we try to imitate the voice is so obvious it's hardly ever spoken of, or even considered. Also, it has been politically incorrect for most of the 20^{th} century to even bring it up, the suggestion condemning one as artistically backward, certainly not *avant-garde* – the holy grail of 20^{th} century art and music.

But this reason has nothing to do with trends or fashions. It is inherent in the nature of music and art. The whole point of meaningful art is to give us a medium through which to express our humanity on a metaphysical level. Art gives us a window on the eternal – a little one, but it's more than we've got for the most part in the course of our daily lives. When the human connection is discarded, as it blithely was during much of the 20^{th} century in both music and visual art, then we've lost the whole point of an artistic endeavour. If the human focus is lost – and in music that means the centrality of the human voice – then all we have is an impersonal collection of sound effects – perhaps artfully arranged, but not qualifying for the description 'art'.

In the second *Etude* we saw how important it is to keep the thumb absolutely loose and tension-free. But what of the other fingers? Are they to be loose also? Surely not – how can we play the piano, or for that matter do anything at all, if we don't contract the muscles like a coiled spring, then release them in order to produce movement? If we're alive there must be tension in our muscles. And by definition we must have tension in order to have any kind of *intensity*.

In fact, we need to sustain a *considerable* amount of tension, in the purely technical sense of *tensing*, in all our other fingers – the four besides the thumb – and we have to apply a good deal of pressure and weight upon them from the hand. The trick is to control *which* muscles need to contract. If we focus and control the tension, then we can do anything.

Something has to tighten somewhere if we are going to accomplish anything, let alone something as specific and focused as playing carefully articulated notes and chords on a piano. So what we have to do is tighten exactly the *right* muscles for the task at hand. If we contract only the muscles we need at each individual moment, all the others can remain free, and the ones which *are* working at that moment can then do their job unhindered by excess baggage.

This leads us to the need for a fundamental understanding of the movement of the muscles which operate the fingers. Simply put, we have to understand the distinction between the two types of muscles and tendons – the *extensors* and the *flexors*. In terms of 95% of our finger useage, *extensors bad*, *flexors good*.

Try this: point the index finger. What's holding it up and making it stick out straight? It's the *extensor*, on the top of the finger. This muscle extends all the way through the forearm and the top side of the wrist, ending at the top side of the finger. It lifts the finger as a draw-bridge is lifted by a cable – in this case an extensor tendon.

Now *bend* the same finger. This time it's the *flexor*, on the *underside* of the finger, which is pulling it. Here's the key distinction: unlike the extensors, which are all *long* muscles and tendons, the flexors come in two sizes – long ones which reach up into the arm, and short ones, which are totally contained within the hand. The muscles that move the finger joints are located in the palm *and* in the forearm.

This is the virtuoso pianist's greatest and most essential secret – we can work the short flexor muscles for hours on end without tiring or straining, and with almost unlimited strength, *because they don't extend into the arm*. It's in the *wrist* and the *arm* that all tightening and strain occurs.

If we watch vigilantly over which muscles are being used when we depress the keys, and make sure we are only contracting the *small* muscles of the hand, i.e. operating the *underside* of the fingers, we can avoid tensing the muscles in the arm, and thus avoid introducing strain into the whole apparatus. In the process, we increase our capacity to play with unlimited control of touch, as well as endurance.

In practical terms, tensing the underside of the fingers means *gripping* the keys: when we contract the flexors, what we're actually doing is *pulling* with our fingers. Thus, when we play the piano we must *pull* the keys. We can and should pull them with intensity – with a sharp inward-pulling flick of the end-joints of the fingers – but *pull* them we must, *not* strike them with the longer muscles which operate the upper side of the fingers – the extensors.

Chopin always said one should "*draw the sound out of the piano*." That is a perfect metaphor for the actual physical movement which our hands must adopt – quite apart from the apt poetic allusion of drawing the sound like a magician conjuring something mysteriously out of a mundane container.

It's as plain and simple as can be, and yet it's so hard for people to get the idea. That's because our natural instinct is always to *strike* whenever we want to make something happen. (Even the word "play" is a verb which conjures up an idea of *doing* something to the piano, instead of eliciting sounds from it – "drawing sounds".) Striking keys is an automatic action – especially with a solidly built modern piano. If a piano isn't a first-class instrument with a perfectly regulated and even action, we automatically force the keys – by *striking* them. When our computer's response is sluggish, we *strike* the keys harder – when in fact we shouldn't be hitting them at all: we'll just damage the electronics of the machine, as well as injure our muscles and tendons and start to build up RSI in our arms and wrists. If the mouse is erratic, we tap the click button repeatedly – a *striking* action of the extensor of the index finger.

When we *strike* the keys on the piano – or the computer – what we are actually doing is engaging the *extensors*, which is exactly what we do *not* want to do – that is, not in terms of our *regular* mode of operation of these instruments. The *extensors* cannot be used consistently without causing injury. They cannot be used for any extended amount of time at all, only in short bursts. The *extensors* extend right up into the arm, and consequently, if we use them repeatedly they'll tense the arm and very soon cause *tendinitis* and eventually *carpal tunnel syndrome*. The *extensors* were put there for special occasions: so that we could stretch the hand out temporarily, just *momentarily*; they were not designed for use in any protracted or regular engagement.

That's one of the two most important things necessary to be understood by everyone who works with their hands on a regular basis, including those who type on the computer keyboard for protracted periods. The other essential, as we know from the last *Etude*, is the uncompromised freedom of the thumb.

Here's what may seem like a digression, but it goes to the very centre of the question that is our major concern here – our actual physiological processes. 'Why We Get Sick: the New Science of Darwinian Medicine', by Randolph Nesse, Professor of Psychiatry and Psychology at the University of Michigan, and George Williams, an evolutionary biologist, has for its thesis the proposition that an informed knowledge of evolution enables us to understand why a particular physical problem or illness arises, and thus will aid prevention.

The book's central theme is that "from the mismatch between our design and our environment arises much, perhaps most, preventable modern disease." This is a little like saying that all divorces are the result of marriage, but it does illustrate an important way of looking at our physical circumstances, one which is essential when it comes to the way in which we use our hands. The authors point out that as humans were designed to be hunter-gatherers, today's fatty diets, drugs, sedentary lifestyle and artificially controlled indoor air and light create an environment for which we were simply not designed. Excess consumption of salt, saturated fats and sugars cause severe problems for bodies which were not designed and are not equipped to handle them. Our reduced resistance to a range of infections can be traced to this fundamental mismatch of evolution and environment. Fevers are the body's means of expelling infections, caused by invading pathogens, as are coughs and vomiting. Analagously, *physiological* problems arise from the mismatch of our body's design and construction with the ways in which we *use* our physical resources. Myopia, for example, is very probably to some extent caused by constant reading from an early age, often in artificial light, something for which our eyes were not intended. Most of all, for all human beings, the authors point out that "walking upright gives us the ability to carry food and babies, but it predisposes us to back problems." Because evolution cannot easily undo or alter earlier design features, we experience related problems caused by evolutionary 'legacies', such as, for example, our wind-pipe being situated too close to our food pipe.

Exactly the same kind of principle applies to the way in which we *use* our bodies. Any mismatch between the way our bodies were designed to be used and the way we do actually use them will result in strain and a chain reaction of physical problems.

Our hands are built specifically – and marvelously – to grip. That's their main function, period. As a supplementary extra feature, they were given a *limited* capacity to *stretch* – the exact *opposite* movement of gripping, which is the hand's primary purpose.

Monkeys grip as they swing from branch to branch, thereby sustaining their entire weight. We share exactly the same gripping mechanism, but we were able to take this skill further. Grip is in fact one of the *defining* characteristics – perhaps the most definite and unequivocal characteristic – of humans. It is our grip which enabled us to create tools, and in so doing to make calculations, i.e. *reasoned thought*. Our grip is the fundamental thing which separates us from all other animals, with the exception of our simian cousins. Most animals are prettier than us, faster and stronger in many cases, but the one thing they can't do is *grip*, and that's the basic difference between us and them.

From that difference flow all the features which distinguish us from the rest of creation. We can *do* things with our hands, and following on from that, we can calculate and figure out what will happen *next* after we've done something. Our grip is the tangible physical manifestation of our ability to make calculations. This tactile connection with our thought processes is a major element of the way in which our bodies operate.

Mismatch between the design of the hand and the way it is used is the major cause of hand problems – apart from accidents and arthritis, of course. It is also a key symptom of difficulties in reasoning skills: our tactile connection with the keyboard, or anything at all – i.e. brain-to-hand co-ordination – is a measure of, and stimulant to, our sharpness and clarity of thought. This phenomenon applies in everything we ever do, as all parents know immediately with a new-born baby's level of alertness and physical co-ordination.

Holding a book and turning the pages enables us to learn about things we can't see in front of us, thereby initiating imagination, something animals don't have – not in the complex way humans do. Once they've finished dinner, they can't 'imagine' that they will ever be hungry again, let alone in a couple of hours, and therefore they do nothing about it, until hunger comes upon them once again. Such a chain reaction starts with our ability to hold a book between our thumb and forefinger; turning on the television to see what's going on beyond our immediate reach initiates a similar sequence of events; likewise the *manufacture* of a television set so that others can watch it, learn from it and have their imagination stimulated.

Playing the piano is certainly the result of, and initiator of, a chain reaction of mental and physical responses. When did your pet last play something for you on the piano?

Mismatch between the design of our hand and the way it is used is the major cause of hand problems – apart from accidents and arthritis, and ageing, of course. It is also a key symptom of problems with reasoning skills. Our tactile connection with the keyboard, or anything at all – a hammer, a screw-driver, a golf club or a car wheel – is a measure of, and stimulant to, our sharpness and clarity of thought. This is because tactile connection involves brain-to-hand co-ordination. This phenomenon applies in everything we ever do; a new-born baby's level of alertness is immediately apparent from physical co-ordination.

Physical problems arise in many cases – not all, but many, and most in the context of piano playing – from the mismatch of our body's design and construction with the ways in which we *use* it. It's like myopia being caused to some extent by constant reading from an early age, often in artificial light – something for which our eyes were not intended. Any mismatch between the way our bodies were designed to be used and the way we use them will result in strain and a chain reaction of physical problems. And our hands are designed primarily to grip.

Our *grip* of the keys also applies to our *range* of touch in everything we ever play on the piano – from the loudest dramatic passages to the softest caress, from the fastest *Etudes* to the slowest *Nocturnes*.

The touch which concerns us in Chopin's Third *Etude* – 'singing' tone – is impossible without complete control of the movements of the fingers themselves, independently of the hand – and that means total command of our *grip*. To make the melody of the E major *Etude* 'sing', the first and foremost essential is to *grip* the piano keys firmly, and to employ the *small muscles* which operate the fingers – the '*flexors*' – playing the melody notes – in this case the third, fourth and fifth fingers – with total control of the intensity that we are are able to apply through those small muscles.

We can reinforce the pressure in the fingertips of those fingers by leaning on them with the right side of the hand, the part of the hand backing those fingers – and we *should* – but the central and paramount requirement here – the basic requirement for all use of the fingers of the hand – is that we activate and employ in exclusivity the small muscles which operate the fingers – the *small flexors*.

Put another way, we must cultivate our **grip** – our one strong suit as humans – in all physical movements of the hand.

The story of how we simulate the voice on the piano doesn't end there, of course. The intensity of pressure in the fingertips and our ability to control and manipulate that intensity is the essential foundation of a singing tone on the piano. But then there's the whole matter of breathing and breath control.

When we sing, our voice never actually ties notes together in an unending, equal, even stream – contrary to the impression created. There are two essential, and distinct, features about the way sound is produced by our voice which must be taken into account if we are to 'sing' in a parallel manner on the piano.

Firstly, when we sing, we must breathe every few seconds, usually the best places being in-between phrases. And secondly, each word, or note, has a different sound level, quite apart from the volume we choose for it in terms of artistic considerations. That's because our breath starts to run out from the moment we take it in. In order to create a smooth legato, we compensate, naturally and automatically, for this inevitable diminution of breath by swelling each new phrase.

On the piano – a mechanical instrument, a machine – we don't physically have to take breaths. If we don't calculatedly put simulations of breathing points into the line of the music, we *can* actually produce an unbroken line, unlike the voice. But because of acoustic reasons it doesn't actually *sound* very smooth, and certainly doesn't sound as it would if it were sung – which is our objective. In order to simulate the voice, we must somehow compensate for the absence of human breath – something of which a machine knows nothing. We do this by the calculated insertion of acoustical breaks in the musical line.

The second feature of vocal production – diminishing breath – we compensate for by micro-managingly, calculatedly, creating distinct differences in sound level for each and every note of a melody.

Ironically, a melody line – such as the glorious one with which we are dealing in the E major *Etude* – will not sound smooth if *played* smoothly, or *legato*, on the piano. Because of the natural acoustic effects of the ordering of the notes, some will unavoidably be at a disadvantage. The first note of a phrase will always come across stronger than the second, even if we play both notes equally in every possible way. The last note of a phrase will always sound short-changed, as if gulped, in anticipation of the strong first note of the next phrase. And as soon as it sounds, the first note of the new phrase will overwhelm the reverberation – and thus the effect – of the last note. And so on.

When we sing or speak, this acoustic problem simply doesn't arise, because the amount of breath available to us for each note is completely different and therefore there will always be a constant give and take of sound levels from one note to another. This give-and-take will counter-balance the natural acoustic effects of the progression of the notes. For instance, while the first note of a phrase will be projected more strongly than the second, when sung, as opposed to played, this effect will acoustically be counteracted by the process whereby we take in breath at the beginning of a phrase and swell the sound over the next few notes, the phrase cresting and then dying away when the breath starts to disappear.

Thus in singing – or with wind intruments, and string – the first note of a phrase does *not* in most cases emerge naturally as a strong note, whereas with a keyboard instrument it always does – unless we actively strive to make it do otherwise.

On the piano the notes will always have the same volume if we play them with equal pressure. There's no natural give-and-take in sound level. Ironically, the effect is *not* that of a true *legato*, but rather of a slightly lumpy progression. Therefore, we have to take care to vary the finger pressure from note to note. *We have to emphasize the notes on the weaker beats* – the second and fourth in a four-note phrase or metre, the middle one in a triplet. That is why the second beat in a waltz is always lingered upon – often to an exaggerated degree. It's the weakest beat in a 3/4 rhythm, being always overshadowed by the first beat and supplanted by the last – which becomes an upbeat in each triplet. Without this extra emphasis and lingering, it would be swallowed up.

What the piano cannot do *at all* – and what the voice does automatically and instinctively on almost every note, unless specifically avoided with a great degree of controlled effort – is *swell* an individual note. Unlike string or wind instruments, the piano simply cannot alter the sound of a note after it has been struck. Period. Once a hammer has gone down, that's it. There's nothing more that can be done with the note itself.

Not only won't it swell – it won't even **hold** at the level at which it was sounded. From the moment a note is sounded it begins to fade. This is something of which pianists must be constantly aware when playing anything lyrical or melodic – anything which simulates the voice.

Nothing can be done with the note *itself*, but there are various things which can be done *around* and *about* it. The things we can do to simulate the breathing patterns of the voice are the subject of Chopin's attention in the E major *Etude*. First and foremost, we can and must emphasize *long notes* – notes where the melody comes to a pause for a moment. If long notes are played with the same pressure as the notes around them, they'll fade before the melody moves on. So we have to give them back-up support. Simply put, the long notes have to be *louder* and more intensely played than the other notes, so that they'll be able to endure longer.

If we look at Chopin's wonderful melody in this *Etude*, we see that every few notes – usually every fourth one – the melody line comes to a pause on a note which is as long as the preceding four notes. If we play this note with exactly the same pressure as the notes around it, the melody will weaken and fall apart when it pauses here, lose the *legato* line and sound disconnected.

But if we *accentuate* it – not in the sense of 'accent', but rather play it with a little extra emphasis, extra carrying power – as Chopin has told us in his indications he wishes us to do, then we can create the illusion that this long note is 'singing', i.e. *vibrating*, until the melody moves on.

The voice *also* has to treat long notes with special attention. Long notes may of course be swelled by the voice – but only if we've taken enough breath. If we don't plan ahead when we sing, we're going to run out of breath on the long notes – perhaps not all of a sudden, but by petering out embarrassingly. We must take breaths *somewhere* when we sing a melody. If we're intelligent singers, we'd rather pick our moments for those breaths strategically, instead of being caught short in the middle of a phrase and running out of breath.

When we sing, we make sure to plan to take a breath whenever we see a long note coming up – either before or after it – because that long note is going to need extra breath. Depending on how much breath we have available at that point, we can swell and shape that note – with artistry and beauty, to be sure, but mainly in order to help create a *legato* continuity in the line.

On the piano, we need to create the *illusion* that we are doing something similar to that which the voice does in taking breaths at strategic points – not just in the interests of good phrasing, but for the necessary acoustic purposes. Above all, we must play the longer notes with a firmer touch – not so much that they sound as if they are being accented, but firmer than their companions nevertheless. They can't *swell*, but at least they won't disappear before it's time for the melody to start up again.

We emphasize the longer notes even if they happen to be the last note of a phrase – as is the case for the most part with the melody of this *Etude*. This runs contrary to our natural musical instincts – if we were singing or speaking, the last note of a phrase would nearly always automatically fade off. When singing the melody of the *Etude* we instinctively taper off on this recurring longer note, but that is exactly what we must *not* do on the piano.

Chopin has given us a special device in this *Etude* by which we can add to the *illusion* of swelling on individual long notes – giving them extra life by making them seem to reverberate and last longer: the innocent accompaniment below the melody in the right hand, a constant *ostinato* figure quietly moving the pulse along, has an extra possibility of which we can and should take advantage.

This *ostinato* line acts to underscore the melody, not just rhythmically, but also in supplying the resonance which ties the melody notes together in a vocal manner – meaning a *legato* line – and it also provides the continuity of sound for the melody to come across smoothly. With each long note of the melody, we can create the *impression* that this melody note is swelling – which it most certainly would do if it were being sung – by increasing the sound quotient of this accompaniment. You can't swell an *individual* note, but you *can* make a swell within a group of four or five notes, which is what we have available to us beneath the long notes in the melody.

This is similar to the way we increase the sound level when we accompany a singer – that's if we're a *good* accompanist – when the voice comes to a pause in the melody. We do this to stop the momentum of the melodic line from stagnating, even though with artful breath-control the singer may swell any note he or she wishes.

As pianists, however, we physically *cannot* swell the long note, or *any* note, because of the piano's mechanical inadequacy. The only way a note on the piano can change in any way once it has been played is that it will most surely *fade*. But the accompaniment, and the texture of the counterpoint around it, can help to create the *impression*, or the *illusion*, that a note *is* changing and swelling.

At least half of the accompanying *ostinato* figure is played by the thumb of the right hand, trying to produce a *legato* effect. In so doing, it's very prone to tightening. As we learned with the second *Etude*, this is a dangerous situation for the thumb to fall into. It cannot be over-emphasized that the function of the thumb is completely different to that of the other fingers, and it should absolutely not be used in the same manner. As we know, the thumb is designed to move sideways – to '*oppose*' – and not up-and-down like the other fingers; that vertical movement will instantly make the thumb rigid, and in turn will strain the whole side of the hand, wrist and forearm.

If we use the thumb vertically it will clunk down on the key on its side each time it plays a note, not bending and not 'opposing' - i.e. moving laterally - as it should. We'll soon be in serious trouble.

No matter what, we must always avoid striking keys with the thumb on its side, because when operating in that mode the joint in the thumb will not be bent, and the thumb will consequently be rigid. In order to remain free, the thumb must be flexed at all times, and it physically *cannot* be flexed, or bent, if the thumb is used up-and-down like the other fingers.

To keep it slightly bent at the joint and thus avoid rigidity, it is necessary to always make the thumb connect with the keys at the corner of the thumbnail. The thumb cannot play on its 'pad' full-on like all the other fingers, because it's attached to the hand *sideways* – at a forty-five degree angle. If we connect with the key at the corner of the thumbnail, the joint in the thumb will automatically bend – not a great deal, but enough. All we need is a slight bend, in order to avoid the whole thumb striking the notes rigidly on its side.

Put a mark with a pen on the correct point of the thumb-pad when first acquainting yourself and assimilating this 'trick'. It's a good trick, because it's simpler to think about playing on that particular point – thereby automatically *bending the joint*, which is absolutely essential – than trying to concentrate on keeping the joint bent.

We must watch the thumb all the time while we are playing, not just while practicing but during performance as well – monitor it constantly the way we check the rear-view mirror while driving – to make sure it is flexed at the joint, which is to say slightly bent.

This is not so that the thumb should operate sideways – its natural direction of movement – when we play the piano; there is no need at all for the thumb to move sideways when we play the piano, as the keys on a piano simply go up and down.

The reason we must monitor the thumb constantly to make sure it is flexed at the joint is so that it will always be in a position whereby it makes contact with the key on the side of its tip, and not on its underside. If the thumb is whacking a key on its side, that means it is being operated from the side of the wrist and the forearm – there's no other way the thumb can be operated in an up-and-down direction, as it has only one joint, and that joint moves it sideways. The inner side of the wrist is immediately being inflamed and the forearm strained. Carpal Tunnel Syndrome and tendinitis. Need one say more?

The middle section of this *Etude* is 'technically' difficult in the conventional sense, with awkward passages in double notes in both hands. It starts out cheerfully enough, but the temperature soon rises and develops into something of a panic attack, with the harsh sound of clanging bells taking us far away from the idyllic place where the melody had us.

As the mood darkens, the double notes also escalate, starting with double *thirds*, then double augmented *fourths*, and finally, at the climax of the clanging bells, double augmented *sixths*. In this climactic passage, the thumbs of both hands will tighten cripplingly if great care is not taken to keep them as loose and relaxed as possible.

Most importantly – the best way to achieve the maximum possible looseness of the thumbs – as with the gentle *ostinato* passage in the main melody, the thumbs should contact the keys *with the tip of the side of their pad, by the corner of the thumbnail*, and not fully on their side – an action which would make them rigid.

This applies equally to the beginning of this middle section, where the right hand opens with a passage in *sixths*, and the left negotiates a progression of broken *tenths*, *elevenths* and *twelfths*. In both right and left hands the key is the maximum possible disconnection of the thumb, and the way to go about achieving this is to carefully play the thumb-notes with the tip of the pad – by the corner of the fingernail.

(The particular importance of this special attention to the thumb in the playing of *sixths* will be dealt with in detail in connection with the Etude written entirely in *Sixths*, Op. 25, No. 8.)

In the run-up to the bell-clanging double *sixths* at the climax of the E major *Etude*, there is a precipitous *crescendo* in double augmented *fourths*. The left hand in this passage moves in a chromatic scale progression, but the right hand follows a jagged upward path. Here we must displace the whole hand in a similar way to the manner in which the hand positions were displaced upwards in the first *Etude*, i.e. moving the whole hand laterally in an easy movement without stretching to reach each succeeding position.

We may hold on a slight moment extra to the thumb on each second chord in order to prevent those off-beat chords coming out completely *staccato*, thereby creating a gulping effect. Only a *slight* lingering on the thumb, though – then it must still be completely released before we move the whole hand up to the next chord in each case.

The dark clouds clear as quickly as they had gathered, and we segue effortlessly back into the recapitulation of the opening melody as if nothing had ever happened to disturb the reverie. During this brief transition, the three counterpointed voices sound and behave *exactly* like speech.

In fact, that's exactly how the entire opening and closing sections should be played – like a human voice speaking, intimating, above all *breathing* – rising and falling. What is the melody saying? The ineffable beauty of art is that what it is saying cannot quite be put into words, nor should it.

In addition to giving us the means in this *Etude* to counter the fact that the piano cannot swell on individual notes, Chopin also shows us, through minute and careful *agogic* instructions – that just means *crescendos*, *diminuendos* and accents – how to avoid the unevenness of sound caused simply by the acoustic progression of the notes. He gives us very precise indications for small *crescendos* and *diminuendos* from note to note in the melody line of this *Etude*.

Let's just look at the first line. If we sang this, the sound would rise and fall in every phrase. We wouldn't even think about it – it would happen automatically as we took in and exhaled breath. But on the piano it *doesn't* happen automatically – we have to put little *crescendos* and *diminuendos* into the music all over the place to simulate the rising and falling that the voice would automatically produce in this melody line.

When we play a melody on the piano we can play the long notes, the short notes, everything, without ever having to take a breath. But played in that manner it comes out sounding dry and mechanical. So we try to simulate the breaths that the voice would take – both naturally and calculatedly – by inserting breaks, or gaps, in the melody line, and then picking up the line with a reinforced tone from that which existed before the gap, with the same emphasis as if we had just taken a breath.

And in tandem with these gaps, we also insert calculated little *crescendos* and *diminuendos* for the rise and fall of the voice.

So we see, then, that with skillful differentiation of sound levels – between the separate voices *and* from note to note – as well as carefully calculated insertion of gaps in the music where the voice would normally take a breath, plus a little help from the pedal, we can have a fighting chance at creating the impression of a human voice. Not just a *singing* voice, but one that's actually *speaking* to the listener – confiding, intimating, suggesting, persuading, sometimes proclaiming – aiming to convince the listener of an idea, a thought, a feeling, an emotion.

All of the devices for achieving this may seem rather technical to the innocent bystander, but the bottom line is simply that what we're trying to do here is to create *a fluid, reverberant, expressive, vocal line by carefully manipulating a fixed, hard, mechanical instrument*. That's sometimes harder – or rather, it takes more effort and thought – than much of the fast exciting music we ever play on the piano. Or, as Leonardo said, after dissecting all the technical attributes of sight, "A painter must represent two principal things – man, and what passes in his soul. The first is easy, the second is hard."

When Liszt described the *Adagio* of Chopin's F minor concerto as being characterised by "a fusion of tones and a softened diminution of hues that prevent any harshness or roughness from disturbing the moving impression thus produced," he was actually describing the quality of 'singing tone' itself. '*Fusion of tones*' and '*diminution of hues*' are the best possible directions for how the music should be *played* – in fact, what we have to do in *all* of Chopin's music, and what he explicitly requires us to do in this *Etude* – that which the voice *always* does, but which on a mechanical instrument such as the piano needs careful calculation, and of course skilled technique.

 \mathcal{M} any fine recordings have been made of the *Etudes*, particularly the conventionally difficult ones. But some of the quieter, more poignant *Etudes* are much less often heard as they really *should* sound. The E major *Etude* is a prominent example of this. It's very rare to hear a performance or recording of this piece, by *any* pianist, which captures the melody line with its vocal simplicity and emotional complexity combined in a natural way. Most pianists – including really great ones like Richter and Horowitz – tend to focus so keenly on the phrase shapes, pauses, *crescendos* and *diminuendos* that they end up compromising the flow of the melodic line, blurring the wood for the trees.

Chopin clearly foresaw this problem arising, and tried to do something about it. In his original manuscript, "*Paris, 25 Aug. 1832*", he gave the indication '*Vivace*', which is not really a *tempo* direction, as it is often taken to be, but rather an indication of character. By '*vivace*', Chopin did not mean that the melody should be played fast, or hastily in any way; he wanted it to be 'alive', and not self-conscious.

When he made a clean, carefully written out copy of the manuscript (now owned by the Frederic Chopin Society in Warsaw), Chopin added a qualification, thinking that pianists would misunderstand the word *vivace* and play the melody too fast. He now wrote "*Vivace ma non troppo*" – 'Lively, but not *too* lively'.

By the time the *Etude* was published, he had decided that 'vivace' had to go altogether, and it became "*Lento ma non troppo*" – "Slowly, but not *too* slowly."

What Chopin was struggling to get across was that the *tempo* – the over-riding factor in any piece of music – was, for once, not necessarily the most important factor; here the essential element is naturalness. Arthur Rubinstein's constant admonition to young pianists – "*Chantez plus, chantez plus*", advice which he himself didn't necessarily follow, with his characteristic effort to always project a dignified line (his playing was always *speaking*, not necessarily singing) – should be followed in a piece of music such as this, more than in most cases.

After we have absorbed and assimilated all the essential techniques for reproducing the human voice on the antagonistic mechanism of a grand piano, we must remember that a good vocal line, let alone a *great* one, always has at its heart *simplicity*.



First draft, 'Paris 25 Aug, 32', 'Vivace'

A clean copy – 'Vivace ma non troppo' including phrasing marks, accents and dynamics

Next we will examine Chopin's approach to the kind of pianism we usually associate with the term 'virtuosity' – that pertaining to fast fingerwork. We will see how Chopin was influenced by the cult of Liszt and Paganini, and how he could do platform panache with the best of them – his friend Franz Liszt. Fast fingerwork in continuous running passages requires special attention to the weakest of our fingers – the fourth, that which is hampered by being, as Chopin said, "joined as a Siamese twin to the third finger." It also necessitates careful demarcation of hand positions, as we are moving so fast.

Epilogue

WHAT YOU REALLY WANT TO DO IS PLAY THE GRIEG CONCERTO

 $\Upsilon_{\rm ou}$ don't really think you can play all the Chopin *Etudes*, or even more than

a handful of them? You want to play the more 'musical' ones, certainly – like '*Tristesse*', the '*Aeolian Harp*', or the C sharp minor of Op. 25 – after all, everyone does; perhaps you tried to learn the *Revolutionary* when you were young and still work on it occasionally.

The first *Etude* is a fascination magnet for all amateurs (i.e. '*lovers*' of the piano), even though it's probably the hardest – even harder than the second *Etude* of Op. 10 or the fearsome *Thirds* Etude. For some mysterious reason quite a number of slight young Asian girls – Japanese, Chinese – and even some European and American ones, seem to be able to glide through the *Thirds* Etude effortlessly in the myriad piano competitions held all around the world, and yet they are never heard of again; the present writer would consider himself worthy of world fame if he could accomplish this feat. Yet to hear a really good performance of the *First* Etude – one with all the necessary richness and *éblouissance* (dazzling, electrifying) and with all the notes intact, is still more amazing.

But what you would *really* like to do is play the Grieg concerto well enough to feel a sense of accomplishment and to give a reasonable simulation of the recordings of Lipatti, Solomon and others with which you grew up. That should be achievable, shouldn't it? It's not a hard piece, after all, so it *should* be within reach. Whereas to play the majority of the Chopin *Etudes* like Backhaus or a couple of others? Somewhere recognizably close to the way they *should* sound? Not really in this life?

Well then, let's take a look at the opening pages of the Grieg Concerto and see what the Chopin *Etudes* have taught us. After all, as Schumann said, "Studies are studies: that is to say, one should learn from them something one did not know before." We learn specific things in each of Chopin's *Etudes*. Each one covers a clearly identifiable type of hand use, and together they encompass every movement and every objective that could ever be required of the fingers and hands, and every nuance of sound which can be produced on a piano.

Drum roll. Exactly on the beat, we come crashing down on an A minor chord together with the orchestra. Or *do* we crash down? Remember what we read about *extensors* and *flexors* in Chapter 3? That was the chapter on the third *Etude*, the immortal song-like *Etude* in E major, once commonly known as '*Tristesse*'.

In that chapter we saw that in order to produce a singing tone it is necessary to grip the keys firmly with the ends of the fingers – the 'small muscles' of the fingers located on the underside of the final two joints – and not to use the *extensors* – the long muscles and tendons leading to and operating the upper side of the fingers, those muscles extending through the carpal tunnel of the wrist and up into the forearm.

The *extensors* have their own uses, but playing the piano or typing is not one of them. The extensors are necessary for *pointing* with our finger, and in the case of using a keyboard instrument such as a piano – or computer keyboard – they can only tap or *strike* the keys. And 'striking' – though this term has been misused since the piano was invented, as a simple word to indicate the act of making a key go down – is what we must *not* do, ever. '*Draw* the sound out of the piano', said Chopin. *Pull* the keys. We can only pull anything with the *flexors* of our hands and fingers.

Hold on a moment – that chapter was all about beautiful singing tone. What in the world has that to do with crashing down on the massive opening chords of the Grieg concerto? Apart, of course, from the fact that even massive loud chords should not be deprived of their opportunity to *sing* out, and they should not have to be aggressive and harsh. *Nothing* should ever be aggressive or harsh – not even the music of Stravinsky or Prokofiev, which is very often sharp and startling but not necessarily aggressive and harsh.

We were reminded right throughout the book of the need to *pull* the keys with the *flexors* – especially in the final chapters, which covered the opposite end of the sound spectrum from the third *Etude* – namely the *Octaves* and *Winter Wind* Etudes. Any talk of octaves being played 'from the wrist' or 'from the forearm' will only sidetrack us from the main issue – the main issue being *the fingers*, and our successful delineation of the *flexors* from the *extensors*. Flapping our hands about from the wrist with little regard for the necessary intensity at the ends of our fingers will produce nothing more than a weak, unfocused, *uncontrolled* sound, and we will soon be in difficulties with regard to strain.

So what have we learnt from the Chopin *Etudes* that applies to the opening chord of the Grieg concerto?

First of all, we *don't* crash down – by which movement we would be *striking* the keys of the A minor chord with our extensors. That would produce a thin, harsh, brittle sound, one that would not carry much above the orchestra, and one that would sound even thinner and weaker out in the hall than it does to us sitting right up at the piano. Also, if continued in this way, we will start to strain our arms, as the *extensors* pass through the carpal tunnel of the wrist and up into the forearms. Tendinitis at the top of the forearm – 'tennis elbow' – will be the first manifestation.

So what do we do with this opening chord?

We keep the hands quietly and surely in place for the first chord (or hovering closely), we *grip* the chord firmly with our hands, and we *pull* the notes with the ends of our fingers – the last joints.

We do this from a sitting position that is not upright on our full bottom, but with the bench pushed back, the vertebrae of our backs pulled apart as far as they'll go, our backs consequently straight and stretched out, but leaning decidedly *forward* – just as we saw with the master of keyboard posture, Vladimir Horowitz, in Chapter 1.

Next: two open octaves – 'double octaves' – move us down to the next full chord. Remember the lesson of the First *Etude* (and every other one)? – *displace* the whole hand (in this case both hands together, in an identical movement of the hands) – *easily* and *gently* – instead of stretching out the fingers in anticipation of the objective, or jumping to it in a snatched, jerky manner.

We get to the bottom of the keyboard with this staggered cascade of octaves. After a moment to compose ourselves and regroup -i.e., we have a moment in which to move the hands gently and easily (*gently* and *easily* must be the operative words in *everything we do at the piano*: if something isn't happening gently and easily - 'easily' in the sense of unforced and unstressed - then we are doing something wrong, or something which can and must be corrected or addressed) to the next thing that's going to happen, which happens to be an A minor arpeggio.

Simple enough, except for two red-flag moments - one at the beginning, the other at the end.

The first few notes of the arpeggio are spread out - in a considerably more widely-spaced grouping than the standard spacing for an A minor arpeggio, which will take over very soon. If we play these first notes without careful and considered attention, the second note, played naturally and automatically by the thumb, will be swallowed. This note is situated a full octave from the first note of the arpeggio, and will be followed by a note a *fifth* above. If played by the thumb, it will automatically be 'passed over' - and 'passing over', as we learnt in Chapter 2 and elsewhere, is something that is to be avoided as much as possible.

In Chapter 2 we learnt how 'Bach's Fingering' avoided the thumb altogether in order never to have to 'pass under' or 'over' it. This action unfailingly produces a jerk in the line, as the note being passed over is gulped, or swallowed: if we listen carefully and honestly we have to admit that it can often hardly be heard at all. It's an acoustical *illusion* that we think we heard it – harmonically and rhythmically it's what should be there, so the ear *thinks* it heard it. But listen closely – it is in fact almost inaudible.

Changeover-points occur every three or four notes in any and every arpeggio or scale. These changeover points have commonly been thought of for two centuries as 'passing-under' or 'passing-over' points, and the digit which is passed under or over is always the thumb. The thumb is the unlucky ticket-holder for the note at every single changeover-point – i.e. change of one hand-position to the next – and as such is always in constant danger of being mistreated and strained

(We don't want to digress too much here, but the essential thing about the management of the thumb is that it should always be *flexed*, or *bent*, at the joint; when the thumb is straight it becomes rigid and strained *immediately*, and it doesn't take much repetition of this strain to seriously harm the thumb and consequently the whole side of the wrist; *and when the thumb is 'passed over' it always straightens rigidly*.)

But the thumb doesn't *have* to be passed under or over – and it's a lot better both physically and sound-wise if it isn't. Bach didn't want it passed over and neither did Chopin.

The thumb will be passed over or under at every changeover point *unless we are aware of the situation and monitor it constantly*, taking steps to protect the thumb at these points – the main step being to watch for each changeover point as it comes up and make sure that *the whole hand moves laterally* to the next position – i.e. slides across – instead of lazily twisting around over the thumb to connect with the coming notes.

So the obvious fingering for the first three notes of this grand arpeggio, 5 - 1 - 2, is going to be weak and ineffective. Aurally, the second note will be lost, at the very least compromised; its weakness in being in the position of having to be 'passed over' is compounded by its weakness in being situated not on a beat (always stronger) but on an off-beat (always weaker). The thumb will be strained – slightly, perhaps, but nevertheless strained – as the index finger passes over it, in the process causing it to become tight and rigid. This strain is not likely to do us any real damage, but in such an exposed and theatrically important passage – we are, after all, announcing the concerto – any strain or encumbrance whatsoever is best left out of the equation.

Try this fingering: 5 - 3 - 1, played of course by moving the whole hand easily and simply from the first note to the next and on again. *Displacing* it. No stretching! *And no passing over the thumb*.

Or alternatively you might like to try 3 - 5 - 1. This will give a sonorous, deep first note, and there is no possibility – and therefore no temptation – to stretch. At first glance this may seem a somewhat eccentric choice of fingering, but remember that the notes do not have to connect: the hand plays each note giving it its full value and due, then moves – easily and gently – to the next note on the agenda, then on again.

Every note we ever play should be played and sounded – physically and aurally – as if it knows nothing of any note which went before and nothing of any which will go after. Each note is the most important note in the world at that moment – micro-moment if the note is a demi-semi-quaver; it is the only note in the world.

If the playing of a previous note impinges in any way on the note of the moment - through the leftover hand-position or reverberation which may affect it - then the prime note is compromised to some extent. If we anticipate the *next* note in any way, the prime note is likewise compromised.

That is not to say that the reverberation of the previous notes does not influence the sound world in which our note-of-the-moment will find itself. But every note must be treated with its full due respect, and not as a step-child note. Thus playing the first three notes of this arpeggio with the unexpected fingering 3 - 5 - 1 ceases to be an issue, because the note played by the fifth finger is not going to be compromised in any way by the attention given to the previous note, which located the hand in effect the distance of an octave-and-a-half away – 'in effect' because due to the altered position of the hand from playing the low note of the octave with the third finger to the upper note with the fifth, the hand itself has moved much more than the distance of an octave – because the hand must always stay in the same loose-fist position.

We get to the top of the arpeggio, six octaves above the point at which we began, and what happens next? We are asked to jump right back down to where we came from in the space of a semi-quaver (*'sixteenth-note'* for Americans; *'double-croche'* for French speakers).

How often does one hear this in performance? Almost never. Most pianists prefer to take the route of least resistance (they don't think this through - it's just a Pavlovian response) and they *pause* at the top, before moving on to the F's in the bass (there is no pause of any kind indicated in the music). They even try to make a virtue out of the problem, and make a *long* pause, throwing their hands up in the air at the conclusion of the upward-rushing arpeggio, then crashing down pompously on the Fs.

But this transition from arpeggio finish at the top of the keyboard to low F in the bass *can* be done smoothly and without a jarring break if we simply move our upper body in a gently curving arch from the top of the arpeggio down to the F octaves in the bass.

This movement of our shoulder area must be accompanied by a broadening at the top of the arpeggio. This broadening is physically essential for the movement to be accomplished smoothly, but it is also *musically* better – the passage acquires a grandeur it would not have had if just flipped off as a fast-rushing arpeggio, followed, after a break, by the declamatory chords.

And how do we address those declamatory chords? Twice in succession we are asked to play a deep pedal-point octave – F first, then up a minor third to G sharp – each time followed by an open-*fifth* chord with an identical 'grace-note' chord jumping the distance of an *octave* to it.

Remember 'jumps' from Chapter 4? Jumps must never be rushed (*nothing should ever be rushed*: *everything in piano-playing should be handled by the law firm* of Easy and Gentle, Gentle and Easy; *rushing cramps our arm and compromises the sound, producing jerks in the line*). We must always *displace* the hand from one position to the next.

Nor must the hand stretch out in anticipation of the note or chord to which we are jumping. Here we can't stretch the hands out, as they are playing chords for 'grace-notes' – and the chords fix the hand in a set position. But we could easily rush the 'jump' with a jolting action unless we carefully monitor our movements in relation to the jump.

But neither should we over-emphasize the jumping-off (grace-note) chord – which can happen very easily in this particular case as the chord we are jumping from is not only the same as the chord to which we are proceeding – and thus carries the same weight – but it is situated an octave lower, in the most resonant area of the keyboard – the mid-register – and it is also a chord with lots of open *fifths*. So it's going to sound extra powerful and will overshadow the principal chord (the one we're jumping to) unless we treat it with care.

The 'grace-note' chord must therefore be underplayed, and the fact that the upper chord is our objective should be made clear to the listener.

The famous first subject, or theme, of the Grieg concerto is a plaintive melody in three-note chords played by both hands in unison. But can a melody be played by chords? And can it be played in unison in two hands?

No, it can't. In Chapter 3, we saw how no matter what else is going on - in the case of the *Tristesse* Etude an *ostinato* middle voice and a bass accompaniment with a rhythmic foundation - a melody can only be sounded in one voice, a fact that human voices never have to worry about, as they can only sing one note at a time.

In the third *Etude* we learned all kinds of devices for highlighting the 'singing' voice, which resides for the most part in the line carrying the melody – awareness of the importance of the *flexors* gripping these melody notes; where and when to breathe with the melody; variation of the weight of each note in the melody.

When we sing we don't have to think much about breathing, because we are forced to take breaths just in order to continue, so the only question becomes when and where it is most *elegant* to breathe.

However, we don't have to breathe *at all* in order to play the notes on a mechanical instrument. Therefore the question of where and when to breathe becomes much more than one simply of elegance: it is now essential to insert phrases – breathing places, ups and downs in phrases, shaping of them – *artificially* if need be, *and it needs be with a piano, a mechanical instrument* – in order to create the effect of a melody and not just a mechanical tone-row.

So how do we approach this melody?

The first thing that's obvious is that the E in the soprano part – the highest of the six notes being played simultaneously with the first chord – must stand out from the rest. This would be obvious even to a child, through DNA, but as performers we need to take concrete steps to ensure that the melody notes are brought out *correctly* – to the right degree, connecting with the other notes in the melody, and in the harmony, in just the right sequence and proportion; the devil is in the detail.

This top note must be slightly louder than the other notes of the chord, certainly, but the main thing which is going to make this melody carry is the use of the *flexors* to produce a sharper *pull* on this note than they do with any of the others.

The second note of the melody line, F, should be slightly more prominent than the first note, E. If we were singing this melody our voice would automatically – virtually imperceptibly, but nonetheless it would – rise with the melody. On the piano, however, we have to insert this effect artificially. Because it is inserted artificially instead of through natural breathing doesn't make it any less necessary or less worthy.

The second part of the first subject is a contrast. It consists of a bold single-line melody in full quarter-notes, or crotchets, accompanied by a series of broken chords-cum-arpeggios in a technique taken straight from the *Aeolian Harp* Etude.

And we must play it in the same way as we approach that *Etude*, with a firm sound in the stately but passionately reverberant melody, the whole hand dropping with 'dead-weight' onto the note, the arpeggio accompaniment played like the 'little notes' in the *Aeolian Harp* – on a lower dynamic level but at the same time swelling within each phrase, and the hand *never* stretching out to accommodate all the notes when the span becomes first a *tenth* and then more.

In addition, at one point – on the third beat of the melody – these arpeggios introduce the danger of the hand 'passing over' the thumb that we experienced in the arpeggio of the introduction (this possibility doesn't occur in the course of the *Aeolian Harp* Etude, except during the final flourish of plain A flat arpeggios). We must take extra care at this point not to let the note played by the thumb become swallowed, or minimized, as it is passed over, thereby producing a gulp, or jerk, in what should be a smooth, unctuous, rich sound.

If you are an experienced 'displacer', you might like to play this note *not with the thumb* but with the *fifth* finger. That is to say, play the low bass note, G sharp, with the obvious little finger then move the whole hand up an octave to the next note – also G sharp – playing it with the little finger again.

The slight slowing down which this would involve would be in keeping with the progress of the music, as the melody has reached an intermediate climax point here. In fact, the broadening of the arpeggio at this point, and the extra resonance that the bass note thereby acquires, adds to the shaping of the melody to a mini climax-point here. The melody note in the treble, B, sings forth much better and more freely now.

Likewise in the next phrase, where another mini-climax occurs, the melody note in the right hand, E, resounds much better if we lift the whole left hand off the bass note C charp and transport it – *easily and gently* – to the C sharp an octave above – even though the left hand is moving in medium-fast demi-semi-quavers. The slight broadening of the arpeggios will not be noticed, because of the shape of the melodic line at this point, and the reverberant benefit for the melody will more than compensate for the slight holding back of the accompaniment.

The next passage is not just a question of nuance and inflection. It is genuinely hard to play from a technical point of view: we are taxed simply to get all the notes right and play it *in tempo*. But the same principles apply – *principles never vary!*

Here we have a fast Mendelssohnian scherzo-type page where we must follow the principle of *mirror-image hand-positions* – remember them from the seventh *Etude* of Op. 10, with its fast Mendelssohnian lightness that wouldn't work unless we had the hands in perfect mirror-image alignment with each other at each and every point in that fast-moving music?

Mirror-imaging of the hand- and arm-positions came up many times throughout this book, but, as with the differentiation between extensors and flexors, and the importance of keeping the thumb bent, or 'flexed', at all times, it could have been mentioned in every chapter, in every context. It was discussed especially in cases like the seventh *Etude*, where it is absolutely essential just in order to be able to play the piece decently – just in order to be able to get to the end of the *first page*!

This is such a case - not so hard, but a similar, fast-moving, gossamer-light scherzo, in which the hands and arms must be properly aligned if we are to be able to play all the notes properly. This section is moving along at quite a clip, and it has to sparkle, so there can be no hesitations and there can be no wrong notes. Therefore we must make absolutely sure that the hands are aligned in mirror-image of each other at each point.

What's more, as in the *Thirds* Etude, the two hands are moving, fast, in opposite directions. First they move in towards the center of the keyboard, then they move outwards. Then they come down the keyboard together – also as in the *Thirds* Etude. Then the sequence repeats.

Of special interest to us is the third quaver of the first bar – i.e. the second beat – and its repetition at the fourth beat. These two off-beats are accented, lending a piquancy to the elfin scamper. Of particular interest is the fact that there is a slight but significant alteration in the angle of the left hand at this point, due to the introduction of a black note in the lowest part of the left hand – F sharp. We could obviate this change of angle of the hand by playing the F sharp with the *fifth* finger – which is not very satisfactory in this case as 5-3-1 on this chord is not very comfortable – instead of the natural and obvious choice – the fourth finger: **4**-2-1. But the whole problem is that the *fourth* finger is the cause of the change of angle of the left hand.

Let's say we leave the fourth finger in charge of that note – thereby twisting the angle of the hand. If we are to do that, we must accordingly counter this new angle with an angle of the right hand which mirrors the now altered angle of the left hand.

Thus, instead of the obvious 5-4 fingering on the c-B, let us try 5-3. The third finger on the accented note B places the right hand in perfect mirror-image of the left – if the left hand is playing its bass note with the fourth finger. Notice also the angle at which the fingering 3 is written here: that is the angle at which the right hand will now find itself.

When writing fingerings into his music the present writer always indicates the angle of the hand by this means (which is not really necessary as the alignment will be automatic *vis-à-vis* the other hand, but it doesn't hurt to mentally reinforce the reasoning behind the fingering).

Voila! Hey presto. The passage now flows like honey – at *any* speed we like. And what's more, its musical shape emerges correctly every time, automatically and effortlessly, without our having to even think about it – simply because the two hands are aligned in mirror-image of each other at the crucial point where their alignment could have gone off the rails – on the second and fourth beats of bar 1 and bar 2.

At the climax of this *scherzando* section we are thrust into a straight-out scale in *thirds* coming down the keyboard.

As we learnt in the *Thirds* Etude, a scale in *thirds* is really *two* scales in single notes being played simultaneously by the one hand, and there is no instance in either of these concurrent scales of the thumb having to be in a position of potentially being 'passed under' or 'over'.

The thumb is in any case only employed in the lower scale – the lower part of the *thirds* – and it alternates with the index finger. The lower part is strictly a two-finger scale – thumb and index-finger. We have the option of using the thumb on consecutive adjacent white notes or the index finger on consecutive alternating black/white notes. In our chapter on the *Thirds* Etude we saw that Chopin preferred to glide the thumb across from one white note to the next, whereas the present writer prefers sliding the index finger from the black note down to the white.

This descending scale in *thirds* eases us into the little codetta which ends the first subject. This is a lyrical, expansive passage – 'singing', of course, and our hand drops in a 'dead-weight' manner by instinct – accompanied by a spread-out broken-chord figuration in the left hand. The spread is that of an *eleventh* – not enough to do us damage if we play it carelessly, namely with a spread-out hand. But a principle is always the same, and so we must take care not to allow the hand to stretch out in order to accommodate the spread broken-chord. Move the hand along gently from one note to the next – *displace* it.

If we displace the left hand thus it will probably be stretched, or extended – because of the nature of the layout of this broken chord – to about the distance of a *seventh*. A *seventh* is already pushing the envelope for the natural confortable size of a hand-position, but it's *much* better than a position of an octave-plus, which we may tend to allow here if our hands happen to be large.

But even if our hands *are* large, allowing the hand to become set in an extended position of an octave or more over any period of time – repetitively – is injurious (we saw this in the eleventh *Etude* of Op. 10 – the *Arpeggio* Etude – where the chords extend for the most part to an *eleventh*, and often more.

Chords may extend over an octave and a half, but our *hand-positions* may not! When broken chords are out-sized (*and when non-broken chords are out-sized we have to break them!*) we must divide the hand positions and move the hand along from the lower section of the chord to the upper – '*displacing*' it (this is what the chapter on the *Arpeggio* Etude – which is really a 'Broken Chord' *Etude* – was all about).

In this instance, we must take particular care of the first interval – a open *fifth*, played dangerously by the little finger and third finger. No matter how big our hands may be, they will never be so big that the little finger and third finger fall comfortably into the position of an open *fifth*!

That's because the fingers – including big fingers on big hands – lie naturally and comfortably *adjacent to each other* – on *any* hand. The little finger to the third finger is just two fingers' distance whereas an interval of a *fifth* is five notes' distance! Therefore the hand will always be stretched if it plays an interval of five notes with the fingering 5 - 3.

The next two positions are not much better – an interval of a *third* played by the third finger and index finger, which is to say, two *adjacent* fingers having to play a three-note interval, thereby spreading those two fingers at their base, and causing a distinctly injurious strain; and finally an open *fifth* played by the index finger and thumb – also a stretch for anyone.

In order of difficulty – or, more to the point, danger – the first interval, with the fingers 5 - 3, is the worst; the top one, played by 2 - 1 next; and last but not least, the central *third*, played by two adjacent fingers.

The only thing to do is keep the hand loose, as close to its natural, at-ease position as possible, and move it along gently from left to right and back, giving most attention to the lateral movement of the hand on the first open *fifth*.

 \mathcal{W}_{e} have now arrived at the lyrical second subject! You can figure the rest out

for yourself. In fact you can now figure *everything* out for yourself. You never need a teacher again. If you have absorbed the twelve chapters of *Mastering the Etudes* you will know how to apply all the essential principles of piano technique and hand/body physiology, as well as all the musical/acoustically correct and effective ones.

Before you go on your way by yourself, let's explore just a little more together – because it's actually fun. When you get something right – when all the elements are not only right in themselves but in synch with each other, with all the other elements, there is a feeling of lightness, of elation – perhaps the kind that marathon runners get, or the kind we get when we build something with all the elements correct and in perfect harmony.

This is also the reason that we don't really need to "practice" in the sense of repetition that word implies. Once we have solved the puzzle of each individual situation – each note and group of notes – the solution is there for ever. We lock it in to our computer and reproduce it whenever we perform that work.

 $\mathcal{T}_{ ext{he lyrical second subject, with its beautiful singing melody, is underpinned by}$

a triplet figure ranging over a *tenth*. It is the same figure which underpins Chopin's first *Prelude* – a broken C major chord rising up from the bass. You know by now of course that the hand should not stretch from the little finger on the bass note to the third finger on the G a *fifth* above, and likewise from the G to the E above that, but instead *displace* – move *gently*, *smoothly*, *easily* from one position to the next.

But, as in the Chopin Prelude, there is more at stake here than the comfortable physical negotiation of this *tenth* chord. The triple is rising up from the bass, serving not only to underpin but to *highlight* the melody in the right hand.

Put simply, the first note in the left hand, C, should be *underplayed* in order to allow the next note, G, to grow from it, thereby creating the illusion that the melody note C in the right hand is swelling – as would a human voice – instead of diminishing from the moment it was sounded. We want it to sound like a flower opening up (that's also the effect of Chopin's Prelude), and the key to this effect lies in the left hand.

The key to any technical/musical issue almost always lies in the left hand.

If we play the left hand triplet figure straight – without any particular contours – even if we don't accent the first note, it will *sound* accented, simply by virtue of it being the first note on the beat.

The next note, G, will be acoustically compromised – gulped a little – simply by virtue of the fact of its being in a weak position – not on a beat at all, not even an *off-beat*. It has *no* position: it's just the note between the first and third notes of the triplet.

Yet this G is the one which has the task of making the melody note grow. It is the one which adds harmonic body to the melody note; the first note in the left hand doesn't do so - it is the very same tone, C. So it *has* to be stronger than the first note. This strength has to be artificially created, in view of the G's weak position.

If we underplay the C in the bass it will *still* sound fully: it cannot help but do so, because of its prime position in every way. Even if we play this note *pianissimo*, it will *still* dominate the proceedings: it's the fundamental note of the C major chord of this passage, and it's the strong beat, thus the ear will have the impression it heard it clearly and strongly (even if it didn't).

Try the same thing in the opening measure of Chopin's first *Prelude*. The first note, low C, doesn't *need* to be leaned upon, although that is our natural inclination: it's the easy, automatic, Pavolvian way. It's a first beat, and it's the fundamental note of the chord of this bar, and of the entire piece; it's already strong as can be.

Unless we actively *reduce* it – play it more discreetly than our natural inclination would have us do – it will overshadow the next note, G, a *fifth* above it. The G is in a weak position – both physically and acoustically, because of its hierarchy in the line – and yet it is the G which has to make the passage bloom.

So give it some help!

That doesn't mean accenting it: it means underplaying the note before it, the opening C. And it means playing the G with its own free, natural hand position – unencumbered by holding the C too long, or by anticipation of the E that follows.

And while you're at it, have a look at the opening beat of Chopin's First *Etude*. Same thing, but in the right hand. If we are not careful, the first note of the right hand – even though it is here slightly *off* the beat – will not only overshadow, but eclipse, like a gunshot, the succeeding notes of the *tenth*-spaced C major chord – especially the harmonically important second note, G. Without this G, the four-note broken chord is emasculated, the harmony sounds thin and brittle, and from a physical point of view we are completely at sea, with no anchor.

There seems to be so much to think about, but if one assimilates the principles it becomes a quick and easy process for the brain to enact them. However we need to know what the principles *are* and *why* they are, and we need to be conscious of them at all times when playing. Music is, after all, a language, and in order to speak any language we must be aware of the vocabulary and the grammar in order to be able to let the expression flow – easily, smoothly and clearly. But the grammar and vocabulary must be there in our brains all the time, and they must be identifiable and quantifiable. The expressive use to which we put the language will of course vary, but the mechanical principles of the language do not.

When Grieg was twenty-six, he traveled to Rome to meet Liszt and show him his newly completed Concerto. Liszt had made the acquaintance of Grieg's earlier *Violin Sonata in F major*, and graciously written to him of his deep admiration: "I hope that you are finding in your own country the success and encouragement you deserve; you will not fail of them elsewhere;" a very unusual fellow, Liszt).

Grieg's description of Liszt's sight-reading of his *A minor Concerto* as the best performance of the piece he was ever to hear in his life is well-known. Liszt *was* the most famous sight-reader in history, and could do more than just play the notes more or less perfectly at first reading – he could take in everything about a piece at sight and include all the dynamics, subsidiary themes, terracing of harmonies – everything – as he played.

But even if we can't sight-read like Liszt, it *is* possible to include all the technical and musical considerations of a piece when we play it – not necessarily at sight, but after experimentation (sometimes *years* of it, admittedly, but if something is worth playing then it's worth the time and effort) – and to bear these in mind while at the same time allowing the music to speak and flow.

In fact it flows better - *much* better - if all the details have been carefully attended to, and if we remain conscious of them and vigilant at all times. Being aware of all the details doesn't impede the flow of the music, just as being aware of everything that's going on beneath our hands and in front of our eyes does not impede our driving a car. Quite the contrary - if we're not fully aware of everything that's happening around us and everything we are doing, we will most likely get into trouble, worse trouble even than RSI.

Incidentally, Grieg was probably a very good pianist himself, on the evidence of his photo, as well as reports. Note the perfect curve of the fingers of the right hand – thus enabling the *flexors* to operate correctly; and the perfect fall of the thumb – allowing it to operate correctly *in opposition* to the other fingers of the hand.
The unoccupied left hand is clenched in a gripping position (it is not necessary to clench one's hand, of course, but Grieg's natural reflex was obviously for his hand to rest in a flexed, not stretched, position). Yes, this fellow knew how to play the piano.



Edvard Grieg around 1905

We can find everything we need to know about piano playing in the Chopin *Etudes*. But the *real* reason we look for these principles is so that we can apply them everywhere else.

And not just in music, but in life: clear thinking, preceded and accompanied at every step by honest listening and observation, informed analysis and careful preparation, cannot be a bad thing for our neural, practical and emotional responses to all of life's situations. Music can be, and *is*, if approached in this way, a paradigm for everything else.

That's what the Greeks thought, and that's what we think (as in Liszt's 'we').

The Greeks were right. And so was Chopin.

Afterword

The objective of *Mastering the Etudes* is to provide a guide to advanced piano technique which emphasizes the importance – the *necessity* – of keeping strain out of the equation at all times.

The book covers piano technique and physiology using the *Etudes* as the example, but any piece of piano music can be used for the purpose; Chopin's *Etudes* just happen to cover all the bases, and are familiar to most pianists.

Genius of the Piano is a companion cultural/ historical/ biographical examination, taking the period of the composition of the *Etudes* as its framework. The title of that volume refers not just to Chopin but to the piano itself, with its ability to focus our cultural, emotional, spiritual and mental processes.

Not only do many pianists have their piano-playing days cut short by repetitive strain, carpal tunnel syndrome, tendinitis, etc., but this now applies also to many others using their hands constantly in the course of their work, including computer users as well as musicians. And it is completely avoidable if one understands from the beginning the over-riding issue of *strain* – or rather, the importance of avoiding it.

The main thrust of *Mastering the Etudes* is that the cornerstone of what we call 'technique' is that the piano *must* be played with the hand always in its '*natural*' position – which is to say, its position as it lies when hanging loose. This is termed "position of function" by doctors. It basically means never stretching the hand out – either forward or sideways – but rather moving it in its loose, free condition, easily and gently around the keyboard from one position to the next.

It is the correct way to play, easily demonstrable by anatomic principles: the right thing is not to strain the hands in the first place, rather than allow strain to creep in and then apply relaxation techniques of some kind or another *after the fact* – after the damage has been done. These relaxation techniques may or may not ameliorate the damage to some extent, but they don't address the main issue – namely the chronic strain being incurred and acerbated. This can only be addressed by playing correctly all along, and not straining the hands or wrists or arms *ever*.

This whole crucial area is very little understood in any systematic way by piano teachers, or in fact by most pianists. Those who do play well acquired the correct way of playing before the age of ten and it was ingrained subconsciously – just like learning to speak a language. This book analyses and defines the detail of the physical engagement.

The first two *Etudes* by Chopin address the fundamental issue head-on, even though they are so contrasting dynamically and musically. These two Etudes are all about keeping the thumb loose. This lies at the heart of the subject – the thumb being a unique distinguishing feature of our anatomy. It is possible to use any piece of piano music to illustrate and apply this law. However, Chopin's first two *Etudes* are so written that they are virtually impossible to play *at all* unless the thumb remains completely *unengaged* and thus unstrained. The moment it tightens we collapse in a heap and can't finish the page, let alone the piece.

There are in fact only three basic laws to observe vigilantly when playing:

- 1. Keep the thumb loose
- 2. Don't stretch any of the fingers, and
- 3. Keep the hand calm.

These are laws of anatomy, and therefore the use of names describing some kind of 'technique' or 'method' or 'theory', are very misleading. It is more about *disengaging* than engaging; it's rather like a physical version of the idea behind Eastern meditation – it's a case where less is *always* more: when working on a piece we should always be stripping away – removing layers of problems or difficulties, both physical and musical (though these are always intrinsically linked).

The physical problems can be easily recognized – they are always identified by strain or tightness in the hand and arms.

The musical ones take a little more careful listening with 'our mind's ear', as our teacher Michel Block described it.

However, when we say there are three fundamental laws relating to the way in which we use our hands, and that those laws are: keep the thumb loose, don't stretch the fingers, and keep the hand calm, we are stating general concepts which are to all practical purposes somewhat abstract, and thus not very helpful from a practical point of view. For something to happen, to go right – *anything* – there has to be something that we actually *do*. Concepts are fine after the fact, but if we don't make ourselves *do* something pro-actively, concepts are useless: they are fuzzy and unhelpful.

Both the first two laws, or principles, have a specific action that must be done. In each case, it is so focused and effective as to amount to a kind of trick:

For law #1:

Keep the thumb sightly *bent* ('flexed') at all times, and *ensure* that it is bent by watching it *all the time*.

This sounds like a big task but it is in fact no more difficult – and no less essential – than keeping a constant eye on the rear-view mirror while driving. If we watch the thumb, we can easily keep it bent at all times; but if we *don't* watch it and leave it to its own devices, it will invariably straighten (straight is the thumb's default position, because of the way it is attached to the hand – tilted at 45 degrees and pressed against the side of the hand).

A straight thumb is a *rigid* thumb. A rigid thumb means a tight hand. Rigidity and tightness both produce strain immediately. Strain builds up and inevitably compounds, so eventually it overwhelms us.

For law #2:

In order to *not* stretch any of the fingers we must actively do the *opposite* of stretching - i.e. grip and *pull* the keys with a pincer movement of the fingers. Pull the keys and there will be no stretching - by definition; the *extensors* stretch, the *flexors* grip and pull.

Use the flexors only, and avoid the extensors as much as posssible. We avoid stretching by moving the whole hand - gently, easily and smoothly - from place to place.

If stretching cannot be avoided - for a large chord, for instance - do it but snap back to 'natural position' (home base) as quickly as possible, like an elastic band.

If students understood these two movements – which are constant and must be monitored at all times – the world would be over-run with Horowitzes. Horowitz was a childish man, and he more often than not replaced musicality with quirkiness and affectation. But he lucked into these two movement patterns when he was a boy and it carried him through life. (His flat-fingered hand position was an illusion; his fingers were so long he was uncomfortable with them – you could see that clearly, his pinky curled up, the others sticking up precariously – but in actual fact all the 'playing' was done by *the tips of his fingers*, which *pulled* at the keys).

Pulling the keys is the main thing. In chordal passages it should be thought of as a 'pincer' movement, sharp and brisk – like the flick of the wrist when playing squash, transposed to an inward flick of the fingers when playing the piano. When playing quietly it might be thought of as 'dusting the keys'; when loudly, scratching at them sharply. But in fact the sharp pincer movement applies just as much in a Chopin *Nocturne* or Beethoven adagio as it does in a Liszt *Etude* or Rachmaninoff concerto. Whether loud or soft, always *pull the fingers towards the palm*.

Although it may seem as if our arms are involved when the going gets athletic, that is and must remain a superficial illusion. The piano *must be played with the fingers and nothing else*. It *is* played with the fingers; thinking that it is played with anything else is as demonstrably wrong as thinking Victor Borge can actually play the opening chords of the Tchaikovsky concerto with his bottom (though he does get the general effect pretty well that way).

The objective is always to *minimize to the greatest extent possible all physical activity outside of the fingers* – and 'fingers' means especially the *end-joints* of the fingers, pulling in towards the palm. Complete evaporation of all other engaging movements apart from those of the finger-tips – *disengagement* – is the ideal to which we must aspire – *consciously*.

Of course this is an *ideal*, and not possible in the real world – it is *nearly* possible in Bach, Mozart and early Beethoven, but when we come to Brahms, Liszt and Rachmaninoff we simply cannot avoid our arms, legs and torso becoming involved – simply because of the six-octave range that we have to cover (Mozart and Haydn's piano works are mostly contained within a two- or three-octave range; it is quite alarming to see how small the keyboard is on an original piano of Mozart's era – like a child's piano; even Chopin's piano is surprisingly small by comparison with a modern instrument).

We have to try to minimize the effort the arms and body expend – that is the ideal we must keep in front of our eyes at all times.

It's like a dancer imagining that he or she dances with their legs or their body: the point of contact with the ground is *always* their feet – the toes specifically – and if those are not strong and focused then the dancer will simply fall down.

The best dancers try to do exactly what is described above with regard to playing the piano: they try to make all other movements apart from those of their feet simply evaporate (think Fred Astaire), with everything in their upper body as limp and floating as possible as the ideal. Their bodies seem to glide as if weightless and disconnected from any physicality, although their feet are doing an enormous amount of work, and their toes are turned to steel.

The third law is the position of the hand at every point in relation to everything else: our arms, our body, the position of the hand on the note which came before, its position for what will come after, etc.

We must always use fingering to construct a trajectory for the hand in which it will remain calm and unruffled; *that is the whole purpose of fingering*. If the hand is in the most unruffled position in a given passage when we play the notes with the end of our nose, then we must do it that way. The less changing of hand positions and twisting and turning of the hand in different directions the better.

The French don't have a word for 'practise' at all: they say *travailler* – to work. It's not a physical thing that we do, like sports people and athletes. It's all about mind-hand co-ordination. We've got to get it right in our mind first – in every detail as we imagine it should sound: note by note, nuance by nuance. When we have worked out *exactly* how every note should sound and feel and fit into the whole structure, then it's a relatively quick and straightforward matter to put it into practice – providing of course that we established the right synapses in our brain for mind/hand co-ordination when we were young – early teens at the latest.

Every piece of music is like a crossword or jig-saw puzzle – a long list of puzzles as to how every note should sound and thus be played. Each individual note is a separate piece in the puzzle, and has to be made to fit perfectly – not squeezed in or trimmed sound-wise to fit, but given its own fully respected position. There is nothing in the *Hammerklavier* Sonata that is really harder technically than the *Waldstein* (although the fugue is daunting, mainly from a memory point of view). It's just that at 45 minutes, this work which Beethoven intended as his greatest sonata constitutes an awfully long list of puzzles to be solved: *every note and chord has to be puzzled out individually*. It's like a gigantic jig-saw puzzle, as are most large concertos. Brahms' 2^{nd} Concerto, same thing – 50 minutes of problems; Rachmaninoff's 3^{rd} – 40 minutes.

Our teacher, Michel Block, a superb musician and perfectionist, regarded embarking on learning any new piece longer than a Chopin *Nocturne* as equivalent to setting out to "cross the Gobi desert on foot." When invited to record the *Emperor* Concerto, Dinu Lipatti said he would need five years to work on it before he knew it well enough to perform – a performance which, sadly, never came to pass, as he died at age thirty-three.

Once we have fully worked out each note's position – *everything about that note: its fingering, weight, tone, touch, etc.* – we never have to 'practise' that bit again. It slots into our hard-drive brain program for that piece of music.

If we have not fully worked out all the details of a particular note or phrase, no amount of 'practise' will make it right. If we get our adrenalin up we might get it more or less right occasionally, but only occasionally – and never under stress conditions, i.e. a concert.

To take one example of a puzzle (*every* note and passage has to be considered in this way) let us take bar 26 of the second *Etude*, the second bar at the top of the third page. Chopin's suggested fingering is not really good (he had a very light actioned piano, so his fingering suggestions are not to be treated as gospel):

Playing the top E flat with the little finger puts the hand in a weak, vulnerable, exposed position, and makes it twist around in order to accomodate what follows.

On the other hand, if we play the E flat with the *third* finger, all will be right with the world.

Why?

Not because the middle finger is the longest and the strongest; the *littlest* finger can be the strongest *if it is the right position – position* is what gives any individual (finger in this case) his, her or its power and strength.

By playing this chord with 1/3 the hand changes position by not the tiniest iota, and for *this* reason is unruffled and secure. This hand-position is impregnable: one can never have a slip here with it – *and it works every time*.

What's more, that hand-position is *so* secure it provides enough reserves of energy for the right hand to last till the next major hurdle – the tumbling-down sequence in the right hand, half way down the page.

In order to achieve the full effect of this strong hand-position at this point, we must precede this chord with 5-3-2-1. The whole hand moves easily and smoothly up to the G/ E flat chord. It moves easily and smoothly because – *and for no other reason* – it is not required to change its angle in any way at all.

At the end of this bar, we again end on the thumb -3-5-3-1 – and move up smoothly and gently to the first chord of the next bar without altering the angle of the hand – the G minor chord played with 5/2/1.

The hand should move laterally - i.e. from side to side across the keyboard - as if it is playing a *glissando*: no swivelling, twisting or turning. The above fingering for the first chord of bar 26 in the second *Etude* produces this *glissando* movement of the hand - no turning or twisting about.

Let us turn from the *Etudes* for an example of the first two laws – pulling the keys (with a sharp pincer-like movement), and not extending and stretching out the fingers. (*Any* example will do, in the music of *any* composer.)

The opening section of the C minor *Nocturne*, Op. 48, presents us with a sequence of octave-encompassed chords in the left hand. The ideal is that the hand should never stretch more than the distance of a *sixth* – which is the position in which it falls when it is dropped limply, i.e. its 'natural' position. If a chord is bigger than a *sixth*, we have to beware.

Of course, with octaves we must play the full chord at one go - unlike larger chords which can be and often are broken or arpeggiated (as we will find in the central section of this *Nocturne*). But we can snap back from the octave to the position of a *sixth* like an elastic band. And that is *exactly* what we should do.

We stretch in order to grasp chords – but grasp we must, as opposed to "strike", which we must *never* do (*striking* a note employs the *extensors*, and forces the finger to open out – i.e. stretch). However we must then snap back to the natural loose position (home base) in a flash. And wherever possible, seize every opportunity to not stretch at all, but instead move the hand from one position to another – '*displace*' it.

There is no circumstance in which we need ever try to encompass a chord of over a *tenth* in one go. The only preferably unbroken major *tenth* in the repertoire occurs at the end of the slow movement of the *Hammerklavier*, where the beatific atmosphere benefits from the greatest possible stillness; the music is so slow and quiet at that point that many pianists can get it (though Liszt had trouble with it). There's also the Schumann *Toccata*, but we know what Schumann did to himself, and it's best to be careful with that piece. It's unnatural for 99% of the human race to play over a *tenth* without breaking and displacing the hand position – and it's *not necessary*, as we are designed to move and shift from position to position.

But even if we *can* stretch a *tenth* or, like Rubinstein and Richter, an *eleventh*, or, like Rachmaninoff, a *twelfth* (positively grotesque!) that would not change the fact that the hand should not be used in a position greater than its natural span as it lies *when hanging loose*, and that means a *fifth* for small hands, a *sixth* for most people, and perhaps a *seventh* for the above-mentioned gargantuan hands.

Any compass of more than a *sixth* or a *seventh* should not be grasped with an open hand, stretched out. The hand should be *displaced* from the lower part of a large chord or interval to the upper part – gently, easily, without any jerky movements.

The opening section of the C minor *Nocturne* is clearly a funeral march of some kind. It's also the sound of tolling bells - a sound which is related to a funeral march, but it's not the same thing.

We have to get the sound of a funeral march, which is sombre and solemn, of course – but *principally* it is a slow walk. Any kind of walking entails one foot after the other, in constant repetition, but also – and this is what gives a walk its unique quality – a pendulum-like swing. We cannot alter the inevitability of the swing of a pendulum, nor can we alter that of a march.

Now we are getting somewhere with the *detail* in our mind of what we need to hear, so we can start to work on the fingering and positioning of our hands and body.

How are we going to create a pendulum-like swing here?

Not so hard, as it turns out. The tempo is slow enough, and the spacing of the basses and the melody notes such that we can swing our bodies very comfortably in the opening bar. If we play the opening bass octave with *both* hands, our body swings over to the melody note on the next beat with an easy and natural swing of the torso. And likewise back down again to the next bass octave, and back up again to the second melody note.

There is an extra advantage to this approach as we are able to employ a pincer movement on the individual notes of the bass octaves, and likewise on the melody notes, much more sharply than if we were to play it as written, with clunky octaves. This extra pincer attack gives us the bell-like quality in the melody and the tolling sound in the bass that we are aiming for. The melody makes it not possible to continue in this way for the next three bars, but we have already achieved our purpose: we have clearly set the tone of the music – swinging pendulum and bell-like tones. We are able to bring back the procedure at the start of the next phase, in bar 5, and again in bar 9 (just for the first beat), and bar 11 (again the first beat).

And of course, the two-handed approach is invaluable for the little phrases where the octave basses have an extra, upbeat note – for enhanced *legato*, and for sharpness (pincer fingers).

In the chorale on page 2 this *must* sound like a chorale, and not like piano chords - i.e. the top note must be pincered and plucked, and sing right out above the lower three harmony parts, which should be played *pianissimo*. The suspended E in the melody line on the fourth beat is *echt* Chopin – unmistakeably, affectingly, his own unique sound, and that E should shine like a jewel out of the mild dissonance below it.

This chorale is a classic example (*everything* is an example, but this is a special one) of how we must *hear* the sound in our mind first; then playing it is a relatively straightforward matter. Don't even *start* to play this until you are hearing a chorale in your head. Or a funeral march with tolling bells in the opening section.

The second *Nocturne*, in E flat, may seem at the opposite end of the spectrum from the dark, heavy, brooding C minor Nocturne. But exactly the same principle of hand-displacement applies.

The constant, gentle left hand accompaniment – a bass note moving up two and a half octaves to two *sixth* chords – has to be closely watched and approached with care throughout. The right hand will take care of itself: it is a simple one-line melody, and will cause no problem; indeed it will sing perfectly if the left hand puts it on its pedestal – as it will be in its correct hand-position.

We play the bass note, E flat, with the whole hand falling on it loosely, like a cat's paw. If we don't watch it carefully, the hand will start to stretch out from that bass note in anticipation of the coming *sixth* chord two octaves above. This movement is instinctive, and cannot be averted except consciously – like slapping a child's hand when it reaches sneakily for a sweet.

Give the bass note its full value and worth – in approach, in weight, in tone, in release – and don't think about what's coming after it. That note should have our full and undivided attention while it is being played, up until its release.

When it has been released, having been given its full due, move the whole hand -easily, smoothly, gently – up to the next order of business, namely, the first of the sixth chords, not the two chords together, although they can be played by the hand in one hand-position, being encompassed as they are within the space of a single octave. If we play them as such, the hand will stretch to the compass of an octave – which it can do, of course, but only by abandoning the natural loose hand position.

Furthermore – and this is crucial – the two *sixth* chords should *not* be played with the automatic fingering we would instinctively apply, aiming at the desired *legato* – namely 5/2 - 4/2/1.

In the first place, both these fingerings stretch the hand beyond its natural position. If we drop the hand loosely on a *sixth*, the fingers which drop naturally onto that chord are 5/1. 5/2 causes the hand to stretch well beyond that natural drop position, and you will notice that this forced fingering causes the thumb to stick out rigidly. 4/2/1 in the second chord is even *more* unnatural and straining (acerbated by the untenable stretch of the *fourth* with 4/2).

In the second place, the conjunction of these two overstretched fingerings causes the hand unavoidably to twist around from the first chord to the second: the 4/2/1chord cannot be played by the hand moving laterally to it smoothly at an unchanging angle. The hand will automatically swivel around awkwardly to a completely new angle.

There is only one possible way to play these two chords with the hand in its natural at-ease position: *both* of them encompassed by 5/1. And there is only one way for these two chords to be played such that the hand will not have to change direction: *both* of them encompassed by 5/1.

Problem solved at one stroke.

The second chord may be played with the obvious fingering 5/2/1, but that fingering causes the hand to swivel around a bit – though not to an alarming extent; still, it's better to avoid *any* change whatsoever in direction of angle of the hand if possible – think *glissando* – and we can accomplish that quite easily here by playing the middle note of the chord with the thitd finger – 5/3/1.

With this fingering: 5 - 5/1 - 5/3/1, the hand moves smoothly across three octaves without having to change direction or angle in any way, *and* each of the three components is given its due, as the hand is able to drop down like a dead fish (but a warm dead fish!) – loosely, easily, gently, and with focus.

So take each note and chord one at a time. Play the first note, then move the hand gently up to the first *sixth* chord, then up a small distance to the last chord. Above all, the *sound* will be much better if each chord – as well as the first note of each beat – is addressed individually and treated as a whole sound-world in itself.

So, in summation – position, position;

Position in which the fingers lie – slightly curved, so that they can *pull* at all times – often sharply with the very ends of the fingers, like scratching, and never *striking* the key.

Position in which the thumb lies – flexed, or slightly curved, so that it doesn't become fixed in a straight position and thus rigid.

Position of the hand – and arms and body, insofar as they affect the position of the hand – in relation to what comes before and what goes after every note and chord.

The expression "practicing the piano" is misleading.

What we are really doing when we 'practise' is *familiarizing* ourselves with a piece – *learning* it. As noted earlier, the French say '*travailler*' – to *work* at – a much better description.

As playing the piano is an essentially tactile activity, one that is kinesthetic (mind and body engaged together), we naturally and instinctively go over and over a piece until we know it reasonably well – well enough to perform it.

The author was always over-optimistic about when something was ready to perform: it was *never* ready, and usually it was *far* from ready. We have an inbuilt measuring device for gauging how ready a piece is, but the trouble with it is it can only be activated by public performance: this device is called 'nerves'.

If we *truly* know a piece, inside and out – how each and every note should be treated – the nervometer will register very low. The only thing that will make it tweak is something like 'is my tie straight?, or 'is my hair still in place?', or 'is that girl in the fifth row bored?'

A lot of what this book talks about – hand positions especially, fingering, looseness of arms – is in fact instinctively being incorporated *subconsciously* by all pianists during the 'familiarization' stage of learning a piece.

After many years, the author came to the realization that this learning process with every piece could be rationalized, time saved, above all the results guaranteed better musically, as well as consistently reliable (*because principles never vary*) – simply by identifying the mainly subconscious processes by which the right ways of playing a piece are arrived at.

The 'ideas' expressed in this book are not the author's ideas or opinions; they are incontrovertible laws of nature. When you walk, you put one foot in front of the other, flexed at the knee – this is just a statement of fact, the laws of nature as they pertain to walking, not a philosophy or theory or 'method of walking'. The 'ideas' herein are the laws of nature by which we play the piano, and they apply *in every case* to our playing – whether subconsciously or consciously.

So why wait ten years to learn a piece by hit or miss when it can be done in ten weeks by 'hit' at every point? Also, if using the hit or miss method, in the ten years it will take to finally arrive at the correct way of playing a piece, one is all the more likely to injure oneself by bad choices that turn out to be 'misses' – incurring carpal tunnel syndrome, tendinitis, and in the case of one famous pianist, "infection of the thumb". That's a euphemism for a 'miss'. And also an admission that this particular pianist uses the subconscious method exclusively, or too much at any rate (you'd think that after many years simple observation would have produced some conscious conclusions).

There are many examples like that ("I overpractised", or "I cut my little finger and had to use another one for octave passages", etc.).

It should all be EASY – in the sense of floating, gliding, unruffled – and NATURAL – in the sense of always doing what the body is designed to do and not fighting against that, ever.

