

What music is

Music is ultimately a sublime conversation *à trois*, between harmony, rhythm and melody. Think of the harmony as enveloped in mystery, like the celestial music of the spheres, all but inaudible to earthly ears. Like the depths of the ocean, harmony in its self-contained purity is beyond our grasp. It is where those depths come to meet us, where they generate the rhythmic lapping of waves on the shore, that they communicate themselves. Through rhythm, harmony steps from eternity into time; through rhythm, harmony makes itself audible. If harmony is remote in its self-sufficiency, rhythm brings it as close to us as our beating hearts. And if the loving eternal harmony begets the patient all-bearing rhythm, then the childlike singing melody proceeds from them both, flying freely where it will. Melody contains both elements of rhythm and elements of harmony — one can trace her parentage — but she is a unique child with her own distinct personality.

Reading music is crucial

Clearly this ineffable interplay of harmony, rhythm and melody that we call music — ‘that which the angels sing’ — does not subsist in dots on a page: reading music is not an end in itself. Nonetheless, success in learning the piano generally stands and falls with success in learning to read musical notation. And this is a process akin to learning to read a language, whether one’s own or new one. The articulative role of lips, tongue and teeth is simply

replaced by the articulative role of hands and fingers, whilst the voice-box is the instrument itself.

Learning to speak: inference and deduction

A child learning to read is already fluent in spoken language, having been immersed in it since infancy. Now learning by immersion entails the drawing of countless small inferences, followed hard upon by the deductive testing of these inferences. ‘This word x seems to mean X — everything points to it. I will *infer* as a working hypothesis that x does indeed mean X , and at the first opportunity I will test my hypothesis in the opposite direction, *deductively*, by using the word x to mean X . Aha, the grownups seem to think x means X too, thereby lending welcome support to my hypothesis. I am encouraged by this confirmation and will proceed on the basis of my theory being true unless and until further evidence should arise requiring me to modify or possibly even abandon it altogether in favour of a better theory. What a boon the scientific method is to us two-year-olds!’

The key to understanding learning

Well, so much of life proceeds via the postulation of minute inferences followed by their deductive testing that we no more dissect this process *ad absurdum* than does a two-year old. But when we want to analyze formal learning, it is very useful to consider the interplay between inductive and deductive reasoning. In

particular, such considerations come to the fore in formal educational situations such as school classes or piano lessons, and they can shed light on many of the difficulties in which education finds itself today.

Learning (mainly) by inference

If you spend time in a foreign country as I once did, listening to people and doing your best to converse with them, you will end up speaking their language fluently. Picking up a language like this is inferential learning. You simply ‘get the feel’ for it, inferring the vocabulary and the grammar from the concrete situations. This is the way, years ago, that I became fluent in the Swiss German dialect that my wife and I still speak occasionally, reasonably confident that neither our children nor anyone else will understand. It is also the way, for want of knowing anything better, that we taught our first child to read, saying and pointing for hours until she ‘got it’. What we did then is what educational jargon calls the ‘whole word’ method, and it is obviously a perfectly valid way to teach and learn. Rebecca learned to read very well, and became, and still is, an avid bookworm.

Learning (mainly) by deduction

But our youngest child we taught quite differently. We used a phonics-based deductive method, *The Writing Road to Reading* by Romalda Spaulding, and the hours of reading and pointing on the sofa were replaced by (fewer

but less cosy) hours at a desk, memorizing the 70-odd letters and letter-combinations, called 'phonograms' by Spaulding, that are the key to decoding the spelling of the English language. Learning by deduction entails presenting and learning specific rules which are then applied generally. By sounding out the three phonograms *r—igh—t* I deduce the word *right*. This also is an excellent way to teach and learn; Anna became, and still is, an avid bookworm, and now at 12 reads too many books too late at night in bed with too little light just as I did, despite my frequent and indeed scientifically verified assurances that this will cause her to need strong glasses later in life.

Why the change?

So what happened in between? In short, by youngest daughter we had less time and marginally more wisdom. We had come to value *rules*, rather than unthinkingly and cavalierly prejudging them, hippie-fashion, as stifling, boring, outdated and useless. True, rules in themselves are not especially interesting, and nor are they meant to be. Learning them is work rather than play. But they have the power to unlock new worlds because they encapsulate an essence, in this case the essence of English spelling, just like the essence of vanilla encapsulated in a bottle. Essences are potent stuff, and a little goes a long way. You can't just drink them out of the bottle. And the more 'essential' an essence is, the more concentrated and powerful it is. Those 70 phonograms take some effort to learn, but it certainly beats hav-

ing to cold-memorize thousands upon thousands of different shapes. When I asked my friend and student Pak Yan from Hong Kong how many Chinese characters she had had to memorize at school, her response was a heartfelt 'Billions!' Rules make things easier when you know how to use them.

Formal learning situations

In the classroom a certain number of students need to learn a given amount of material within a predetermined time. In such a situation it is clearly hopeless to rely wholly on 'picking things up' through inference, and indeed the whole word method has been found not to work in schools. As educational establishments once understood, and by this stage really ought to rediscover, students in a formal situation need to be taught decoding rules—whether Latin grammar, multiplication tables or spelling rules—which they then apply deductively. 'Whole word' reading is the end *result* of a process, when the word-shapes have become familiar friends whom we recognise instantly. The letters and their phonograms, useful intermediaries though they be, serve ultimately only as the building blocks for 'little pictures'—exactly like hieroglyphics or indeed Chinese characters, albeit somewhat more elongated—a steady stream of which is even now flowing serenely before your gaze.

Reading music involves seeing pictures too

It is very similar with reading music. When I play the piano from a score I am not seeing the notes as such, but the patterns into which these are ceaselessly combining and recombining: *pictures* of melodies and harmonies and rhythms. And beyond this, the interaction of these three in a conversation full of action, contemplation and drama. A conversation into which I am drawn, invited and welcomed, less 'all eyes' than 'all ears'!

Notation is a direct picture of the music

Actually the nuts and bolts of musical notation—the dots on the page—are far less abstract than English spelling. If English is easier than Chinese, then music is that much easier again. On two sets of five-line grids called staves—one for each hand—each primary (*ie* white-key) sound is represented by the position of a large and generally black dot. High sounds have high dots, low sounds have low dots, and in-between sounds have in-between dots. Adding stems to the dots, or 'note-heads', makes them into *notes*! Connecting stems with a beam makes notes last half as long, and with a double beam a quarter as long; a single short note has one or more 'tails' instead. A note with an empty white note-head lasts twice as long, and removing the stem makes it four times as long. A small dot after any note-head makes it half as long again. And inserting a sharp \sharp or a flat \flat sign 'bends' the pitch up or down, via the black keys. *Voilà*.

What's the problem then?

If the system is so simple, why do many people assume that reading music is horribly difficult? Why do so many students give up in frustration at their inability to make sense of those dreaded dots? Why do parents tell me they learned piano as a child, but gave up and now wish they hadn't?

22 positions to learn

Here are my thoughts on that. Unlike letters, notes basically all look the same. They are all big dots. The distinguishing feature is the vertical grid-position of the dot on one of the staves. Look now at The Big Picture at the back of this book and count 22 note-heads in 22 different positions, representing three octaves of ABCDEFG. As you can see, I have singled out this region on the piano's keyboard, using stickers on two of the black keys as depicted. I think it's fair to say that once you are familiar with these 22 positions and their white keys you will have no trouble reading music.

Analogous to the alphabet —but not completely

Now on the one hand, learning 22 facts is not much of a big deal, especially once it's understood how fundamental these facts are. They are analogous to the 26 letters of the alphabet, and as such absolutely basic. But we need to be careful here. A child has been immersed in a mother tongue for years, and already knows it fluently before learning to read. Reading and writing are about to add value to something

already familiar, and are an enticing prospect on that basis alone, apart from the fact that books, newspapers, signs, letters and words are everywhere, and that knowing how to read them is, even to a child (or more likely, especially to a child), clearly a basic and necessary aspect of life.

The piano and its notation is a new world

For a beginner at the piano, though, everything is new. It's more like learning a foreign language, and one with a different alphabet at that. Theoretically one could just have a student learn the 22 note-positions up front, then take off from there — and I have to confess to having tried this at one point — but in practice it doesn't work. A student needs first to develop a relationship both with the piano — with its sound and feel — as well as with the look and *functioning* (as opposed to the abstract learning) of musical notation. Above all, concrete results need to be experienced immediately, not on a promise to be delivered later.

Getting there gradually and enjoyably

So, whilst we are aiming at the fluent and rapid recognition of all the notes on both staves, we need to allow time to get there. The second volume of *Pianophonics* will begin again with The Big Picture, this time with the expectation that all 22 notes be learned, known and quickly recognised, each one for itself as an isolated fact. By then these will all have been encountered and used many times over in different contexts, and the idea of systematically

gaining a bird's-eye overview will be seen and accepted for the powerful tool that it is. But for now, splashing around and getting used to the water precedes learning to swim, and the trick is to make the splashing happen in a useful way. Such 'immersion' is basically the task of this initial volume.

Up and Down

Let's look at our first actual piece of music, *See-Saw* in lesson 3, as an example of 'useful splashing'. On the vertical grid the two central pitches E and A are located, to be played by the two middle fingers. A horizontal, rhythmic 'grid' is created by intoning, with great rhythmic precision, *Up—And—Down—And—Up—Up—Down—And* at about ♩=60. And lo, the student is reading music, playing the ups and downs to the beat without looking at the fingers, exactly the way I do!

The plan of this volume

Everything flows from here, taking maximum advantage of the 'pictorial' aspect of musical notation in compensation for the fact that all of this is a new and unfamiliar world. In the following lesson we fill in the letters ABCDE, and then move on to ABCDE in each hand. Two basic constants apply throughout: (1) 5-finger positions in simple keys, and (2) the rhythmic 'grid' of four units per measure, counted as '*one—and—two—and*'. The very rigidity of these constants permits the flourishing of complexity, understanding and skill in the directions that are important.

Boundaries and games

The first step of all is to place stickers on those two black keys, defining and delineating our playground, our initial zone of engagement. *Boundaries* are built into nature, and are integral to everything, including Pianophonic. We can only work during the day because we have slept at night; and as Chesterton pointed out, one is able to jump for joy only because the ground is hard and unyielding. *Games* fascinate us because in them we enact a metaphor of this. Within the physical boundaries and those defined by the rules there is absolute freedom. You can do whatever you like within the rules. But outside of them there is no freedom, and hence not even any concept of freedom. Outside is a 'non-place' where the game ceases to exist — a no-go zone of meaninglessness. 'Out of play' means only one thing: get back into play. The rules *engender* the freedom, just as children will swarm happily all over an enclosed playground, but huddle in an open space where the group, by default, constitutes its own boundary.

Like a book of board games

Many summers ago I bought a book of board games for our annual family seaside holiday. It had cardboard pages and came with various counters, which naturally we lost with time, replacing them with glass beads from the dollar shop. On each spread was a different game — Checkers, Nine-Man's Morris, Go, etc — all of which gave us many happy hours, along with the inevitable squabbles. This

course is somewhat like that. Each lesson is a self-contained 'game' with its own set of 'rules'. Of course, here the lessons are numbered and intended to be tackled sequentially. But one should go back often and play the old games again. And naturally don't discuss all this with the student; there's work and application involved in learning piano, and saying 'let's play this game' is counterproductive. Just quietly think it and do it as you monitor the results.

Inference and deduction again

By stipulating a small number of non-negotiable rules, or 'facts' — the less rules the more elegant the game — the student is given the security of understanding exactly what to do. And this is the main motivator to actually doing it, and enjoying getting it right. The student *deduces* from the rules what to do in each situation. And through encountering this finite, overviewable set of facts in a multitude of permutations, the student will cumulatively *infer* an intuitive picture of how notation works, in conjunction with playing the instrument.

One more thing (three things, actually)

- Have a basic lesson structure in mind, on which you creatively improvise during your interaction with the student.
- Invent 'mini-steps', calibrating each according to the particular 'mini-success' you judge achievable and wish to elicit at any given moment. (*Eg: say then whisper*).
- Cultivate a repertoire of such mini-steps.

Why begin with the chromatic scale?

The chromatic scale imparts a sense both for the feel and for the musical functioning of the piano in an elegant and intuitive way. It makes sense of that mysterious pattern of black and white keys, showing them to represent a staircase — *scala* — of small musical steps. In the process the aural, tactile and visual realities denoted by *pitch*, *interval* and *semitone* are all being practised and absorbed well before there is any need to introduce these technical terms.

A real skill in the real world

The chromatic scale is a real skill in the real world — no mere beginners' exercise — and it entails a defined, manageable and hence satisfying task: *these* fingers on *these* keys in *this* order. In the process, the 'easy' fingers 1, 2 and 3 are thoroughly drilled; we barely need to teach 4 and 5 later as the concept has become clear. The repeated legato passage of the thumb takes place easily and naturally. And it's good, here at the beginning, that the hands move 'normally' up and down the keyboard before we move (necessarily) into five-finger positions. And by playing *all* the keys in order, without fear or favor, we mitigate the general perception that the black keys are 'harder' than the white ones.

The 'rules' for playing the chromatic scale

Choose one hand, which will usually but not necessarily be the right hand. Learn finger