My Rules

1. "It's always about difference." (*Eischens*)
2. We want bodies that are *adaptable*—not simply *adapted.*
3. Athlete Appropriate *before* sport-specific.
4. "Movement is gravity-driven." (*Gambetta*)
5. "Train *movements*—not muscles." (*Gambetta*)
6. "Every muscle, bone and joint in the body functions in three planes of motion, *simultaneously.*" (*Gray*)
7. Movement must be mind*ful* rather than mind*less.*
8. "Simplicity yields complexity." (*Gambetta*)
9. "Training is cumulative. Progression is everything." (*Gambetta*)
10. Slow down: It's about *process.*

LONG-TERM ATHLETIC DEVELOPMENT

IN THE 21ST CENTURY

Steve Myrland
stevemyrland55@gmail.com

PHYSICAL GRACE

The goal is . . .


London 2012
AP


speedo


U.S.


PARS
RIETI 2012


ADAMS


USA


GREAT BRITAIN
Atos

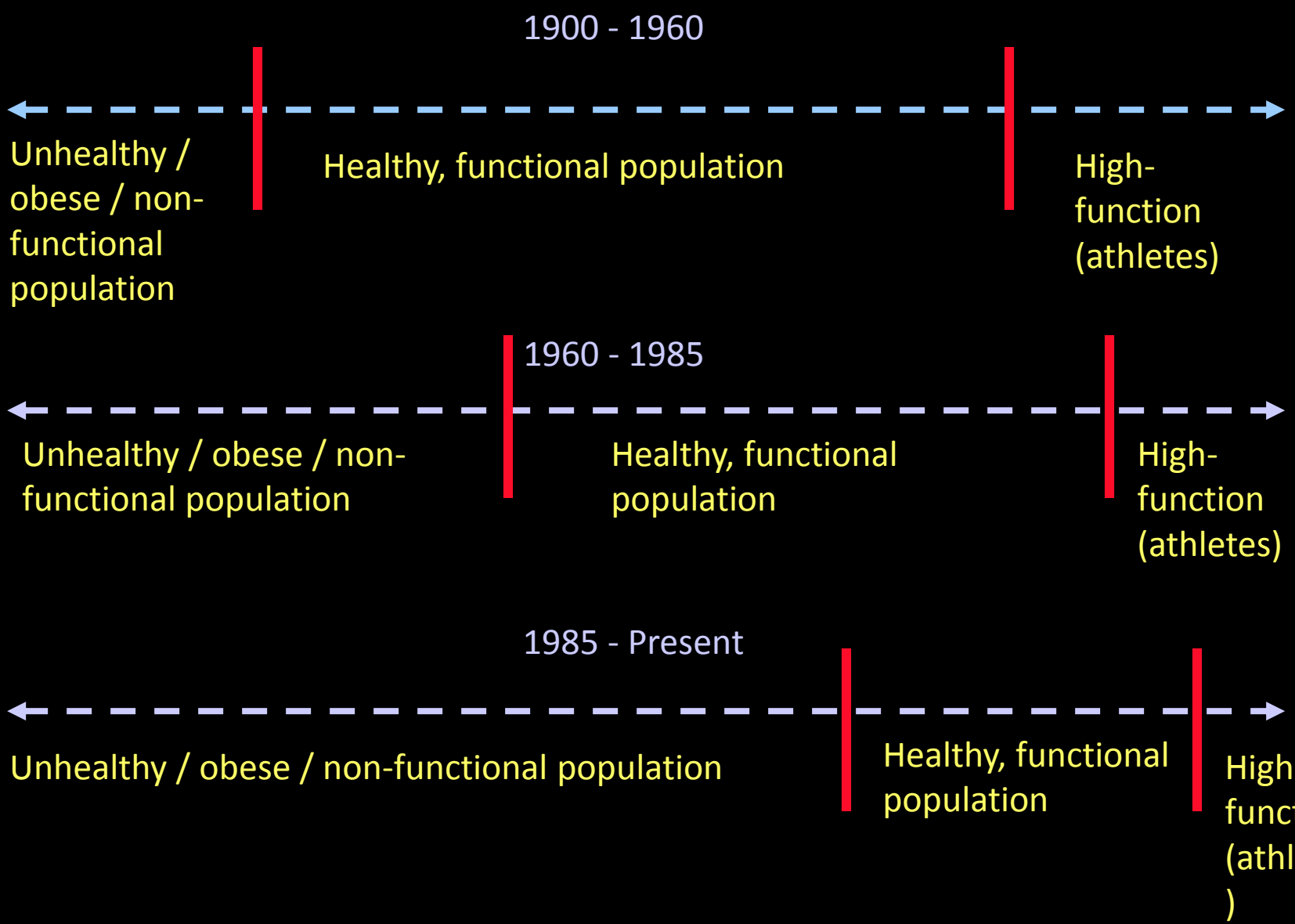

DEUTSCHLAND
TDK
HARTING

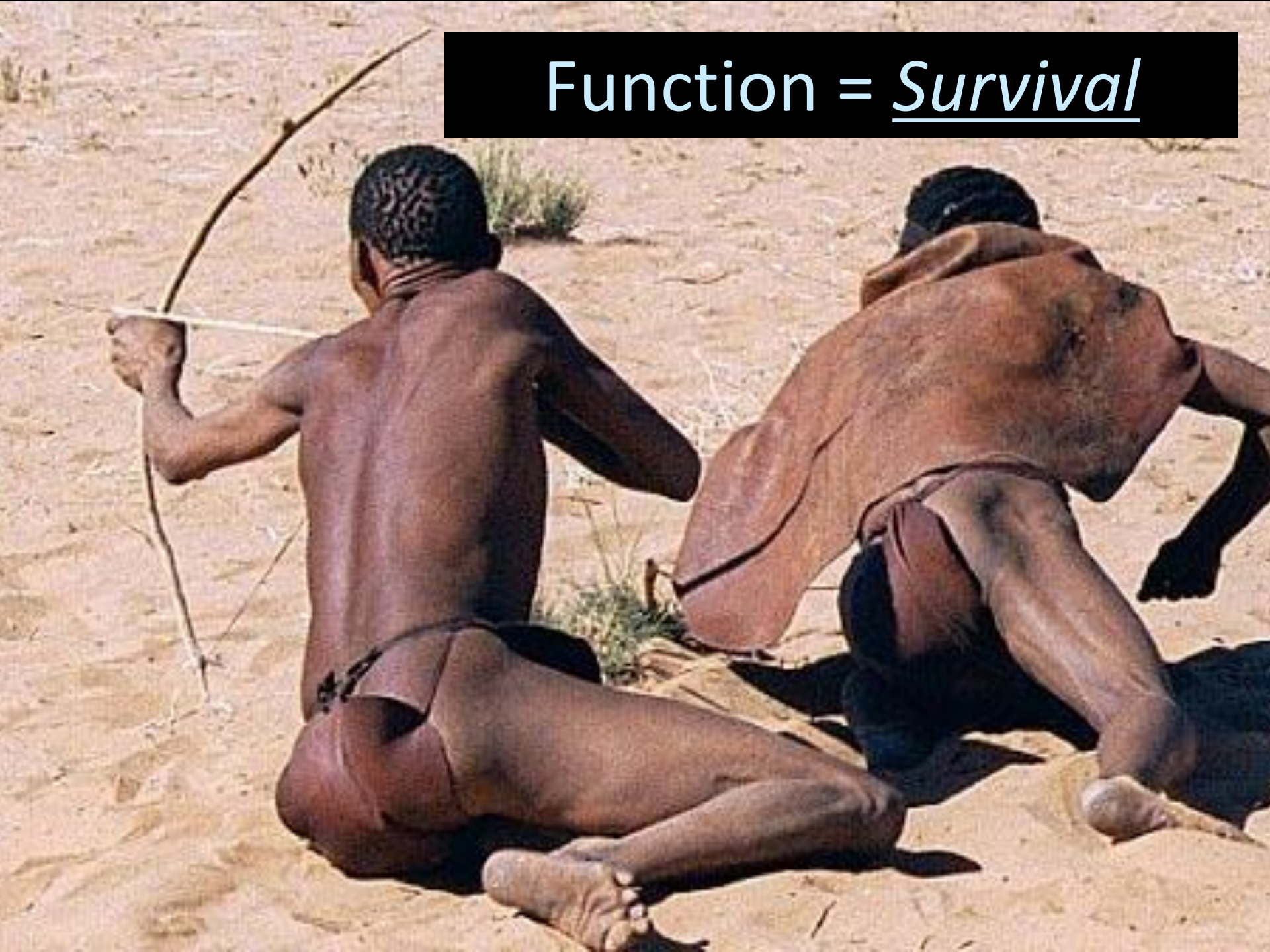

WISCONSIN
WISCONSIN


adidas
GREAT BRI

CHALLENGES

Human Functional Trajectory




Function = *Survival*

ATHLETICISM =

(***HIGH***) FUNCTION

So . . .

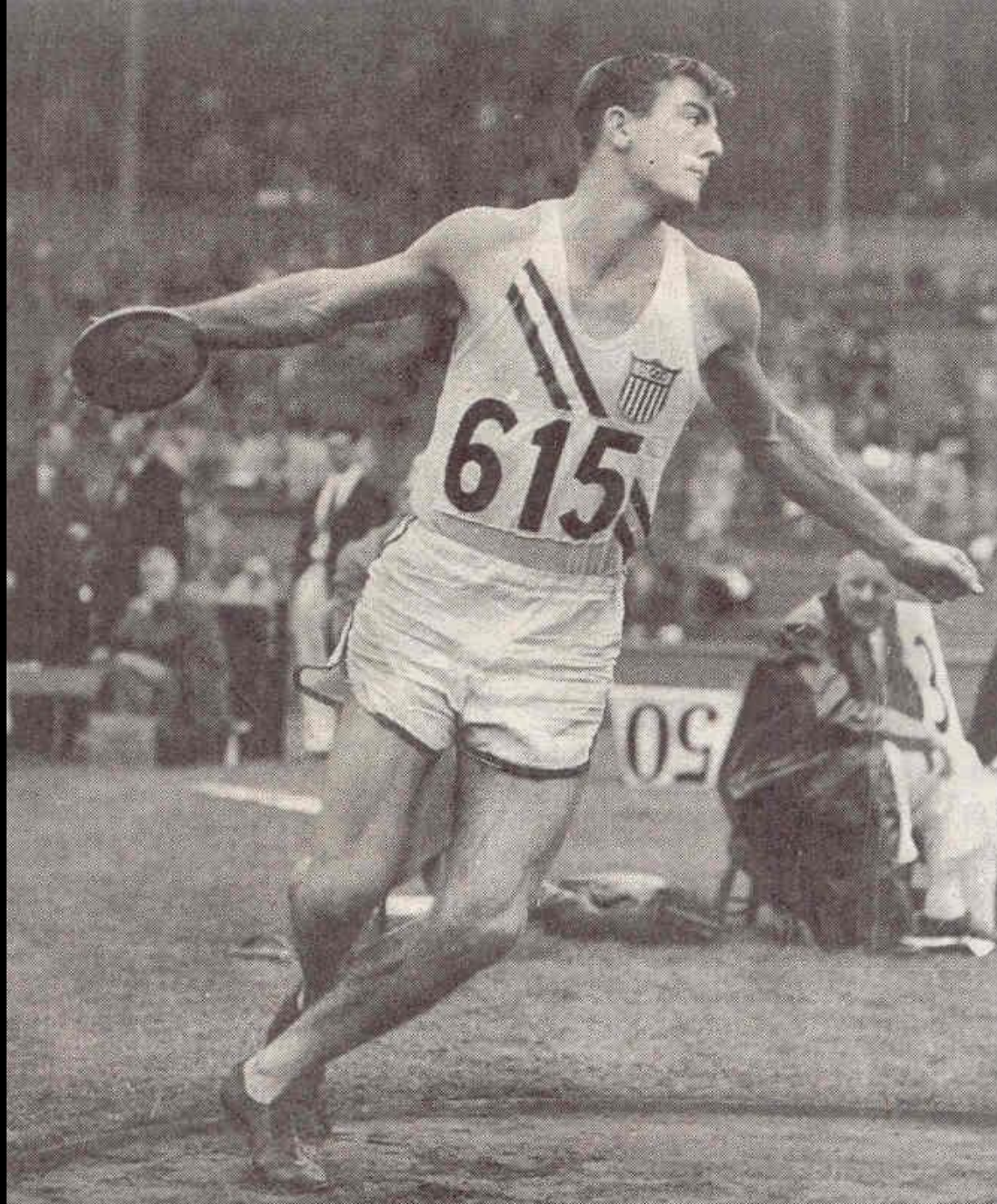
Athleticism =
High Function Survival

It is adaptable . . . not *just* adapted

It is *movement*-driven


Gravity
matters

You get
predictable
outcomes . . .



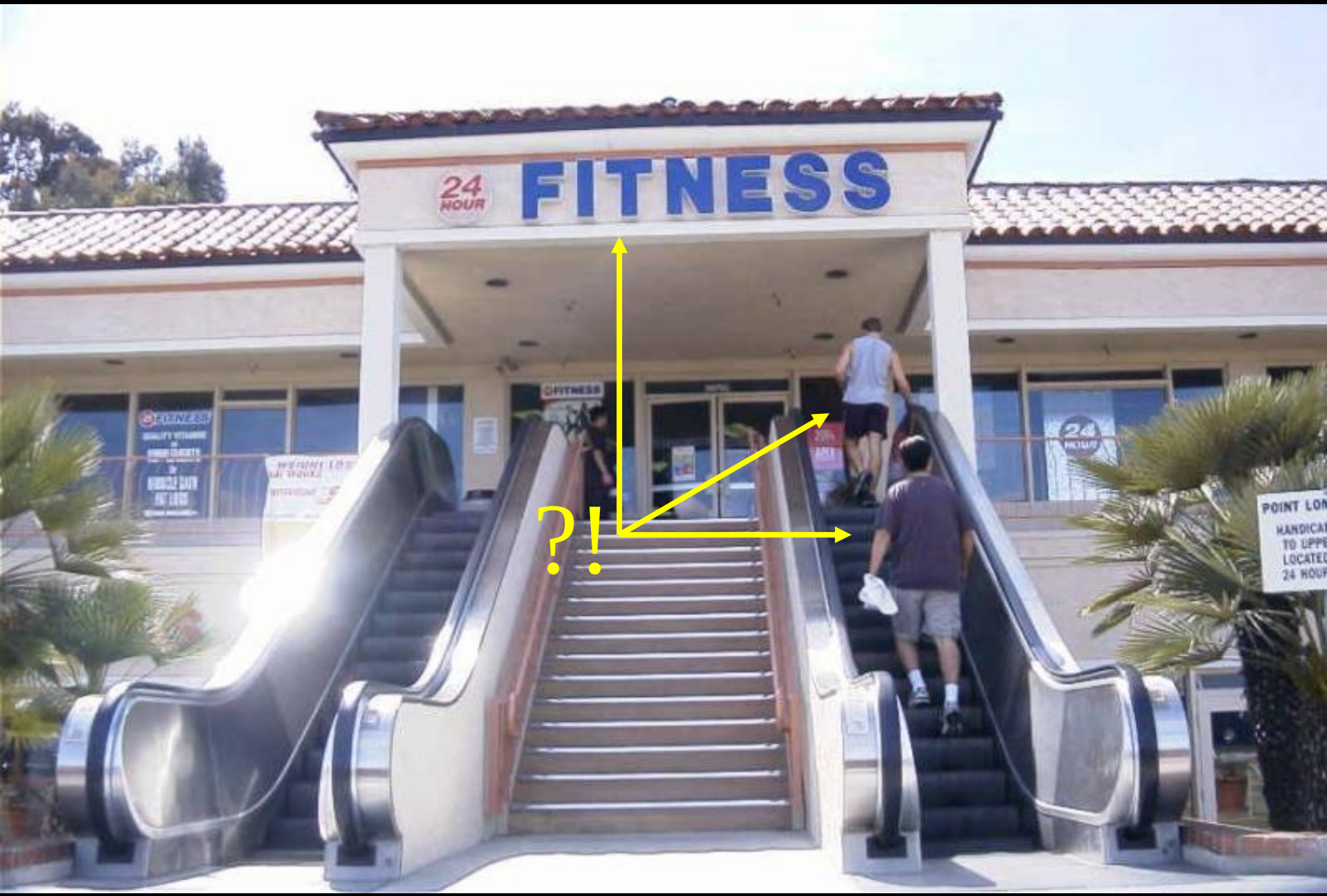
Predictable outcomes . . .


Predictable outcomes . . .


Predictable
outcomes . . .

Humanity worships at the altar of labor-saving and convenience

Life gets easier all the time . . .


24 HOUR
FITNESS
?!

Physical Education . . .

It aint *physical*

aint

And it aint *Educational*

MIDDLET REA
SCHOOL

Six Elemer

Two Midd

One High

$400,000.

...to be sp a year.

POWER PACKAGE: A $362,000 PEP grant awarded to Rogers (Ark.) Public Schools in 2003 provided new strength equipment at Kirksey Middle School.


345
SCORE
READY
combo


Stack Cups

"ONE WEEKEND IN THE FALL OF 2007, I watched a soccer match involving two teams of 13-year-old girls in Southern California with Holly Silvers, a physical therapist and the director of research at the Santa Monica Orthopaedic and Sports Medicine Research Foundation. These were elite players, but from one end of the field to the other, Silvers pointed out girls she judged to have insufficient core muscle strength, balance or overall coordination to play safely. Their movement patterns put their knees — and probably their ankles, hips and backs — at risk."

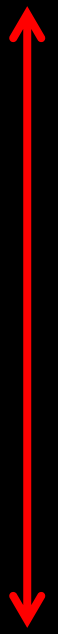
"*Uneven Playing Field*"
Michael Sokolove
(NY Times 5/11/2008)

ADVANTAGES

(ATHLETICS . . .)

Not all competitions matter

PREPARATION



PERFORMANCE

Races

(running; rowing; swimming; skating; skiing; biking . . .)

Jumps

Throws

Gymnastics

Diving

Combatives

(wrestling; boxing; fencing; martial arts)

These athletes all come to understand that competitive success and physical viability are *directly* dependant on the *quality* and *consistency* of their training.

There are no hiding places; there are no excuses . . .

APPROACH

“Get ‘em strong.
Get ‘em *fast.*
Get ‘em fit.”

(Gambetta)

“You can’t *endure* speed . . .
if you don’t *have* speed.”

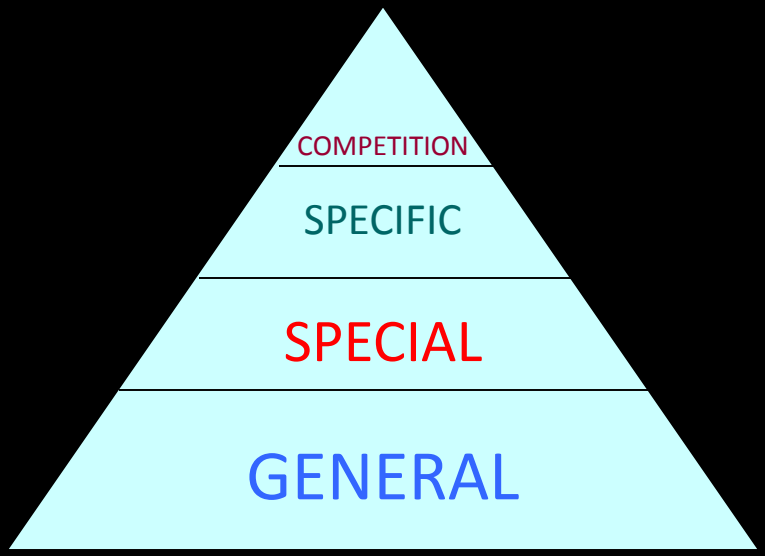
(Gambetta)

Athlete-appropriate *before* sport-specific

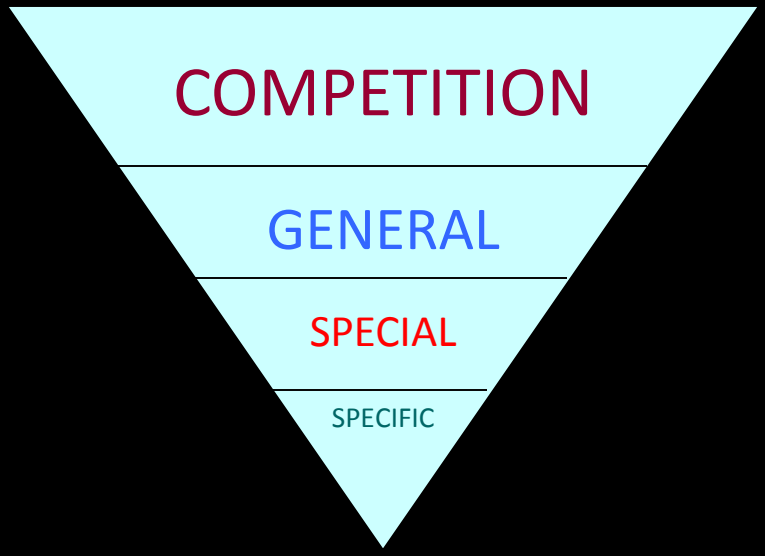
Training Derivatives:

- Competition (*absolute* specificity)
- Specific (1st derivative)
- Special (2nd derivative)
- General (3rd derivative)

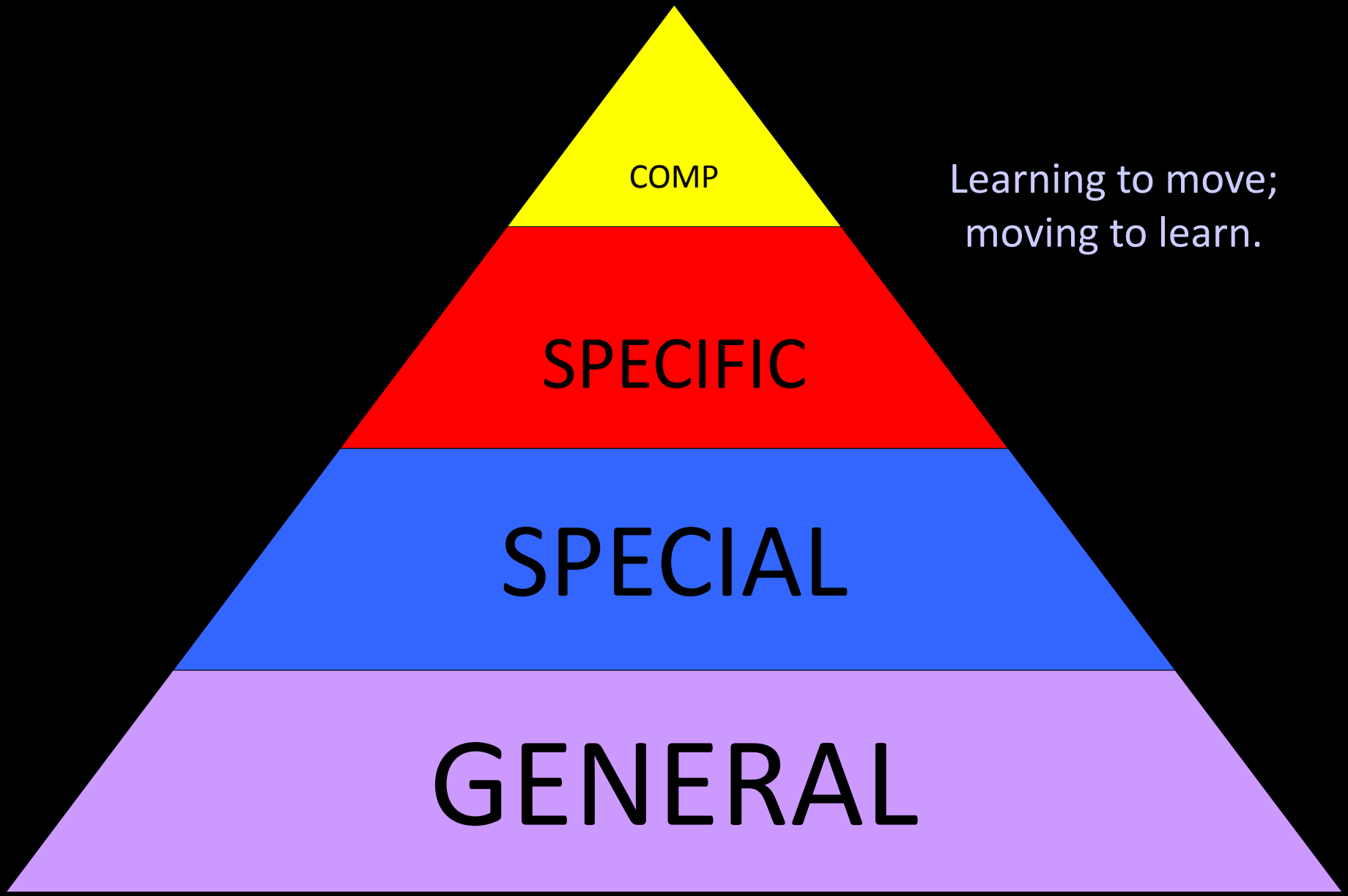
YOUTH



PROFESSIONAL



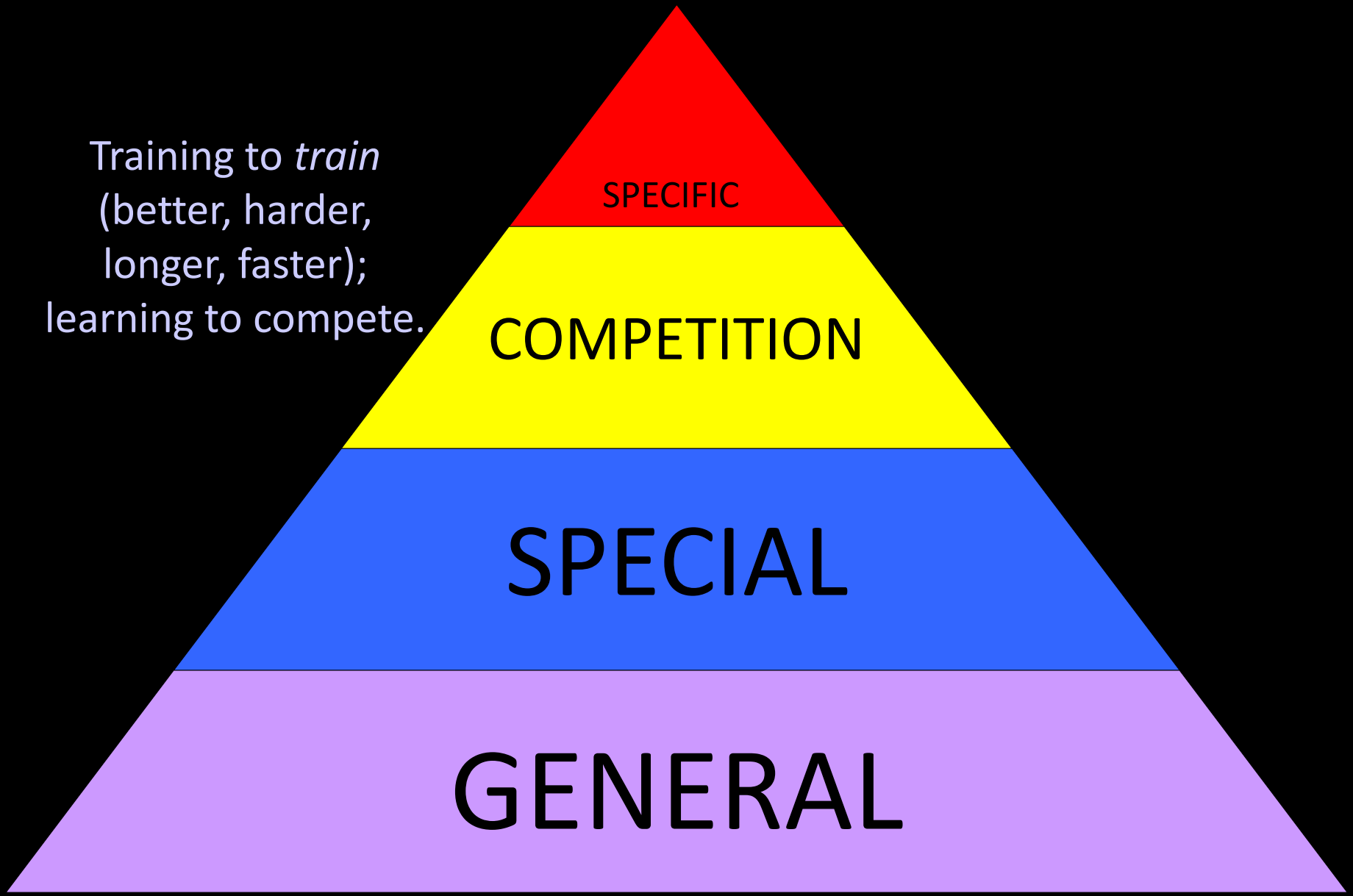
YOUTH / DEVELOPING MODEL (~ Ages 5 – 12)



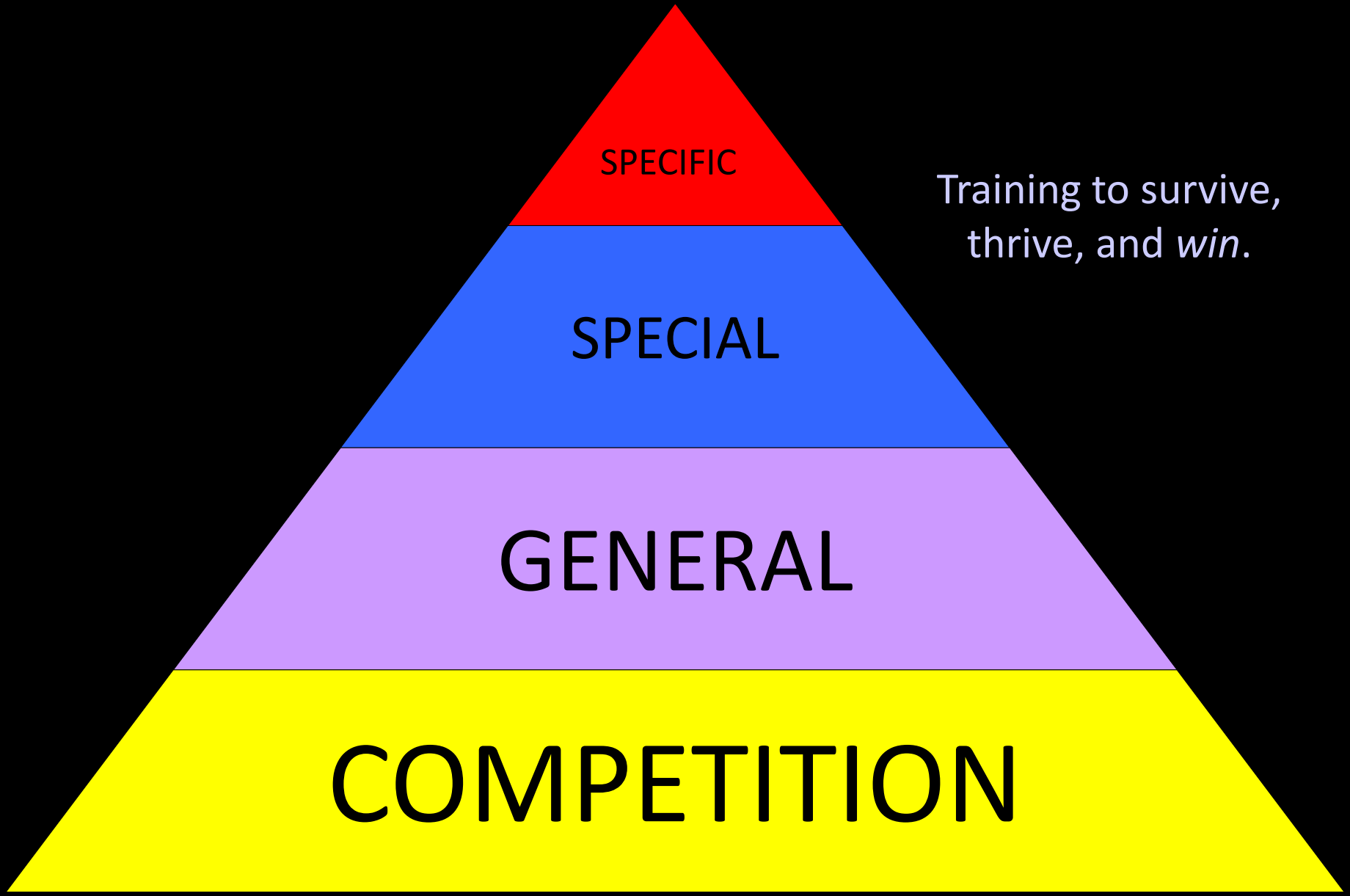
Learning to move;
moving to learn.

CONTINUING MODEL (~ Ages 12 – 21)

Training to *train* (better, harder, longer, faster); learning to compete.



PROFESSIONAL MODEL **(~ Age 21 +)**



Training to survive, thrive, and *win*.


UIL
STATE 2013


JAPAN


6
5


YMCA


USA


NORTH
POPE JOHN


London 2012
USA
OMEGA


15
16
20
1
19
14
7


Mens M.H.S.A.A. Div. 2 Soccer
2000 State Champions

“Simplicity yields complexity.”

Vern Gambetta -

Good coaching
(and good training tools)

. . . do not *tell* bodies what they can do;

they *ask* bodies what they can do.

Acceleration looks like this…

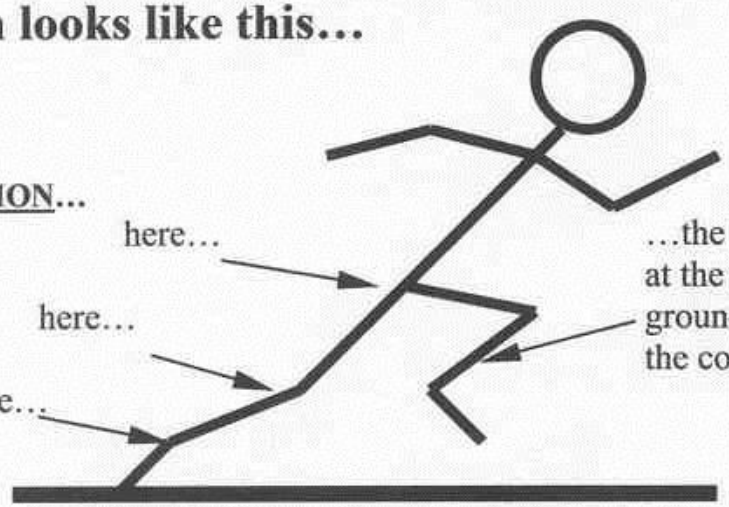
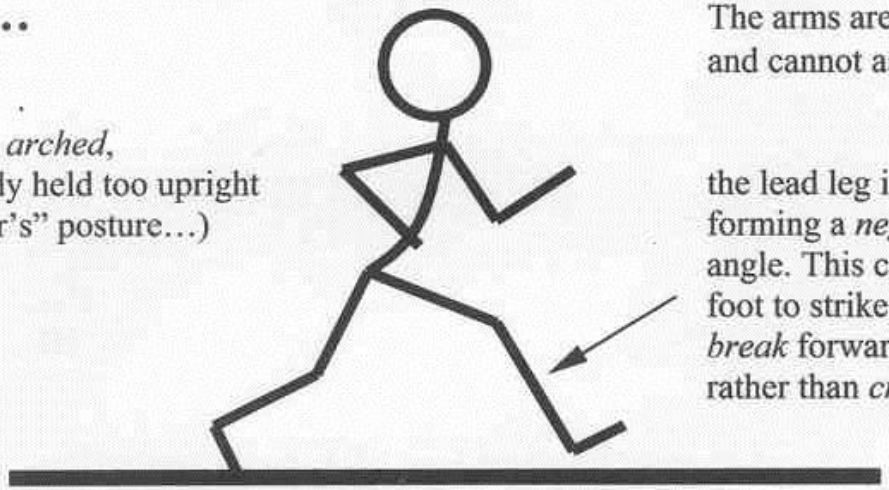


DIAGRAM #1

…not like this…

…the back is *arched*,
the upper body held too upright
("drum-major's" posture…)



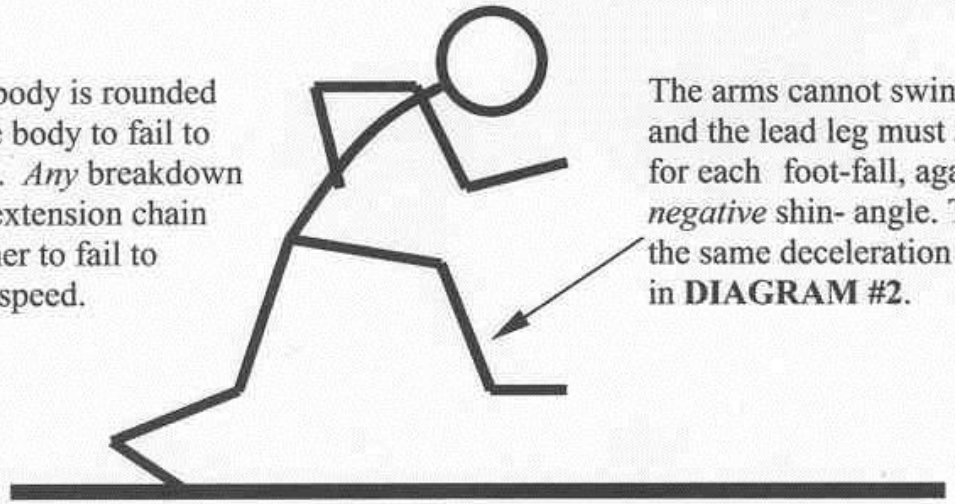
The arms are held too tightly
and cannot assist the stride…

the lead leg is *reaching*…
forming a *negative* shin-
angle. This causes the lead
foot to strike the ground and
break forward momentum,
rather than *create* it…

DIAGRAM #2

…or this…

Here, the upper body is rounded over, causing the body to fail to extend at the hip. *Any* breakdown along the triple-extension chain will cause a runner to fail to realize potential speed.

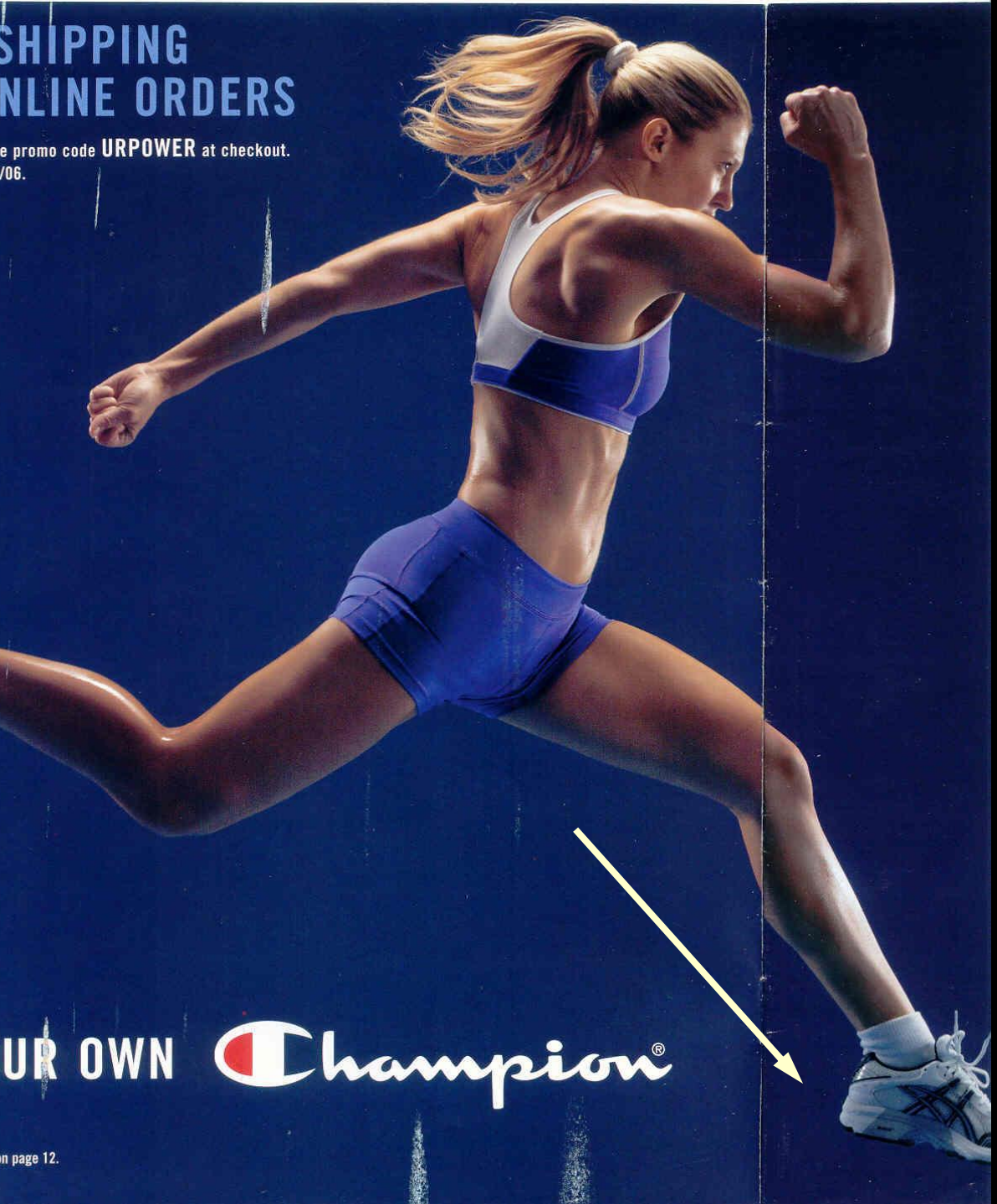


The arms cannot swing freely, and the lead leg must *reach* for each foot-fall, again, creating a *negative* shin- angle. This results in the same deceleration force as in in **DIAGRAM #2**.

DIAGRAM #3

POSITIVE SHIN-ANGLE

POSITIVE SHIN-ANGLE



NEGATIVE
SHIN-ANGLE

“A good *task* is better than a thousand good *cues*.”

Gary Gray -







MISTAKES

Quantity ≠ Quality

Maximum ≠ Optimum

Efficient ≠ Effective

Strength & Conditioning are *irrelevant* quantities . . .

. . . until and unless you *connect* them to:

- ✓ Gait mechanics
- ✓ Acceleration
- ✓ Linear speed
- ✓ Multi-directional speed
- ✓ Agility
- ✓ Balance
- ✓ Coordination
- ✓ Athletic reaction-response
- ✓ Sport-specific reaction
- ✓ Joint strength and stability
- ✓ Suppleness
- ✓ Power
- ✓ Sport-specific skills

Reductionist Thinking
(You can't just *ignore* inconvenient things)

“A rigid system that adapts in rigid ways will not survive.”

Frans Bosch -

“According to the theory of complex biological systems, an organism that is essentially controlled by the central nervous system and also works from blueprints (such as a dominant brain) is such a rigid system. Central control will not provide the necessary flexibility. Flexibility requires 'chaos caused by noise', and such noise is decentralized--it occurs throughout the system. This means that processes in the organism are not directed from a dominant command centre, but are shaped everywhere at once. Decentralized processes are like a flock of starlings in the autumn; the birds seem to fly in organized patterns, but--despite appearances--these are not centrally controlled. Each starling responds to a number of signals around it, and because each starling receives slightly different signals (noise), we see spectacular changes in the shape of the whole flock. So the physiological response to training does not arise because a single centrally controlled stimulus for adaptation is transmitted, but because more or less independent influences that shape the eventual adaptations occur throughout the organism. This means that noise cannot simply be omitted in research, and hence adaptation processes are non-linear."

Do you know what you need to know . . .

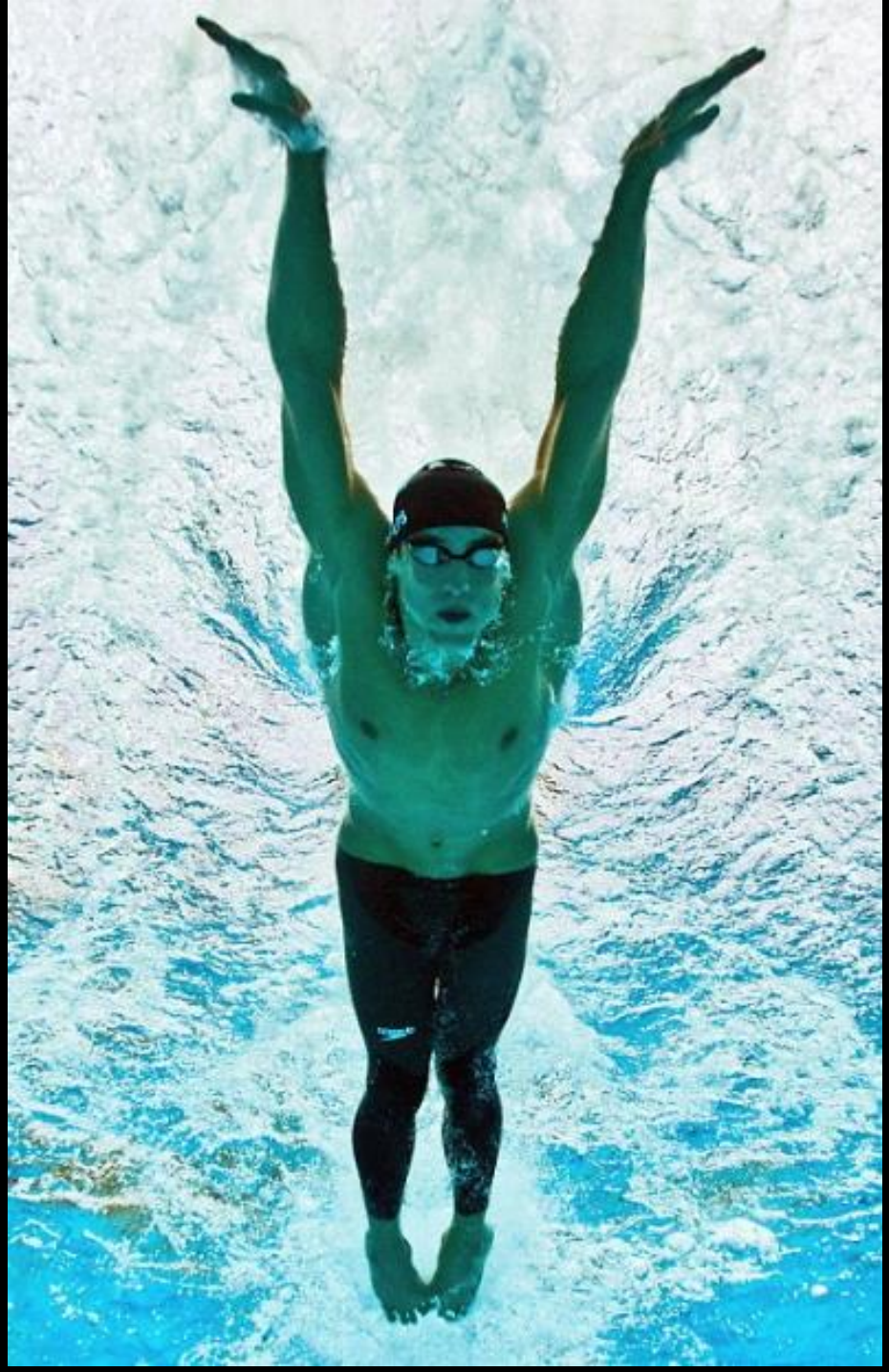
. . . to train your athletes well . . . and safely?

Coach Steve Myrland
University of Wisconsin Athletics

September, 1988


Movement
isn’t a solo
. . .

. . . it’s a *symphony*

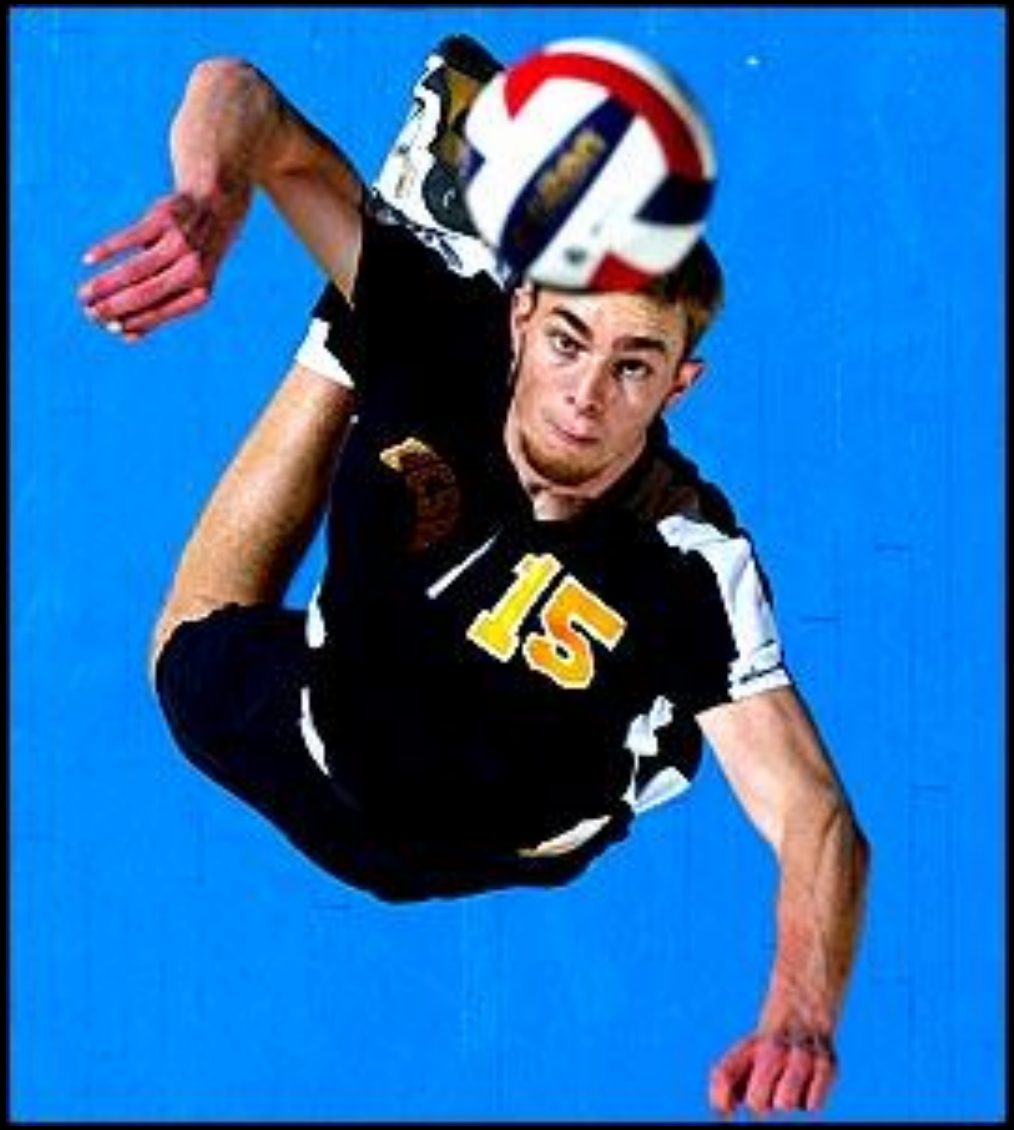



BENNETT


AVAI
AVAI
USA


Carol Platner


ZAFIRA


15

. . . and *keep* them *all* spinning . . . *beautifully.*

The magic of improving human performance is in learning how to spin not *one* plate, but *many* plates . . .

- Thank you -