THE PHYSICS AND METAPHYSICS OF PIANO PLAYING TWELVE FUNDAMENTAL PRINCIPLES

I have hereunder summarized ten principles that are required for a performance to be correct. I have added two more requirements that need to be fulfilled if there is to be great music.

One of my close friends in Europe is Frans Veldman.

He is the founder of a new branch of Science, Haptonomy, which rapidly has become influential in the field of human sciences (psychology, medicine, peri-natal care, sociology) especially in France. Haptonomy is the science of touch and of the emotional life that is opened up and nourished by touch: "Hapsis" in Greek.

According to Haptonomy - and this has of course been understood in other sciences as well - in the very beginning of life on this planet there was the sense of Touch, the one-cellular organism touching the world with its outer membrane trying to determine whether it was hostile or friendly to its existence and survival. It is no different today: there are "touches" (glances, sounds, smells) that hurt and kill and destroy, there are "touches" that give life, security and joy.

1. HOW TO TOUCH THE KEY and PRODUCE A SOUND

The primary principle of our art as well is Touch; the more sensitive we are in touching the key the deeper the sound can originate in – and in turn penetrate – our and others' senses, intellect and emotions. It is easily forgotten that more important than speed, strength, dynamics, whatever else is involved in our art, it is <u>how we touch</u> the key that first and foremost determines the meaning of what we are communicating, the meaning the composer had in mind when he wrote the piece. Each composer has his or her own sound, each composition has its own sound and the piano, however mechanical an instrument, is capable of communicating to the listener an infinite variety of expressive sounds: all dependent on whether or not the pianist has mastered the all-important "Art of Touching the Keyboard" as Francois Couperin called his treatise written some three hundred years ago.

In a study, published in the seventies in "Psychology Today," a number of participants were placed in front of a mechanical device that measured downward and sideward pressures. They were then asked first to *imagine* "no emotion" and after about ten seconds to depress a key-lever. Other imagined emotions followed such as anger, love, reverence.



SHAPE OF EMOTIONS. Two sets of repeated measurements from each subject record changes in linger pressure during the expression at no emotion and seven fantasy emotions. Each form is the average of 50 traits. The upper tracing measures vertical pressure: downward pressure from the finger sands the line down; as the pressure is released, the line rises. The lower tracing measures horizontal pressure a way from the body (a downward swing) or inward (a rising line). Each tracing represents two seconds; most expressions are comniated in that time, but in some expressions (e.g., reverence) three or four seconds clapse before the finger pressure returns to its base line.

As the graph above shows each emotion (or lack thereof) registers a significantly different pattern. The piano is capable of expressing that whole scala of human affective responses, but increasingly rare is the artist who is able to convey that full range emotions since performers and teachers alike tend to emphasize the "horizontal" aspects of piano playing, the accuracy, the dynamics, the speed to get from one sound to another. We all of course "know" what reverence, love, anger is; we all have had the experience but as T.S. Eliot writes ("Four Quartets") "missed the meaning." Rare indeed is the performer who is able to express through his *toucher* the felt reality these terms want to convey. So most of us just fake it, often through the kind of mimicry that an audience is fond of being fooled by, Yet, without that mastery of touch, music loses much of its meaning. When Beethoven writes "dolce" he means something different from espressivo or cantabile or even teneramente. When Brahms in opus 118# 2 writes the first phrase and then wants the second (identical) phrase to be played "dolce," juggling the tempo or dynamics will not do; it is only mastery of the art of touch that can accomplish this delicate task. It is the quality of the sound itself which is the primary carrier of the expression.

It is certainly a sign of our times that we are more interested in the "what" of communication (sound-bytes that grab one's attention and the acquiring of information in general) and not in "how" that information is transmitted: the tone of voice for example or body language which express on a much deeper level the affective content of the message. Any child and lover will know immediately whether the expression is at odds with the words that are being spoken, or not.

One of the basic problem areas of playing/performing (we may well say: of life in general!) is the fact that few people are willing to make the effort to live in the Present, that means, to truly LISTEN, in the moment, in the here and now; it seems we are always on-the-go.

I compare this in my classes to a politician - a very poor politician - who has just a few minutes in his busy schedule to shake hands with a group of supporters and is already looking to the next person and the next and the next, instead of being - however briefly - really present to the person whose hand he or she is

shaking. On a photograph it may SEEM that the politician shook your hand, but you know that he was never really there and that his or her handshake was just a mechanical gesture with no meaning behind it. It is exactly the same with music, when there is no Presence there is no art; there may be sounds, and speed and dynamics but as far as the art of music is concerned, no meaning. The <u>quality</u> of the sound we produce is dependent on the "vertical", the very short distance between the moment we first touch the key and the moment we reach the key bed. How we are present in that brief interval of time during which the finger goes down determines how expressive (or non-expressive!) our playing is. If we just press the key down without Presence (= without emotion) and automatically anticipate the next note there is the sense that we just go through the notes on the page and there is no true meaning in what we do. (More about all this under the section: "Rhythm.")

It is for good reasons that J.S. Bach spent so much time teaching "how to touch the keys" (and how NOT to: no "dropping" or "thrusting" the finger - let alone the hand! - into the keys) and had his students spend the first months of instruction- often up to a year – practicing nothing but short phrases to learn this delicate art.

Here as always, the well-worn Latin adage: "festina lente" (make haste slowly) is, our almost instinctive disbelief and skepticism notwithstanding, right on the money. Whatever we start doing in a hurry will be done wrong and take twice as long to correct later on.

As serious and committed musicians we must learn the difficult task of remaining aware not only when the finger (supported by the arm) presses the key down but also when the finger moves up vertically to leave the key; this will further develop our ability to remain present to the sound that **is** and not to be distracted by what is to come. The reason is simply that we can only be attentive in the present – not in the future, be that future ten years away or a nano-second (see elsewhere my article: Music, the Fullness of the Present). A good point of departure is, to imagine a thousand thin layers between the top of key and the key bed, layers which we first compress downward and then feel pushing up against our finger. Rather than thinking of lifting the finger off the key we must experience the key as pushing the finger up.



I trust it is clear that we are speaking here of "practicing"; in actual performance all points under discussion must proceed as an integrated, seamless whole and actually be totally and completely forgotten (an art in itself, as difficult to accomplish as learning it all in the first place!). It is only for "practical" reasons that they are listed separately.

Besides the finer points of the art of touch that can only be transmitted in a one-to-one teacher/student context, there have been two main views, two extremes in the pedagogy of the piano. The one approach, sometimes referred to as the French method, is to primarily touch the key with a stroke of the finger, the second, the so-called German or Russian is the one that starts with a movement of the arm.

The ideal I believe is a combination of the two: starting with an active movement of the hand-knuckle, allowing the arm to rest (very gently and without any pressure) on the finger: the finger supporting the arm, the same way as a singer needs to support the sound produced by the vocal chords through the activity of the diaphragm.

Keep in mind that the mechanism of the key and hammer resembles a see-saw (teeter-totter); you press (sit) on one end and then the other end goes up (in the case of the piano, thrusting the hammer against the string).

Therefore the basic movement of the finger is downward at the farthest possible end of the key so as to have the greatest amount of force/velocity and indeed expressiveness available at the other end. All this leads us to the next question.

2. HOW TO MOVE FROM ONE KEY or SOUND TO THE NEXT

In my essay "Music: The Fullness of the Present" I have spoken in detail about the difficulties involved in this seemingly simple operation. When I was in my twenties and again in my early thirties I came to impasses that forced me to quit playing the piano (a cause of considerable agony!). I will always be grateful to Felix Hupka from the Amsterdam Conservatory who taught me the way out.

It turns out that this second fundamental principle is far from easy and the cause (as is the neglect of the art of touch) of a tremendous amount of bad playing even though not usually recognized as such.

The basic technical elements involved are:

- 1. Active movement of the hand-knuckle of finger # 1
- 2. Allow the arm to gently rest on finger # 1
- 3. While keeping the weight constant in finger #1 bring finger # 2 in place
- 4. Transfer the arm weight from finger # 1 to finger #2.

I like to compare this procedure to the simple (seemingly!) act of walking:

- 1. After putting down e.g. the right foot:
- 2. Allow the (weight of the) body to rest on that right foot (no need to push!).
- 3. Keeping the weight on the right foot, put down without any weight! the left foot and
- 4. Transfer the weight from the right to the left foot.

If you have ever seen models walk – glide is a more appropriate term – across a stage you know what we are talking about. The rest of us more common mortals tend to just hobble along much less graciously. The pianist's arm must rest on the finger the way the body rests on the foot and "walk" on the fingers the way the body walks on the feet and legs.

Finger action alone doesn't make it past the limelight, arm alone – though it seems to promise faster and easier results – makes for heavy, undifferentiated playing that becomes tiresome to listen to. It is only the combination of first the finger and - immediately afterwards - support of the arm that will enable a pianist to play expressively and to project his or her sound - be it pp or ff - to the farthest end of a concert hall. Another way of saying this: the weight of the arm must at all times be available (right above the keys) and the fingers are the fine instruments that apply this weight to the key. One could compare this to the workings of a faucet: when you turn the faucet on, the liquid must be immediately available so it can flow out unhindered. The arm weight is like that liquid, the fingers are the faucets. It must be stressed that we are talking here about the natural, NOT HEAVY, weight of the arm, resting firmly but effortlessly on the finger(s), which in turn rests on the individual key(s).

We can think of the arm as a train transporting its passengers, the fingers. When the train stops at the desired destination (e.g. at a C that needs to be played by the third finger) the appropriate passenger (the third finger) gets out (N.B. it is not pushed or thrust out by the arm / train). The use of under arm rotation (the wrist tilted towards or away from the thumb) optimizes the exit of the fingers to the keys (as a step that is rolled out between the train and the platform).

For achieving a legato (without the use of the pedal!) over intervals larger than the hand-span I use an image from my native Holland. The fingers are like the feet and the skates, which push against the ice, carry the body across it; that same way the arm is carried across the keys by an initial push of the fingers, NOT through use of the shoulder muscle lifting the arm off the key and putting it down two octaves higher. It is the finger that starts the movement and the arm follows - without interfering - in a natural flow; I call this the "cat-jump". So, for example in an arpeggio, rather than relying on awkward and time-consuming movements of the wrist (the infamous "moving under of the thumb" that we were all taught and that works only at very slow speeds) we must learn this basic "cat-jump" technique. But it really applies to all passages, even to scales where optimum velocity can only be obtained if the wrist is kept steady, the arm takes care of the transportation (the arm is eminently capable of rapid speeds and of effortlessly changing speed) and the fingers move vertically down (and up!) from the hand knuckles. Chopin's Opus 10 No. 8 is an excellent study to achieve this technique. In the end, it is the ear which is the final arbiter whether or not a seamless connection is achieved. As Ralph Kirkparick wrote, "the working out of a musical interpretation ort the solving of a technical problem is inseparable from the necessary life-long process of training the ear."

However briefly, the arm must <u>rest</u> on the finger. This, it must be emphasized, represents the <u>technical</u> side of the medal; on the other side is the requirement for the ear/mind to be present in each sound and to only hear the next sound when it is actually there; in one word: LISTEN. The two must go hand in hand: just technical work at the keyboard without attentiveness is a waste of time and a learning of bad habits.

3. THE USE OF THE SUSTAINING (RIGHT) PEDAL

N.B. What follows below refers to the use of the right pedal in music of the (later) romantic period. There are subtle differences for the classical and the "classical/romantic composers (e.g. Chopin)".

I have heard countless very talented pianists ruin a performance by incorrect pedaling. The basic procedures are not that difficult although the finer points of pedaling need the individual attention of a good teacher. Here I will present an outline of what is involved.

There are three generally recognized ways of using the right pedal called: <u>legato</u> pedal, <u>staccato</u> pedal and <u>half</u> pedal (We will, in this summary, not discuss further refinements as e.g. flutter and vibrato pedal).

Of the three the legato pedal is the most commonly used:

- a. Press down the first key (or group of keys)
- b. Press down the pedal
- c. Keep the pedal down
- d. Lift the hand and when the hand(s) go down for the next note or chord <u>then</u> NOT before, NOT after –, lift the pedal up and immediately back down again

Three caveats:

- 1. The pedal must be PRESSED down, not stamped on; in other words we must remain in FEELING contact with the pedal all the way down in exactly the same way as we must remain present in the vertical descent of the key to the key bed
- 2. The pedal must be GUIDED up; do not suddenly take the foot off and have the pedal "bang" against the lyre (compare this too to the lifting of the finger off the key). As with the pressing down of the key it is helpful to imagine a thousand thin layers, between top and bottom of the pedal, that are compressed gradually, either fast or slowly on the way down and released the same way on the way up.
- 3. There must be sufficient time between the up- and down movement of the pedal in item d) above. If there is not sufficient waiting in the "up" position before going down, then the dampers will not have sufficient time to dampen the strings and the first sound will continue to sound during the second sound, the opposite of what legato pedal wants to accomplish.

The staccato use of the right pedal is intended to create a more sonorous sound on each tone or chord. We achieve this by pressing the pedal down at the same time as the keys go down and having it come up when the keys are released.

This pedal-use operates on the principle of allowing the overtones or harmonics of a particular tone or, usually, chord to vibrate "sympathetically" along with the original sound. To test this out, hold down silently in the middle register e.g. the notes C-G-C-E (interval of a tenth): this lifts the dampers off the corresponding strings so that these tones are able, giving the proper fundamental, to vibrate "sympathetically". Then strike a C in the lower register of the keyboard and you will hear the upper-harmonics sounding along with the fundamental. It also works with lower harmonics, for instance holding a low C down and striking an octave C in the middle register, you will hear the lower C vibrating - again- "sympathetically".

The third use of the right pedal is called half-pedal.

I mentioned above that there must, in the legato pedal, be sufficient waiting between the pedal coming up and going back down; otherwise there will be an overlap, a "bleeding" of the first sound into the second. In half-pedal on the contrary the foot goes down quickly after having come up so that there is some carry-over from the first sound into the next.

This is sometimes, in fact quite often, what a composer wants. A classic example is Chopin's Prelude Opus 28 # 7 where in the first measure the low E in the bass needs to be sustained while, at the same time, the dissonances in the upper voices of that measure need to be minimized. By going down swiftly with the pedal immediately after having come up, the shorter upper strings will be dampened whereas the lower string, in this case E, does not get enough time to be "silenced" and keeps sounding: exactly what the composer intended. The rest of the piece requires the same pedaling.

So far we have discussed three elements that deal with the physical/mechanical requirements in the interplay between the player and his or her instrument.

The following seven points have to do with the <u>musical</u> features of the pianist's art; in other words, features that we share with our fellow musicians.

4. RHYTHM

Rhythm (and closely related to it, articulation, i.e. legato, staccato, non legato) determines the relative length of the sounds we produce: shorter or longer.

The way rhythm is notated in Western music is the cause of very serious problems that can only be overcome if we re-interpret the symbols we see on the printed page. Below we see two quarter notes and one half note:



Just looking at the page we get the impression that something (a sound) happens on the first, second and third beat.

This is totally erroneous because the notated symbols <u>only show when</u> a new sound, a new "event" is taking place and not how long it lasts. The real meaning of each symbol is NOT the black or white dot that we see on the music score but the duration in between two dots which we do not see. Therefore the first quarter note represents a line, a "duration", the second quarter note the same duration, the third, half note, a duration of double the previous length.



This means that the actual sound, the music itself, takes place <u>in between</u> the notes printed on the page. This in turn means that we must learn to remain present (with our ears and our mind) to each sound for its total duration and although the hand and the eye must move on to the next notes, the ear must keep hearing what is actually there as long as it is there. Without this mental activity pianists just "go through" the music, they are never really IN it (see also the first principle above).

A famous Zen image compares the Mind to a mirror, which simply at each instant reflects what passes in front of it, but does neither anticipate nor follow after it. No past, no future, but only the time-less Present. Each note must be listened to as if it were the first as well as the last sound of the piece.

I recently discovered one of the worst invectives in the Japanese language: "Manuke" which means something like "stupid imbecile". (Note: I have been admonished to never, under any circumstance, use that word against another human being!). However, the literal translation of that word is: "lacking the interval". I am sure that the refined aesthetic sensibility of Japanese culture may be attributed at least in part to this national character trait of "being present in the interval".

And a prominent modern Italian scholar has described "the unnoticed loss of the interval" as "he cause of the cataclysmic nature of our world today." As one can see, we are dealing here with ideas of far-reaching import.

Often the general public which is lacking in understanding may be impressed by a performer's speed, dynamics, technique etc, but nothing of real value remains after such a performance, which becomes, at best, entertainment or an athletic feat that has nothing to do with art. True art must touch and move the heart/mind, the emotions and especially the spirit, not just the senses.

This "listening to each sound as long as it lasts" is the musical equivalent of the technical problem we discussed under # 2: How to move from one note to the next. These two aspects are two sides of the same medal.

5. MELODY

Western notation is better suited to indicate melody, because by just looking at a score you can tell if the sounds go up or down.

Here however we pianists are confronted with a handicap of a kind that is particular to our instrument. Here, under the aspect of melody, we encounter playing that sounds as going either to the right or to the left, rather than UP or DOWN.

Without this "going up" or "coming down" the piano does not sing and that is the most common criticism leveled at our instrument: it doesn't just naturally "sing" like for example the human voice or the violin. We pianists have to work very hard at it and unfortunately most of us don't. That makes again for mechanical instead of musical playing. Good remedies are to indeed "sing" the melody lines (and of course even accompaniments are "small" melodies which also require this feeling of up and down) or to indicate the ups or downs by movements of the hand up or down (the left hand thus "conducting" the right hand part and vice versa).

The spatial coordinates of "up" and "down" are of vital importance in all areas of our lives, both intellectually (Beethoven speaks of working out a musical idea in all its height, width and depth) and especially emotionally.

We speak of being "elated" or being "downcast" or of personalities that are always kind of "in the middle", lethargic. At any rate, piano playing that lacks these ups and downs is "flat", non-inspiring, not really what music is about.

The remedy to counteract this less than musical playing is actually quite simple since we are all endowed with a musical soul which likes to expand and contract and which reacts to this expansion and contraction more profoundly than to any other element of music except rhythm.

I advise my students to think of the piano as being placed on its side with the bass on the floor and the treble near the ceiling (a little like an accordion).

A good exercise is to simply take a central tone, say middle C and slowly move from C up to D, C to E, C to F etc to get us "in the swing" (we must do the same exercise going down of course). In another image, melody means sounds that go up and down mountains NOT walking on a flat surface.

I am of course not the first to stress the importance of listening to great singers as well as other instrumentalists since listening to music that is non-harmonic is an excellent and easy way to become sensitized to melody. I have heard some marvelous playing on Chinese string instruments and previously had my ears opened (slightly!) by listening to Indian Ragas. A great sitar player as Ravi Shankar will slowly start to progress in very small intervals (less than a quarter tone) from a central tone, gradually making these intervals larger until he eventually truly stretches our musical soul to its very limits. At all cost we must get rid of mechanical, technical "to the left and to the right", horizontal playing!

6. METER and METER ACCENT

The term "meter-accent" is perhaps the most unknown, unrecognized and misapplied of all the elements of music. When pianists think of it at all they think of it as a dynamic accent, e.g. in a 4/4 measure you play louder on the first and the third beat.

(I heard a famous performer state that once in public! And when I asked him how in that case we would be able to play with meter accents on the organ or harpsichord he had – of course – no explanation to offer.)

A great part of the problem is that the term "meter accent" is a misnomer of the first rank. It seems to imply doing, stressing something, playing louder, whereas it is on the contrary a "non-doing," a letting go, that is required.

The actual function of a meter accent is difficult to define in exact terms or measurements and for this reason it is better to think and speak of it at first in terms of a "feeling." A meter accent then is: a feeling of release or relaxation, of "letting go," of non-effort. One could think of it as a "going down" of a conductor's arm on the "down-beat" - others may think of it as "going up" at any rate it is a feeling of **lightness** and not heaviness – followed by a going up. One may also see it in terms of the opposing forces of gravity and anti-gravity.

At some point I will ask a student: " Do the stronger beats in the measure express a feeling of inhalation or exhalation?" and practically all of them will answer correctly: a feeling of exhalation. The ideal way of thinking about meter accents is indeed as a breathing in and breathing out. Without meter accents notes follow each other as (again) bullets shot from a gun: pang pang pang. A proper meter accent integrates and structures, in a very natural manner, the succession of notes.

At least theoretically most performers will realize that "something must happen" on beats one and three in a 4/4/ measure, on one and four in a 6/8 measure and on the first beat of a 3/4 measure. Few realize however that meter accent is not a matter of "all or nothing" but of a continuum, a vertical line ("up and down") where each note that is played has its place on the ladder of "more or less" meter accent. To take a 4/4 measure that contains sixteen sixteenth notes as an example:

the most feeling of down, of release, of letting go, occurs on the first sixteenth, the next most feeling of release on the ninth sixteenth (the third beat), the next most feeling of "breathing out" occurs on the second main beat (fifth sixteenth note) and so on as the accompanying graph shows.

It is certainly partly a question of semantics that we tend to think of "down" and of "downbeat" as something that is heavy and punched whereas, on the contrary, the feeling of a downbeat must be one of release and non-effort, of exhalation.

Again thinking of a conductor's arm-movement helps us to see that in a 3/4 measure the main feeling of down (of "lightness" and "lifting" of "letting go") happens on the first beat, the second beat has a feeling of going up and the third beat of going up all the way which means "the most effort" (it requires more effort to keep the arm up than letting it relax downward!).

See examples for 6/8, 3 /4 and 4/ 4 meters at the end of this section.

I would like to add that I have found working with meter accents most helpful in Japan where the language does not, as e.g. European languages, have this natural feeling of accented and unaccented syllables (Father, Mother). Notice also that in these languages the meter accent does not need dynamic emphasis or stress.

Nevertheless, in Europe as well as in the United States, musicians - even famous ones - are as a whole lacking in this aspect of music. One of the greatest artists of the 20th century, Dinu Lipatti, in a letter to a South-African piano student who had requested his advice, speaks of the improper understanding of meter-accents as "**one of the most serious errors in music**". He mentions it in second place of three "fundamental laws of music … which, unfortunately are neglected by the majority of interpreters." Lipatti continues: "stressing (weighting down) the strong beat is one of the gravest errors in music, since the latter is only a rebound towards the weak beats; the latter are the ones that have the true emphasis."

George Houle, in "Meter and Music 1600-1800" documents, in treatises by Holden, Steele. Printz, especially Johann Adam Hiller and others, that a meter-accent must be thought of not as loud vs. soft, but as long vs. short and in doing so harks back to a long tradition. For many centuries the notes receiving a meter-accent were called "good parts" vs. "bad parts" for the non-accented beat in the measure; Hiller, again following a long tradition, re-casts that terminology with "longer parts" and "shorter parts" and concludes that "the bar line, which indicates the downbeat, always comes directly before the long note." (see Houle op. cit. page 84).

No less an authority than J.J. Quantz hedges his bets on whether the "good parts" are to be emphasized dynamically as well as lengthened and makes careful distinctions between different time signatures, the note-values and the speed of the passages involved. It would behoove us to set aside our 21st century altogether unwarranted sense of condescension towards these older theorists (I myself liked to think of them as rather pedantic!) and study their treatises with the greatest respect and thoroughness. And might one not wish that our string-player friends would take to heart what Geminani wrote in 1751: "So in playing Divisions, if by your manner of bowing, you play a particular stress on the note at the beginning of every bar, so as to render it predominant over the rest, you alter and spoil the true air of the piece … there are very few instances in which it is not very disagreeable." (Houle op. cit. p. 108)

Alas, as Heine knew so well, we are too busy practicing our scales and arpeggios to be bothered by these "non-essentials." Yet, in all of this one conclusion stands out loud and clear: **No two conjunct notes in a measure (of equal objective value) are to be played evenly!** It means that e.g. in a 4/4 measure with all sixteenth notes, not ONE NOTE should receive the same value as another. All are assigned subtle differences of proportion.

My own conclusion is different from Hiller and Quantz. Rather than dwelling on the (so-called!) strong beat we must, especially in faster passages (e.g. the sixteenth notes in so much of Mozart) and in a 3/4 measure, alight from that beat just a millisecond faster unto the (so-called!) weak beat(s). Only this gives to music the lightness, the bounce, the "rebound" that Lipatti was talking about. The consequence of all this is enormous since it basically gives the lie to our rather indiscriminate use of

metronome practice drills which aim at absolute, machine-like rhythmic evenness. It brings us much closer to the "notes inégales" of the French tradition that lasted until the late 18th century (Houle). George Muffat wrote at the end of the 17th century: "...all these (notes) are not equal to each other as written. This would be sleepy, inelegant and flat." Might we add the word "mechanical" to the list?

So much for our idolatry of the machine, our addiction to the metronome and dirth of "elegance." (The study of Mozart's piano sonata in A Minor K 311 gives a wealth of opportunity to work on this exact point. But one must learn to pay attention to the delicate rhythmic nuances Mozart very clearly writes in the score – and that a recent facsimile edition pretty much completely ignores in its printed transcription! And let us remember that Mozart wrote this sonata in Paris "in the French manner" according to G. de Saint Foix in "W.A. Mozart" Volume III.)

I don't need to stress that of all of this applies a fortiori to Romantic and later music (but may we be protected from the excesses this has given rise to!) As to the "digitalization" of Bach marvelously cantabile melodies, let us just pretend it never happened – to speak with Ravel's Scarbo: "Quelle horreur!"

Below, expressed in spatial images are the different proportions for respectively 6/8, 3/4 and 4/4 time signatures.



Keep in mind that these **spatial** differences (vertical lines of varying length) must be interpreted in **temporal** terms: long (er) vs short (er).

N.B.

It is important to realize that meter-accents do not just apply to one beat or measure at a time. In an 8 measure musical period for example, the most feeling of release would be on the first measure, the second most release on the fifth measure, then measure three, measure seven, two, six, four and eight. We can think of it as the larger waves of the phrase with the smaller waves (the individual one-measure meter-accents) within. I might suggest working on this in the Theme of the last movement of Beethoven's Opus 109 and particularly in the second variation which, without these "up and downs" sounds simply as a series of isolated notes (or at best beats) that do not have any structure. Let us not forget to build in appropriate short and longer breathing pauses, and notice as well the painstaking way in which Beethoven has marked his intentions in the score. (The treatises mentioned by George Houle speak of "silences of articulation" and we would do well to re-integrate that term in our musical vocabulary.)

A good example of a smaller 4 measure phrase can be found in the first movement of opus 109 where one must pay attention to the fact that the motive starts on the "weak" beat, in other words we must breathe in on that beat and breathe out – a feeling of release – on the first beat of the following full measure, not the other way around. The Theme of Mendelssohn's Variations Sérieuses is another example of this, starting on the weak beat that must not be neglected by the performer.

It cannot be emphasized strongly enough that the above holds true for ALL metrical music: without the meter-accents of the larger waves as well as the smaller ones, the music simply does not "hang together", just keeps breathlessly panting along, in a word: does not BREATHE.

N.B. 2

A good way to practice developing a feeling for the ups and downs of meter is for the wrist to imitate the conductor's arm: releasing – going down – on the so-called strong beat, the "thesis", making the effort of going up on the "arsis", the so-called weak beat and breathing out and in as you are doing it. The danger of course is (besides the physical reality of hyper-ventilating!) that we easily mistake the movement up and down for the reality of what one wants to accomplish.

Thus up and down movement should become the effect, not the cause of feeling meter. It should be used sparingly and limited to brief practice sessions; only what feels totally natural may remain in actual performance.

N.B. 3

(Of course: practicing with a metronome remains essential (as I just reminded my granddaughter who is taking piano lessons!) – but it remains a "necessary evil."

Having (infinitesimal) rhythmic unevenness as a norm, it is mesmerizing to hear the effect of notes played evenly!

7. DYNAMICS

This element of music seems to be quite straightforward: you play loud or soft or in between, that seems all there is to it.

When I ask students - often very advanced students -: "How do you make a sound loud or soft" they almost invariably answer: I push down harder or less hard.

It takes frequently a long time for them to realize (and the longer they have played the piano the longer it takes them to find the answer!) that dynamic variation is a function of velocity, of speed: if I press a key down fast, the sound produced is loud, if I press it down slowly, the sound produced is soft – it is simply a matter of fundamental laws of mechanical motion.

There are two main dangers; when playing softly a student may not go down all the way to the bottom of the key (the key bed) which makes for the kind of jittery playing I compare to "walking on eggs"; in playing loudly performers often push down beyond the bottom of the keyboard thereby wasting energy, potentially harming the fingers, stiffening the arm muscles, and more important yet, creating a harsh, unmusical sound, "killing" the sound.

Most sadly it has become habitual for pianists of all levels to try to play as loud as possible, crashing into the keys (using the fingers, not as the fine instruments they are in starting the process of touching the key, but as metal sticks that must be thrust into the poor piano) and creating sounds that are abominable. And here we touch on another major source of bad and non-musical playing: seasoned performers and students alike pay less and less attention to what actually comes out of the piano and focus all their effort on what they put in; simply put: we are slowly but surely forgetting to listen.

The problem is compounded by the fact that some piano manufacturers make instruments that sound more like steel mills than instruments made first and foremost out of wood and secondly that there are numerous judges on the international competitions circuit who have lost their ears and actually are impressed by these murderous attacks on the unfortunate piano.

The worst offenders in this respect are followers of what used to be called the Russian School who find admirers all over the world! Many of them seem these days to come out of China where "louder" and "faster" are seen as synonyms for "better". The fact that the poor piano in the PR of China is called "gangqin" - "instrument of steel" - does little to improve the situation, nor does the fact that the loudest, the fastest and the cleanest (as if that is an end in itself) players often win the prizes in international competitions.

I experience this as particularly tragic because I have encountered so much great talent and enthusiasm for the piano in my teaching in the Far East.

Closely related to the question of dynamics is the matter of "voicing", on how to bring out one voice of an interval or chord more than another.

Here too, as in the case of other elements of music, it is not a mater of all or nothing. Sometimes performers have developed the habit of making one voice dominant at the expense of "the accompaniment", (Debussy refers to them derogatorily as "fifth-finger" piano players) not realizing that even the simplest

accompaniment pattern must be treated with care, in other words as a melodic pattern, which may be less important than the main voice but which still deserves our fullest attention. Much more disastrous becomes this habit when applied to music that is - to a greater or lesser degree - polyphonic in texture.

Notwithstanding all the historical knowledge we have accumulated, even J.S. Bach, falls victim to a onesided right hand emphasis and the same sad state of affairs befalls <u>a fortiori</u> composers like Beethoven (esp. the late Sonatas), Brahms, Debussy, Bartok, really all 19th and 20th century composers of note where so much of the meaning is lost when we do not pay attention to the interplay of contrapuntal lines. "Voicing", the ability to distribute voices spatially between foreground and background and to give a different character to different simultaneous lines is one of the great assets we have as pianists. It can well be compared to the development of the art of perspective in Western painting and it is certainly not just accidental that the art of part-writing, polyphony, blossomed in the same period (14th century).

8. TEMPO

It seems that much of the time we either just guess at a tempo or imitate what others have done before us. It is true that the indication of tempo is an imprecise art. Even metronome markings are only approximations at best and at times can be downright misleading (as in the case of Robert Schumann where they are in general way too fast). Also, not all metronomes are created equal: some are a little slower than others and some show the signs of age. As if that isn't confusion enough, composers themselves are often not really sure what markings to choose and when hearing their works performed with the indicated markings are unhappy about it (Wagner is a celebrated case). It is both instructive and scary to study how Beethoven went about setting metronome numbers for his scores.

The best advice I have read comes from Johannes Brahms who, in a letter to Clara Schumann, first of all discourages her to go through with the project of assigning metronome numbers to her husband's works, and advices – if she feels she must – to assign each piece a tempo from the metronome, check it at regular intervals and AFTER A YEAR come up with a definitive number. At the end Brahms re-iterates his initial misgivings: "I advise you to stay clear of it, for intelligent people will pay little attention to your painstaking labor, and will not use it."

So what does that leave us with?

To a great extent it leaves us with just the basic Italian terms:	
LARGO = LENTO = GRAVE	= VERY SLOW
ADAGIO	= SLOW
ANDANTE	= WALKING PACE
Andantino	= a little faster than Andante
Allegretto	= a little slower than Allegro
ALLEGRO	= QUICK, LIVELY
PRESTO = VIVACE	= FAST
PRESTISSMO = VIVACISSIMO	= VERY FAST
There are three important additions to be made:	

There are three important additions to be made:

- 1. In "Cut Time" these tempi become twice as fast (a famous case is the first movement of Beethoven's Moonlight Sonata which is often played way too slow because the "Cut Time" is ignored by either the editor or the performer)
- 2. In for example a 6/8 measure these indications apply to the dotted quarter note, not to the individual eighth note.
- 3. A special case is formed by 3/4 and 3/8 measures where sometimes the tempo marking refers to the individual quarter or eight note, sometimes to the whole measure (as in Chopin's A Minor Waltz and Beethoven Minuet in Opus 10 # 3; to be sure there are countless other examples).

To find the correct pace for each of the above tempo markings it is best to walk them with the student: a solemn procession pace for the Lento, a somewhat less slow movement for the Adagio, for the Andante a pace that is no longer static, but dynamic, flowing (not the way we normally walk but a very leisurely walk as of couples in their eighties). Andantino is a little faster than that, Allegretto is a little slower than Allegro

which means NOT fast, but quickly, lively, a marching tempo. After that comes what I think of as a postman's walk, fast and then faster yet when he wants to get home in a hurry.

One could compare this sequence to an important wedding ceremony where the couple walks up to the altar or to the official very slowly, the end of the ceremony when the pace picks up slightly, to the leisurely stroll of two people in love who, when the children start to arrive have to move faster and faster to keep up, until at the end they are practically running (Vivacissimo)! After that of course the process takes place in reverse!

Knowledge of how tempo indications may have different meanings in different time periods is certainly of the greatest importance, but as a general rule of thumb I have found that walking the tempo works in circa 85% of all cases for compositions from the Baroque period on. In the other fifteen percent we have to rely on our musical sense or ... imitate the tempo of a great pianist! And of course, Brahms' advice to Clara applies in this area as well: try different tempos for a whole year and then decide on the one you feel is right!

9. STYLE

In this department only a lot of experience, knowledge of history (especially of music history) and the life of individual composers can help out. Mozart is not to be played as Bach, Beethoven not as Mozart, Chopin not as Rachmaninoff. The general classification of composers in their historic periods can be of some help (Baroque, Classical, Romantic etc) but only a thorough knowledge of a variety of works in the same period, by a particular composer can eventually develop a fine sense of style.

Not to be forgotten is knowledge of the progressive developments of our instruments: a modern Steinway sounds quite different from the Graf pianos of Schubert's time! The use of the sustaining pedal in Beethoven differs (rather: should differ!) astronomically from Rachmaninoff.

Unfortunately more and more pianists seem to have only one style: their own. They often even pride themselves on their particular "exquisite" sound quality, not realizing that each composer has his or her own sound ideal, that this ideal is different for each composer and not the prerogative of the interpreter's vanity.

It is clear from the above that the development of a good sense of style is the work of a lifetime!

10. STRUCTURE and ARTICULATION

The basic question that is answered by structural analysis is: how is a composition put together, how is it constructed?

It is good to begin by analyzing the larger parts and then work down to the details. A Sonata, or Concerto or Symphony for example consists (usually) of several movements, each movement is divided into sections (ABA, Theme and Variations, Exposition, Development, Recapitulation etc), each section is divided into phrases or sentences, phrases into motifs whereas the motifs themselves are made up out of individual notes.

The sins committed against proper understanding and delineation of phrases and motifs are frequent and "dish ear ten ing;" numerous are the performers who chop up motifs as the previous word, or produce non-sensical phrases, totally devoid of structure, comparable to a poor speaker who doesn't use punctuation marks or build in pauses between one phrase and the next (and even of course subtle spaces between individual words and syllables), but keeps droning on. The problem is that we all have learned to mistake the notes for the music and have truly forgotten to listen for MEANING. Individual letters (spoken or on the page) do not carry meaning, and it is the same for individual notes. If they are not grouped together properly (by means of articulation, meter-accents, sensitive pauses, proper timing etc) what we hear is non-sense.

Few are the artists who distinguish in their playing the refinements that we still expect to hear in language; the "a" in a-tonal will be a little longer than the "a" in Amen. As Bob Hope knew: in getting a joke across,

timing is everything. Too much time between words and syllables dilutes the point, too little time obscures the point.

It reminds me of the time I bragged to my children that I was an "old pro on a bicycle" (after all, I grew up in The Netherlands) – they repeated the phrase in seeming agreement but by placing the meter accent on "old" they give it a meaning quite opposite to the one I had intended!.

Incorrect structuring of phrases and especially of motifs (they after all the genetic building blocks of the whole structure) is perhaps the greatest evil wrought upon us by almost two centuries of wrong-doing started by none other than Carl Czerny (see his edited editions of the Beethoven Sonatas) and given the ultimate stamp of approval by none other than Herr Professor Doctor Hugo Riemann. Who would dare to questions such authorities?

(Read George Barth: "The pianist as orator" for further details).

It is truly most tragic that the general public and most performers are literally brain-washed into paying attention mainly to individual notes: are they all there, how fast, slow, loud, soft, even etc.? Even if there is a dim awareness of how they are grouped in sentences, rarely do we ask ourselves whether the internal structure of the motif makes sense and is delineated the way the composer intended it. It should surprise no one that Beethoven's piano playing was described as very different from the flat, even performance of other pianists; Beethoven, the architect, knew a thing or two about structure.

How many performers have I heard butchering the beginning motif of Beethoven's opus 101 (I have been one of them!) by changing the trochaic meter of the opening "long/short, long/short, long/short, long" into a iambic meter "(short) long, short/long, short/long, short/long and compounding their guilt by arbitrarily altering the phrasing and shifting the beginning of the motif from the first dotted quarter of measure 16 to the second dotted quarter into measure 17. This indiscriminately crossing the bar-line, this "falling into the strong beat", (e.g. always playing an eight or sixteenth note at the end of a measure as belonging to the next measure) has become second nature to all of us. The more seemingly "natural" we think this is, the greater the effort that will be needed to eradicate it. Eradicate it we MUST (see my article elsewhere on my Web site" "The Cure for the Romantic Virus") if there is ever to be any hope of truly understanding the Baroque and Classical composers. The Romantic composers very judiciously start to experiment going across the bar-line (Schubert is a gold-mine if one wants to understand how very refined composers' intentions in this regard are notated and so is late-Beethoven), but even Debussy, his fulminations against the "tyranny of the bar-line" notwithstanding, does not as a rule "crossover".

It cannot be emphasized too strongly that without proper separation and delineation of motifs, phrases and sections, the meaning of a piece of music gets lost and it is no exaggeration to state that all of us pianists, great and small, have been trained to make MIN CEME AT of Bach (especially!!) all the way up into the twentieth century. For example the motif, the basic "Gestalt" (constructed out of two motif-syllables that are perfectly symmetrical) of the famous two-part Invention in a Minor stops <u>at the bar-line</u> and does NOT cross over into the next measure.

As just one example of thousands how a motif may be altered I might suggest studying Schubert's wellknown Impromptu Opus 94 # 3 in F minor which in its two pages displays an indescribable wealth of refinements by different combinations of legato/non legato articulation that cause corresponding delicate variations in the meaning of the motif-groupings (assuming that you use an Urtext edition and forget the homogenized articulation suggested by the editors). I should add that even the best Urtext editions do not guarantee a proper understanding of a composer's intentions. Almost all of them provide fingerings that suggest a phrasing "into the strong beat" of both motifs and sentences that is incorrect.

Returning to Bach's a Minor Invention as just one example out of a myriad, a previous Henle Urtext of Bach's Inventions supplies us in m 6 with two fifth fingers in succession suggesting that the first sentence ends on the strong (third) beat and that the motif – as mentioned above – starts off the beat on the second sixteenth note.

The editor of an earlier Bårenreiter Urtext (1927) offers "helpful" pause marks "where difference of opinion seemed out of the question" and generation upon generation of pianists – before and after – have swallowed this "wisdom" as dumb sheep.

37. Praeambulum VI

For better legibility, here are the "helpful" pause marks emphasized in red.

37. Praeambulum VI

The fallacy of this scanning of the motif should be transparent if we look at mm 9 and 10 where the symmetrical groupings of the motif-syllables in half-bar lengths (and the whole motif contained within the bar-lines) precludes even the most unintelligent player from crossing over into the strong beats; more obvious yet perhaps in measures 19 and 20 (see example below).



I believe it is only a question of time before editors will realize that the fingerings in their Urtexts will need to be revisited and that a new edition is called for. Guess who will be laughing all the way to the bank: certainly not the performer!

I am certain that a proper understanding of motivic structure will make present-day piano playing sound pretty much as antiquated as the unremitting legato style, doused with a generous dose of pedal-gravy of the early part of the last century sounds to our ears today.

Let me conclude this urgent plea for a radical reform and re-thinking of the whole matter of phrasing and groupings of notes with an admonition in no uncertain terms of Beethoven himself that I have quoted I my "Cure".

I am constantly amazed at myself, re-studying the works I have performed over a life time, to realize how incredibly much I missed indications that are notated, clear as day, in the scores of great composers. As is the case with many of the other elements of music, only intensive study will eventually enable the performer to express accurately what the composer had in mind and heart and, prior to that, simply learn to read a score correctly.

Much more about all this in my article - on this Web site: "The Cure for the Romantic Virus."

11. MEANING

However, there is more to art than the "nuts and bolts" we have talked about. There is another level of meaning which transcends what we have spoken of up to now and lifts music up to its proper dimension: an art which, as the Aborigines of New Guinea define so marvelously, "is not put together out of different parts" (the true etymology of the Latin "componere"). " There is they say "another kind of music, this one true and authentic, which alone is able to offer a dwelling place to the Spirit." For that reason I will conclude this essay - following the hallowed example of Aristotle – with two points that refer to the Metaphysics of Music.

2500 years before our era (in the West: Anno Domini) the Greek philosopher wrote down in a series of Books all what at that time was known of the natural, physical world which our senses can observe and our intellect try to understand. <u>After</u> these Books and going <u>above</u>, <u>beyond</u> the physical, there looms the ultimate question about the Nature of Being. Aristotle called these Books the Metaphysics.

Well, what is it that goes beyond, that transcends the way music is put together, "composed"? After everything is studied, analyzed and understood on the "physical level" – the ten principles described above -- there looms large and almost inscrutable the question of the true meaning of a piece of music. All the above principles, however necessary they may be, do not suffice to lead us to solve this ultimate question. The study of theory or history or analysis can only "point the way" to the next step: what is the ultimate nature of Music, what is the ultimate meaning of this particular composition?

The poet T.S. Eliot writes in his "Four Quartets": "We had the experience but we missed the meaning." As I approach the later years of my own life I can only say: How true! Occasionally in some blessed moments I – and I am sure all of us – have touched on that certain mysterious "some-thing" which transcends a good, solid, professional rendition of a work and brings us into contact with a different dimension of existence, with the world, as Plato would say, of Ideas, of true Reality.

The last few years I have become even more aware of this unsettling truth as I delved deeper into one of Beethoven's sonatas, Opus 101, dedicated to Dorothea von Ertmann, who – I am certain – is the woman to whom Beethoven's famous "Letter to the Immortal Beloved" was addressed (see elsewhere on this site). Comparing my understanding of the work now to my interpretation of it ten years ago I can hardly believe the abyss which exists between these two different time periods. Even though I was a competent musician at that time, there is a world of difference between my interpretation now and then; to speak again with T.S. Eliot, at that time, ten years ago I "had the experience, but missed the meaning". Have I achieved the meaning now?

As with everything we spoke about before, we must always think in terms of a scala, a spectrum, not of extremes. In terms of dynamics there isn't just very pianissimo and fortissimo but all the gradations in between; in terms of articulation there isn't just staccatissimo and legatissimo but every shade in between; in terms of meter as well we have seen that it is never a question of "all or nothing" and that holds for all the "elements" of music we have discussed.

So it is with the "ultimate meaning" of an artwork; we may be far away or get close to its ultimate realization but there never comes a point where we can say: I have got it forever. That search is what keeps a Monet painting over and over his water-pond lilies and Giacometti sculpting his tall striding men. In other words, a truly masterful performance is always a gift, always something that transcends even the best efforts of our mind/hearts and intellect. For a lack of a better word we may call this the spiritual dimension.

12. TRANSCENDANCE

To get in touch with that level of existence and art there is basically only one thing that we are called upon to do and that is: Do Nothing.

It happens to be one of the hardest tasks, as difficult as Jesus' injunction to consider the lilies of the field who do not toil or spin but are arrayed in greater splendor than Solomon in all his glory; or to become like little children so we may enter the kingdom of Heaven.

This year I will, as so often, be returning to the Far East to perform and teach. I am – and have been – going there in part as an expression of my gratitude to the nation, China, that brought forth the man and the Way of Life of whom I have learned so much, Lao Tsu and the Tao Te Ching as well as to the country where this way of life has been preserved most fully, Japan.

The fundamental teaching of Taoism for me has been the concept of wu-wei. As the Zen verse sums up so succinctly: Sitting quietly, Doing Nothing, Spring comes and the grass grows by itself."

We must allow the music to speak for itself, indeed through the intermediary of the pianist, but without interference of his ego; it is only when and to the extent that the player manages to get out of the picture, that the performer and the music will become one. It is only then that "clock-time" – time before and time after -- becomes transmuted into Whole Time, Great Time, only then that we no longer think of a piece of music as starting at a certain time and ending for example twenty minutes later, but where we hold, as Mozart so admirably expressed it, the composition (even a large symphony) in our mind as One, Whole, Timeless entity. I have heard a music critic express it once as follows: "It seemed as if the performer had swallowed the work whole" (rather than in pieces).

The Greeks called, as I have written elsewhere, this Whole Time which is more than the sum of its parts: AIOON. It is only upon entering this domain that we can go beyond the opposites of Form and Formlessness, beyond the world of Sounds and absence of Sounds and enter there where Music's highest - and paradoxical- ideal may be realized: into the world of Silence or, rather, into the domain where Sound and Silence have become ONE.

Only in Silence, or as Lao Tsu writes - about the same time as Plato describes the phenomenal world in terms of prisoners in a cave unable to see true Reality (of which the shadows on the wall are only the projection) – in the "Void, the Mother of the world of phenomena, of appearances" can we touch on what is Real.

True art properly understood is a call to aim the goal of our endeavors inwardly. As the famous Zen Master in the art of archery, Kenzo Awa, said: "the goal that we must hit is not out there, but within ourselves." Only by hitting the mark inside ourselves, that is, by becoming more and more ego-less, can truly great art be created.

The Bagavad Ghita expresses that same idea: "(S)he who thinks I am the Do-er (S)he is in error."

To get rid of the "practical desire" (T.S. Eliot; prattein= to do, to act), I am sure you will agree, no small task! To quote T.S. Eliot once more:

".... to apprehend The point of intersection of the timeless With time, is an occupation for the saint -- No occupation either, but something given And taken, in a lifetime's death in love, Ardour and selflessness and self-surrender."

Lao Tsu wrote over two thousand years ago:

In the pursuit of knowledge every day something is acquired In the pursuit of wisdom every day something is dropped. Less and less is done until non-action is achieved. When nothing is done, nothing is left undone....."

Post Scriptum

The reader who has perused these pages may well exclaim "My God, this never ends" and, of course, (s)he is right. It is the work of a life-time and worthy of it because, although seemingly taking place "outside," it is really the "inner" work to which we are all called if our lives are to be more than just "passing through" this planet earth. It is a work that in many different ways will go against our immediate gratifications, likes and dislikes, in one word, our ego. But, however much it may – certainly at times – go "against the grain" we persevere in it because the life of "distraction from distraction by distraction" as T.S. Eliott succinctly sums it up, goes against another grain, that of our true, authentic self, and ultimately becomes even more painful than, as my Zen Master, Harada Sekkei Roshi, once said, "Dying the Great Death, the Death of self."

It is understood that the master-teacher does not overburden his or her students with a thousand and one prescriptions or prohibitions. There are no "goals" to be achieved, only a process that needs enthusiasm, guidance and loving care, a process that applies to rank beginners as well as to concert pianists. He or she might well start out as Bach did, always (at each lesson) further refining the art of touching the key, listening to the sound, distinguishing true expression from its many fake counterparts and guiding the student by means of the Ariadne's thread embodied in the ten principles I have outlined above. Once that achieved, in his or her own freedom, the student will choose the rest of the Way.