

Optimizing Pianism

Evidence-Based Perspectives

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Newsletter #6 – May 3, 2026

Welcome to the Optimizing Pianism newsletter – the place where science, art and pianism come together.

TOPIC:

The Piano Tone (Part 5/5) – String resonance

What they say... (Common teaching beliefs)

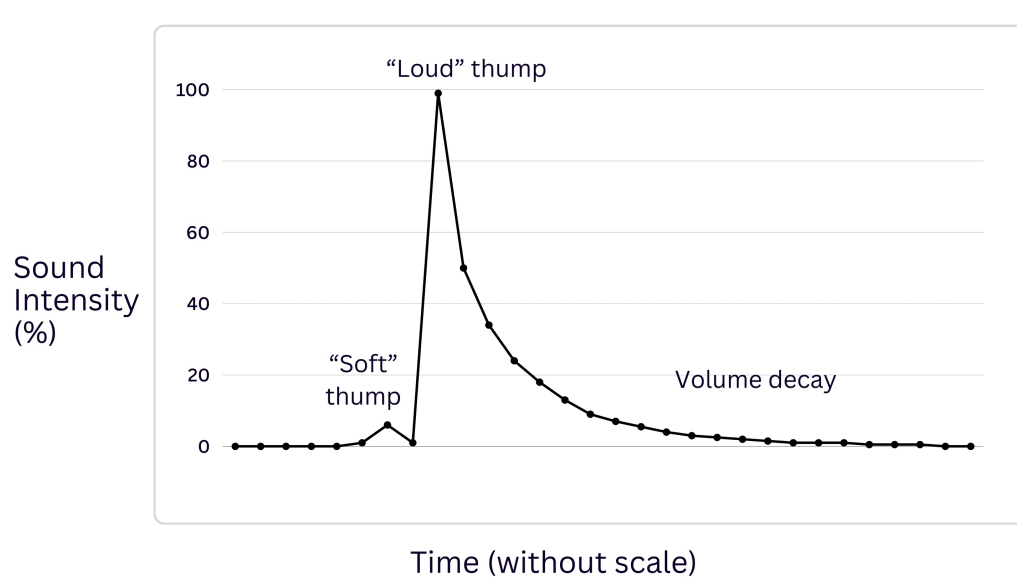
In the pianism literature, in the best conservatories of the world, in the masterclasses of the top academies, in the studios of piano teachers, and in the day-to-day practice rooms of pianists, much emphasis is given to how the hand moves after the key hits the keybed in order to produce different tone qualities. Should the wrist move down? Should the wrist push up? Should the elbow move out? through? up? down?

For example, here's the esteemed pedagogue Leon Fleisher telling a student in a masterclass to move the arm *forward* and *up* – not *down* – to produce a certain sound: ([YouTube LINK](#)). Skip to 1:03:55.

What actually happens... (Myth-busting facts)

After the loud thump noise of the hammer hitting the string, the string will vibrate and these vibrations will be transmitted through the soundboard, the frame, the keybed, and, of course, into any other strings that are permitted to vibrate. The amount, duration and frequency of those vibrations will be subtly different for every instrument, and will be affected also by how in tune the piano is.

The picture, below, shows the decay of the piano sound after its initial thump spike.



(Pictures from *Optimizing Pianism*, pp. 61)

To restate the obvious, after the hammer hits the string, the string vibrates INDEPENDENTLY of the pianist's movements. The string has no knowledge of your finger, hand or forearm movements. At the point of hammer-string impact, not even the hammer is dependent on your finger movements, as it is in free flight at that moment.

Neither the hammer nor the string know your intentions. The string vibrates the same way, whether you move your hand forward or backwards, before, during, or after the hammer hits the string. Like a bullet hitting a wall, the damage to the wall has nothing to do with what happened to the finger after it pulled the trigger.

To summarise the absurdly obvious:

At time 0.0s after hammer-string impact, the string does not know if your finger, hand or forearm are going to move down, up, forwards or backwards.

At time 0.1s after hammer-string impact, the string does not know if your finger, hand or forearm are going to move down, up, forwards or backwards.

At time 1s after hammer-string impact, the string does not know if your finger, hand or forearm are going to move down, up, forwards or backwards.

At time 5s after hammer-string impact, the string does not know if your finger, hand or forearm are going to move down, up, forwards or backwards.

Once the hammer has hit the string, it vibrates independently of your body's movements.

What to do... (Optimised pianism applications)

The first application of these facts is to stop believing that your body movements are affecting the objective *quality* of your piano sound. This is game-changing knowledge, as it liberates you from 99% of pedagogical junk, misinformation, and unnecessary practice efforts.

The second application is to use this knowledge to your advantage, and use your body movements for a better purpose, either (a) to convince you observers of the quality of your sound (perceptual optimisation), or (b) to directly target reliable and easy ways to produce and control different quantities of sound (mechanical optimisation). The touch actions of most pianists in the world actually do serve these two roles, though most think they are serving the former.

Lots more to come. We are just beginning our understanding of how to practice better. We'll hit some of the perceptual problems of touch over the next 5 newsletters.

Kind wishes,
Cam



Other info

- Read the book: *Optimizing Pianism: Evidence-Based Perspectives* ([LINK](#))
- Read previous newsletters: ([LINK](#))
- Comments or topic requests: ([HERE](#))
- Upcoming Concerts and ticket bookings in Melbourne ([LINK](#))

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