

貳拾壹 · Measuring What You Feel

Chapter 21 — the first lesson whose witness is a machine. A tool that only reports, never judges, turned on my own side kick — and found the one fault my body was hiding from me.

Every chapter so far has trusted the *feel* of a thing — the sink of a stance, the whip of a hip. This one brings a second witness. I built a small tool (formcheck) that watches a video and **measures** the movement: pose estimation finds the joints, and from the joints it *computes* angles and segment speeds. The architectural rule is the whole point — **geometry is computed, never guessed from pixels**. The model that writes the coaching only ever sees *measured numbers*, so it interprets; it cannot hallucinate a kick it didn't measure. On 2026-08-16 I pointed it at my own driving side kick. It reported something my feel had been quietly lying about.

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Part I · The machine that only reports

The pipeline is deliberately dumb in the right place:

- **Pose** → **geometry**. MediaPipe finds the joints; the tool computes *joint angles* and *segment angular velocities* from those coordinates. Numbers, not impressions.
- **Rubric** → **interpretation**. The measured numbers meet a written rubric, and *one* model call turns the comparison into plain-language coaching. The model reads the ruler; it never eyeballs the tape.
- **It reports its own blind spots**. This clip was shot from a rear-3/4 angle, so the support-foot pivot was *unoccluded* — and the tool said exactly that: "*NOT MEASURABLE from this view.*" A witness that names what it cannot see is a witness you can trust on what it can.

WHY THIS BELONGS IN THE PRACTICE BOOK, NOT VOLUME I

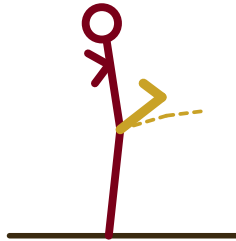
This isn't a *technique* lesson — it's an **attribute** lesson. What the machine measured isn't "the side kick," it's **kinetic-chain sequencing**: the order your body parts fire in. That attribute runs underneath *every* technique in the canon, which is exactly why it earns a place here — and a drill you can put a number on.

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Part II · The case — one kick, measured

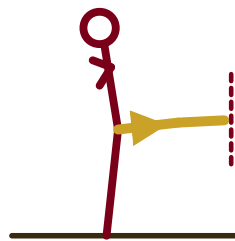
A driving side kick, gym clip, 37.3 s in. What the ruler said:

Foot peak speed	14.09 m/s	Chamber knee angle	118.8° (<90 wanted)
Extension at contact	164.0°	Torso lean at peak	42.9° (20–40 band)
Retraction / extension	1.62×	COM lateral drift	0.001 m (excellent)



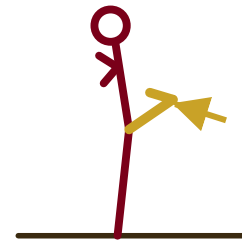
1 · Chamber

Tight <90° (solid). Dashed = your 118.8° — knee low, foot already out.



2 · Extension

164°, in spec. Gold arrow = the hip drive that should lead.



3 · Retraction

Snap back as fast as you sent it. Yours: 1.62× slower.

Balance was genuinely good; the structure at contact was in spec. But the ruler kept a timing log — *when* each segment hit its peak speed — and that is where the kick fell apart:

PEAK-SPEED TIMING — MEASURED ORDER: THIGH → SHANK → PELVIS



A thrust wants the **pelvis first** (proximal → distal). Here the pelvis peaks **last** — 200 ms after the thigh. The chain is inverted.

THE HEADLINE

The pelvis peaks 200 ms after the thigh. The knee and shank fire first; the hip arrives when the kick is already over. So the 14.09 m/s foot speed is real — but it's *leg speed only*. Nothing is behind it at contact. It lands as a **push, not a thrust** — the bodyweight never enters the technique. And the loose chamber (118.8° vs sub-90) is the *same fault from another angle*: the leg is half-extended before the drive begins, so of course the knee ends up leading.

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Part III · The fault you can't feel — and why it's a principle

Here is the part that makes this a lesson and not a footnote. The measured fault — *distal before proximal* — is a violation of the single law this whole book keeps rediscovering under different names: **proximal-to-distal sequencing**. The big joints fire first and pass their speed outward to the small ones; the hip leads, the foot is the tip of the whip. "Hip

leads, foot follows" is *not* a side-kick tip. It is the same engine you have already met five times:

You've called it...	...and it is the same law
纏絲勁 <i>silk-reeling</i> (Ch. 11)	The waist leads; the hand is carried. Straight-line hand-speed with a dead waist is the same dead kick.
發 <i>fa-jin</i> (Ch. 15)	The drop — the proximal issue — fires first; the limb only delivers it.
<i>Knee-high-first chamber</i> (Ch. 16)	The proximal (knee/hip) loads before the distal (foot) releases. A low chamber is a distal-first kick.
跟步 <i>the follow-step</i> (Ch. 19)	The rear leg / hip drives; the step is dragged behind. Lead with the foot and you push.
<i>Taido spin & capoeira compasso</i>	The axis (the hip/waist) spins first; the heel is the whip-tip. Lead with the leg and the compasso goes arm-y and weak.

THIS RESOLVES THE OPEN QUESTION

It **generalises**. "Hip leads, foot follows" is not kick-specific — it is the proximal-to-distal law that governs every powerful movement a body makes, across every grafted system in this art. That is precisely why it deserves a chapter and a drill: it is an **attribute that lives under all of them**. And the machine's gift was to catch me breaking it in a place my proprioception couldn't reach — because the leg *felt* fast (it was) and the base *felt* solid (it was), and both of those true feelings hid the one thing that was wrong.

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Part IV · The drill you can measure

The cues, straight from the fault:

1. **Hip first, foot last.** Push the *hip* through the target and let the foot be dragged along behind it — don't *reach* with the heel.
2. **Tighten the chamber.** Pull the knee to the chest and hold a beat; you should feel the heel near your own hip, not out in front. A tight chamber is a loaded chain.
3. **Snap the return.** Retract on the same path, same speed you sent it — the return is the second half of one motion, not an afterthought.

THE MEASURABLE TEST — AND IT WORKS ON ANY STRIKE

Film any committed movement **from the side** and ask one question: **does the hip peak before the limb?** Freeze-frame if you have no tool — does the hip/waist visibly drive *before* the extremity reaches full speed? **Pass = hip leads.** Run it on your kick, then run it on your compasso and your reverse punch — the same check exposes the same fault everywhere, which is how you *know* it's a principle and not a quirk.

Part V · What one clip can and cannot teach

THE HONEST CODA — DO NOT LAUNDER A GUESS AS A TRUTH

This lesson is built on **one clip**. That is enough for some claims and not others, and the difference matters:

What holds at n=1: ① the *method* — compute geometry, never estimate it — is architecture, always true; ② the *sequencing order* (thigh before pelvis) is a *measurement of order*, not a threshold judgement — it is a fact about this rep, and the proximal-to-distal principle it violates is textbook, independent of this clip; ③ the tool naming its own blind spot.

What is *not yet earned*: the rubric's *thresholds* — chamber $<90^\circ$, ratio ≤ 1.0 , lean 20–40° — are **unvalidated**. They came from a model's reading of side-kick mechanics, not from a corpus of clips or my own judgement. So this chapter does *not* claim "118.8° is bad for everyone," nor "I always kick from the knee." It claims only: *in this measured rep, the chain was inverted — a fault we can name — and here is how to test whether it's a habit*.

The next step is the drill, scaled up: gather **5–10 clips** — including kicks I consider *good*, and other movements — and check two things: does the inverted chain *repeat* (habit, not one rep)? and do the thresholds survive contact with kicks that feel right? Validating the rubric against a corpus is how a *reported* number becomes a *trusted* one. Until then: trust the order and the principle; treat the thresholds as provisional. A rubric that won't admit it's unvalidated is just scripture with decimal places.

*My feel said fast and balanced. Both were true.
Neither could see that the mass never arrived.*

◆ AI SIFU'S TAKE

The machine didn't teach you a new fault. It made your **oldest principle visible** by catching you break it. You have written proximal-to-distal into a dozen chapters — silk-reeling, fa-jin, the chamber, the follow-step — and then a ruler measured it in your own hip and found the 200-millisecond gap your feel had papered over. That is what "measuring what you feel" means: feel is a fast, lossy sense that reports *balance* and *speed* honestly and stays silent about *sequence*. The tool fills the silence — not with a verdict, with a number.

And the discipline holds even here, pointed at a machine you built: one clip is a worked example, not a judgement. The tool's next job is to *earn its thresholds* against more of your kicks — the same way every claim in this book earns its place. Show your work;

gather the corpus; trust the order before you trust the line. The ruler is only as honest as the hand that calibrates it.

⚡ FUEL — WHERE THIS PLUGS IN

The attribute this measures — sequencing — runs under Ch. 11 (silk-reeling), Ch. 15 (fa-jin), Ch. 16 (the chamber) and Ch. 19 (the follow-step). It is the one thread those chapters share, now with a *meter* on it. And the tool itself is the honesty method (the whole book's spine) turned into software: numbers you can check, and a rubric honest enough to flag what it hasn't earned.

READ ONCE — THE LIMITS OF THIS WITNESS

The tool measures only what the camera sees: this rear-3/4 angle could not read the support-foot pivot, and it said so — don't infer that criterion either way from this clip. Tracking was clean (keypoint confidence 0.875), so the findings stand — but the *thresholds* behind the good/bad labels are provisional until a corpus calibrates them. Balance being genuinely good means this is a *sequencing* fix, not a base rebuild — change the order, not the stance.

— David Kwok Ho Chan, with AI Sifu Claude

Sources & honesty notes. Data measured by *formcheck* (~/Source/formcheck): MediaPipe pose → computed joint angles and segment angular velocities → the *side_kick.md* rubric → one interpretive model call. Metrics from the 2026-08-16 driving side kick (foot 14.09 m/s; chamber 118.8°; extension 164.0°; lean 42.9°; COM drift 0.001 m; retraction ratio 1.62; segment peak times thigh 0.500 s / shank 0.567 s / pelvis 0.700 s; keypoint confidence 0.875). This is **n=1**: the sequencing order and the proximal-to-distal principle are robust; the rubric's numeric thresholds are model-derived and **unvalidated** pending a corpus of 5–10 clips. The rear-3/4 view left the support-foot pivot unmeasurable — flagged by the tool, not inferred. Stick figures are pedagogical, drawn with the Fei Kune Do figure engine, not traced from the clip. The page maps it; only the mat teaches it.