

Optimizing Pianism

Evidence-Based Perspectives

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Newsletter #4 – April 19, 2026

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

Each week, a 5-minute fact for a life-time of better pianism.

TOPIC:

The Piano Tone (Part 3/5)

Continuing our journey of understanding how our touch can – or can't – alter the quality of the note being played, next, we address the contribution of the noise of the moving parts of the action itself on the overall piano tone.

MYTH-BUSTING FACTS:

This week is an easy one as there is not much myth-busting to do! I'll keep it short.

There are some unavoidable noises made by the movement of the parts of the action, but none of these noises can be meaningfully altered by the pianist to alter tone quality.

On some instruments, some very small noise (clicks) can be heard at the moment of key let off, and there are noises that arise from the movement of the damper system too – which can be bothersome if the pedal is slammed down too quickly and/or too fully during playing – but these do not pertain to touch.

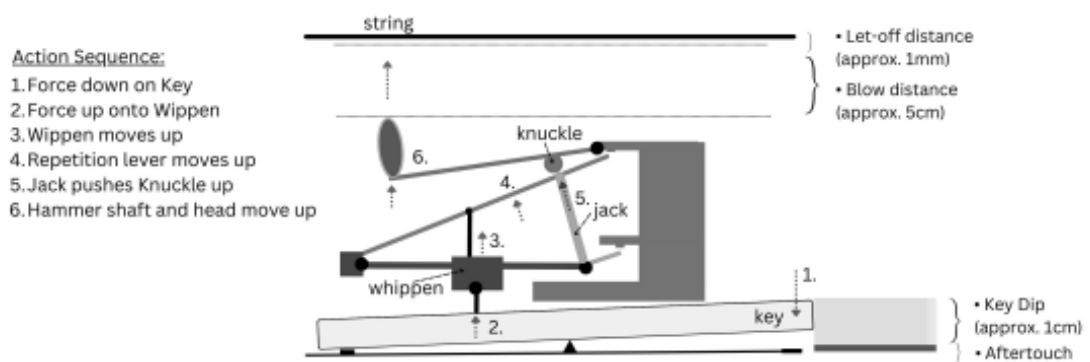
Of more interest is the following. The famed English teacher, Matthay (and others) propose that starting the key stroke with a slower initial movement, and then speeding it up, improves tone quality: "you must set Key and String [!] gradually into motion" by increasing the key's "down-speed gradually—by acceleration." (quotation from his pedagogically-influential book, *The Invisible and Invisible in Piano Technique*, 1932.)

But his account is mistaken on at least 3 accounts:

1 - "Improve tone quality"? Improve *what* exactly?

2 - A slow initial speed into the key might (theoretically) reduce some mechanical noises within the action, e.g. because it gives it a chance to take up slack between the parts and reduce any 'sudden jolt' noises (more so in a poorly-regulated action), but his presumption that he can then catch up the lost time during the remainder of the key descent to produce a hammer speed sufficiently fast to equal that of a keystroke that never started with a slow key descent, is erroneous. As previously said, **the key-descent time is around 0.02 seconds for a forte tone**. Simply, if one loses ANY time in the downstroke, the hammer speed will end up being slower, and hence, softer in dynamic. Accelerating the key descent speed aggressively after a slow initial descent speed would be theoretically more possible when playing at softer dynamics, as there is more finger-key contact time (up to 0.1-0.2s for *pp tones*) but at such slow speeds, there is no need to minimise touch noises or action noises, as they are already infinitely small. To try to complicate an otherwise simple act of playing a *p* tone would represent a perverse intrusion of pedagogical theory over a simple reality.

3. His idea that one can "gradually" accelerate the key to get the hammer back up to sufficient speed is erroneous. A 'gradual' acceleration would exacerbate the problem, resulting in a slow hammer speed. To get the hammer speed back up, it would need an *aggressive* acceleration. He misunderstands the physics. Would he also claim to hit a golf ball a long distance by slowly impacting with it initially and then *gradually* increasing the club's acceleration through the ball to achieve its final speed? And would doing so, increase the tone-quality of the golf ball? And furthermore, would the grass know about it, when the ball finally impacted with it?



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

Conclusions

Forget about mechanical noises from the piano action. They are problems for the piano technician. Stay focused on listening for the sounds that you want to hear. By all means get a feel for the slack and resistance in the action, as this will affect your control of the key lever and the hammer's speed, but don't think that the action noises will alter any of the sound qualities that you are aiming for in your music making. Thankfully, most pianists generally don't here anyway.

Stay tuned for next week – big topic.

best wishes,
Cam

Want more depth?

Read pp.51-63, *The Touch-Tone relationship – Scientists Perspectives* (All references about the physics and noises of the piano tone are listed there.)

Other info

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

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