

# Planning & Periodization Workshop

Vern Gambetta & Martin Bingisser / Zürich 2022



# Agenda

## Morning

- Myth busting
- Understanding adaptation
- Principles of planning
- Factors to consider in planning

## Afternoon

- Testing and Data
- Examples
- Small and large group discussions





# Myth Busting

## Part 1

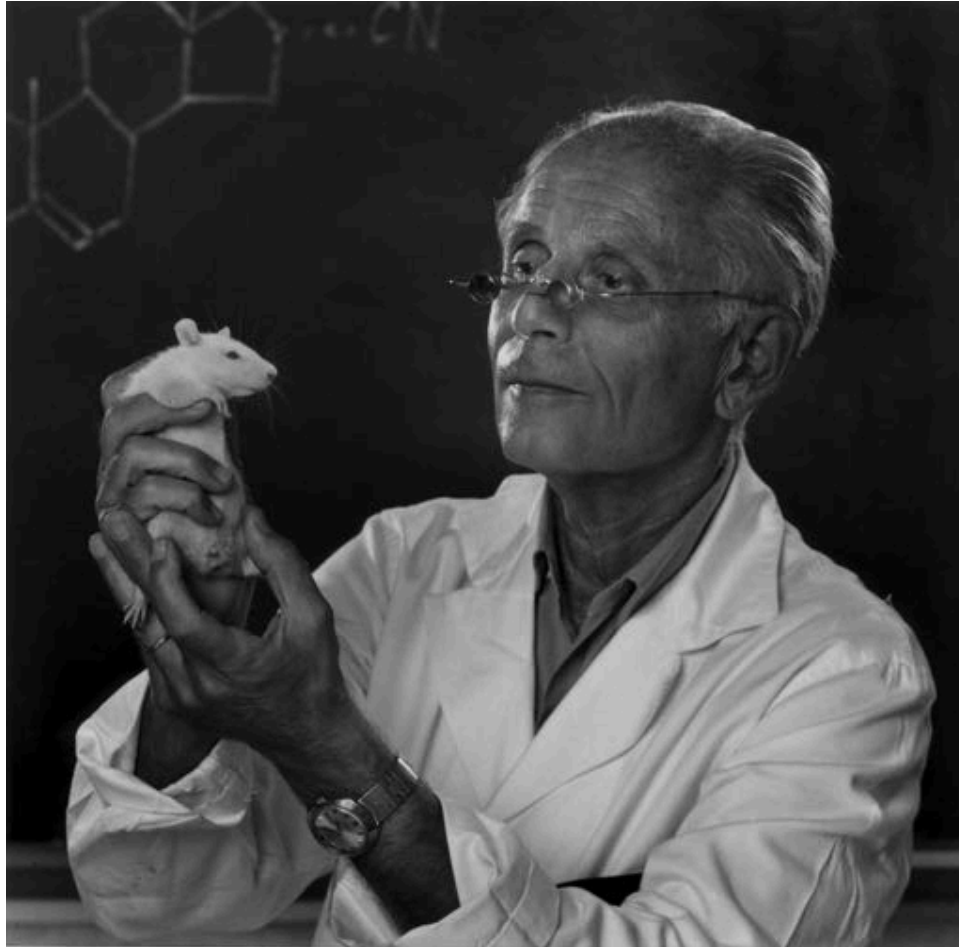
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# Prediction Addiction



# Hans Selye - GAS



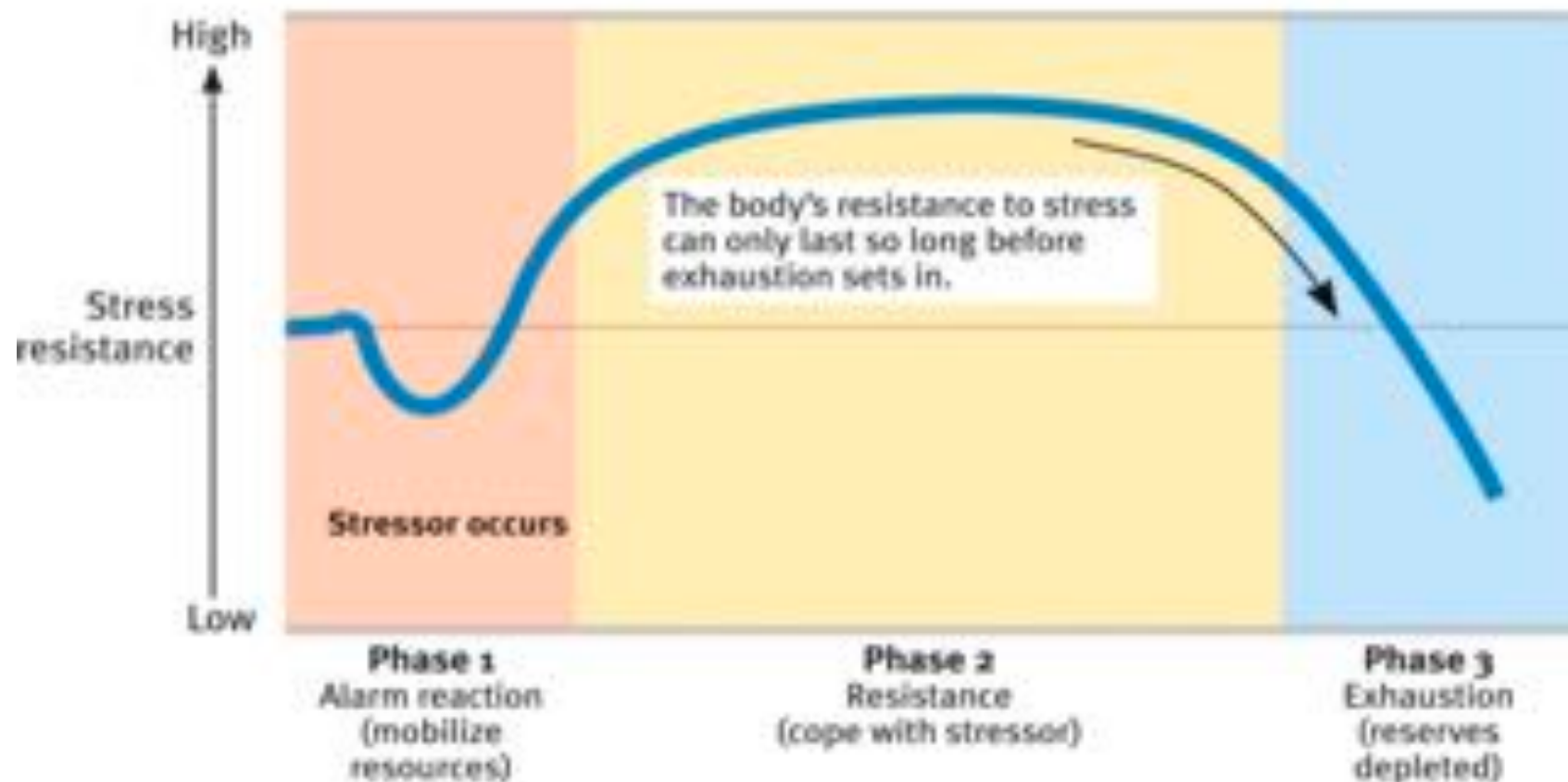
Assumes a general physiological systemic reaction to stress.

It also depicts a predictable trajectory

# General Adaptation Syndrome [GAS]

(Identified by Hans Selye):

Our stress response system defends, then fatigues.



# Training Effect

Time →

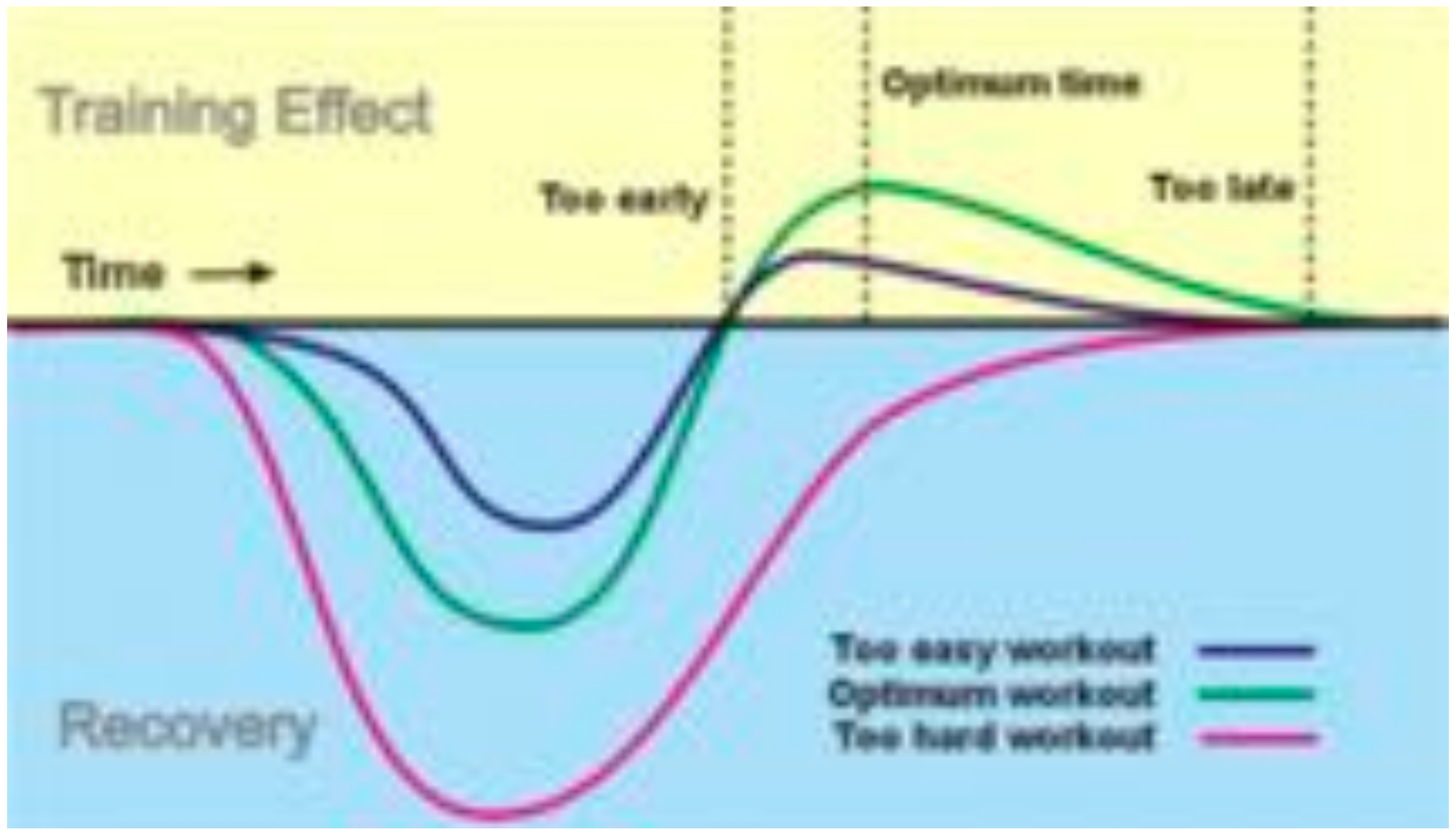
Too early

Optimum time

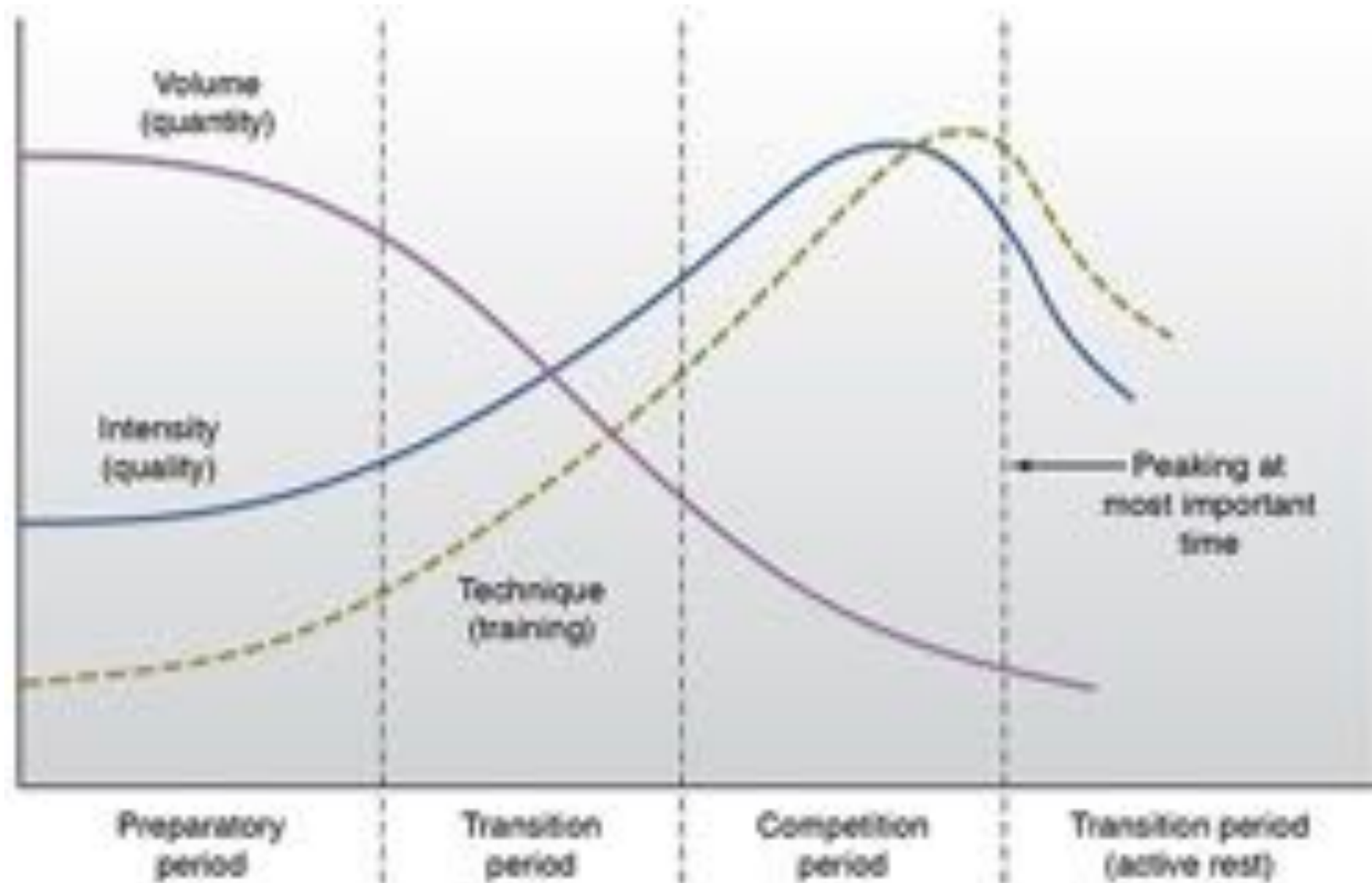
Too late

Recovery

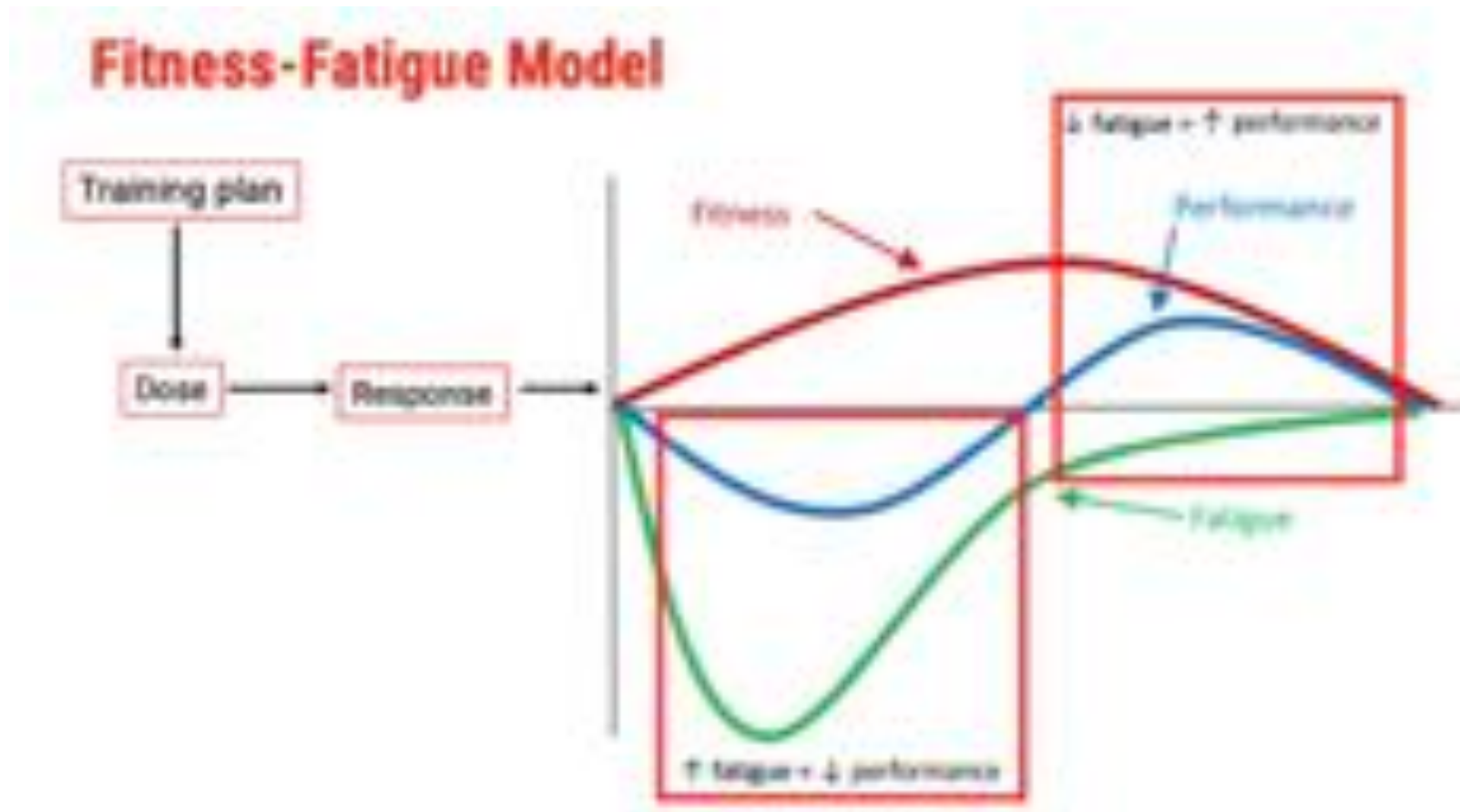
- Too easy workout ———
- Optimum workout ———
- Too hard workout ———







# Two Factor Model



# Periodization - Fundamental Assumption

Assumes the athlete is a physiological, mechanical beast that can perform on command, essentially a programmable robot



Ready on the day!

# Periodization - Ritual or Science?

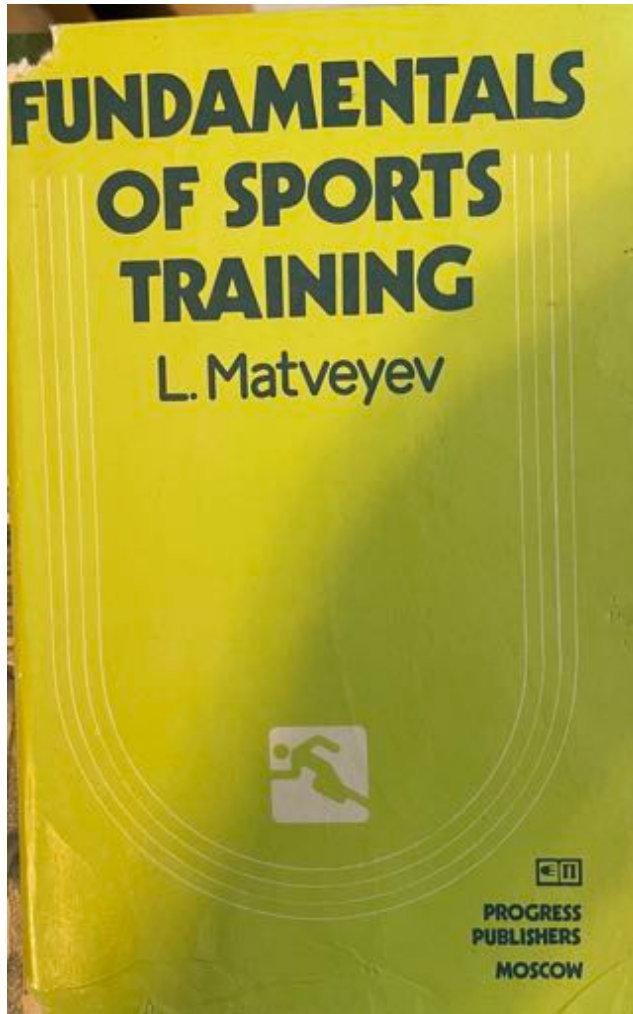


# Matveyev Model

Soviet Five Year Plans - Central Planning



# Matveyev Model - AKA Gospel



Based on selected sports

Strict control of of all variables

Strict control of Competition schedule

Systematic doping

The Wall Came Down - The World Changed!



# Globalization of Sport



## 1983 World Championships

- 151 nations participating
- 21 nations with medals



## 2011 World Championships

- 204 nations participating
- 33 nations with medals



Technology



# Current Reality

Extended Competition Calendar

No Off Season

Fixture Congestion

\$\$\$\$\$ - Professionalization

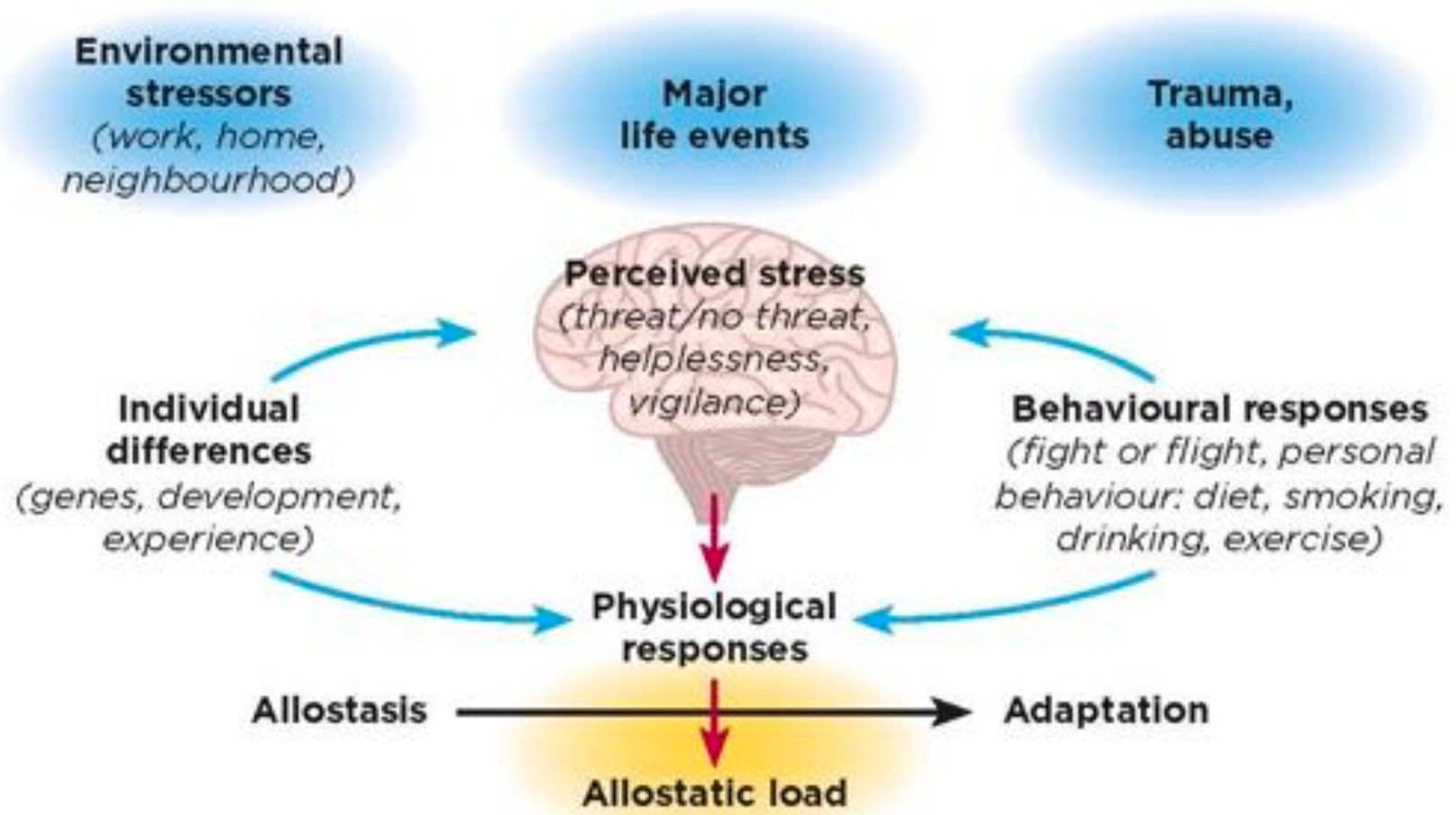
# Understanding Adaptation

## Part 2

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# Moving Beyond GAS



# Adaptive Response



Highly Individual & Situation Specific

Every body is different - Know & respect  
the difference!



It Depends

# 6 Filters of Adaptation

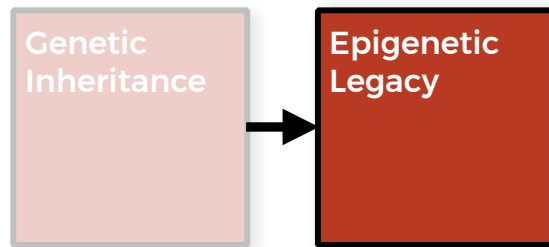


Genetic  
Inheritance

- Nature vs. nurture
- Genetics influence performance.
- You cannot change genetics, but understanding it may help programming.

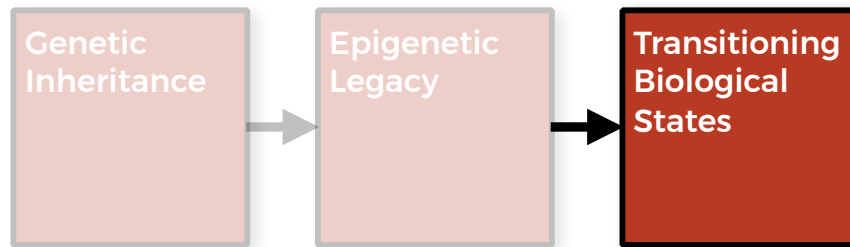


# 6 Filters of Adaptation



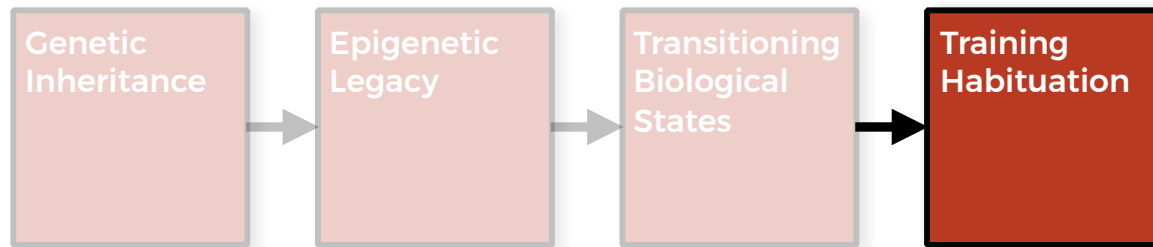
- Epigenetics: changes that affect gene expression.
- Your genotype is your toolbox. Epigenetics is about which tools you use.
- We all carry the legacy of our early life with us.

# 6 Filters of Adaptation



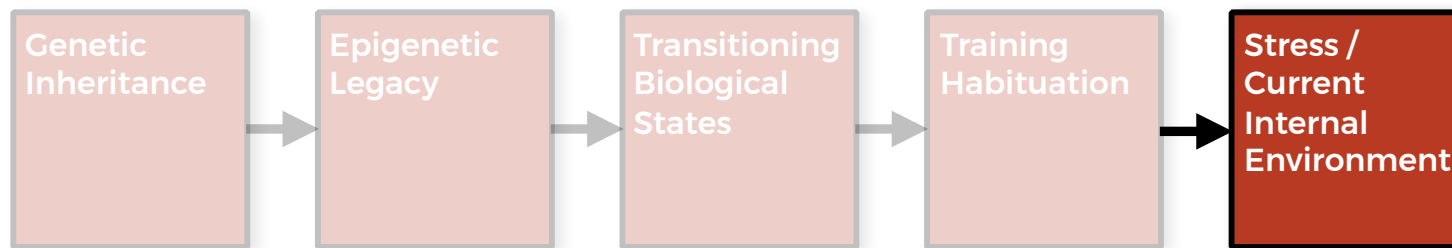
- Rhythmic biological changes affect the body (e.g. circadian rhythms, menstrual cycle, etc.)
- We do not have direct control, but we can regulate them through lifestyle and habits.

# 6 Filters of Adaptation



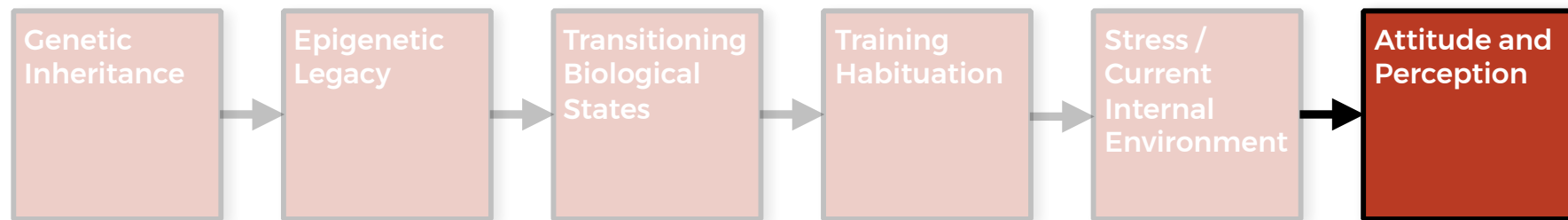
- Athletes change daily; the same input yields different results over time.
- Training is about finding the balance between consistency and new stimulus.

# 6 Filters of Adaptation



- Emotions chemically prepare you for what you think will be the upcoming challenge.
- Calibrate the chemistry to the challenge you are facing.

# 6 Filters of Adaptation



- Stress is about the perception as much as the stimulus.
- The body adjusts itself to what it expects.
- Nothing comes from comfort; growth occurs through challenge.

# 6 Filters of Adaptation

How we can **rethink adaptation**:

- It's a **emotional game**: factors like ownership, belief, autonomy, mental reset, engagement, etc. can all be trained.
- **It's about the process, not the plan**: gather information to make better decisions.
- **Respect the person**: the filters are as important as the stimulus. Understand the athlete and be prepared to change course.

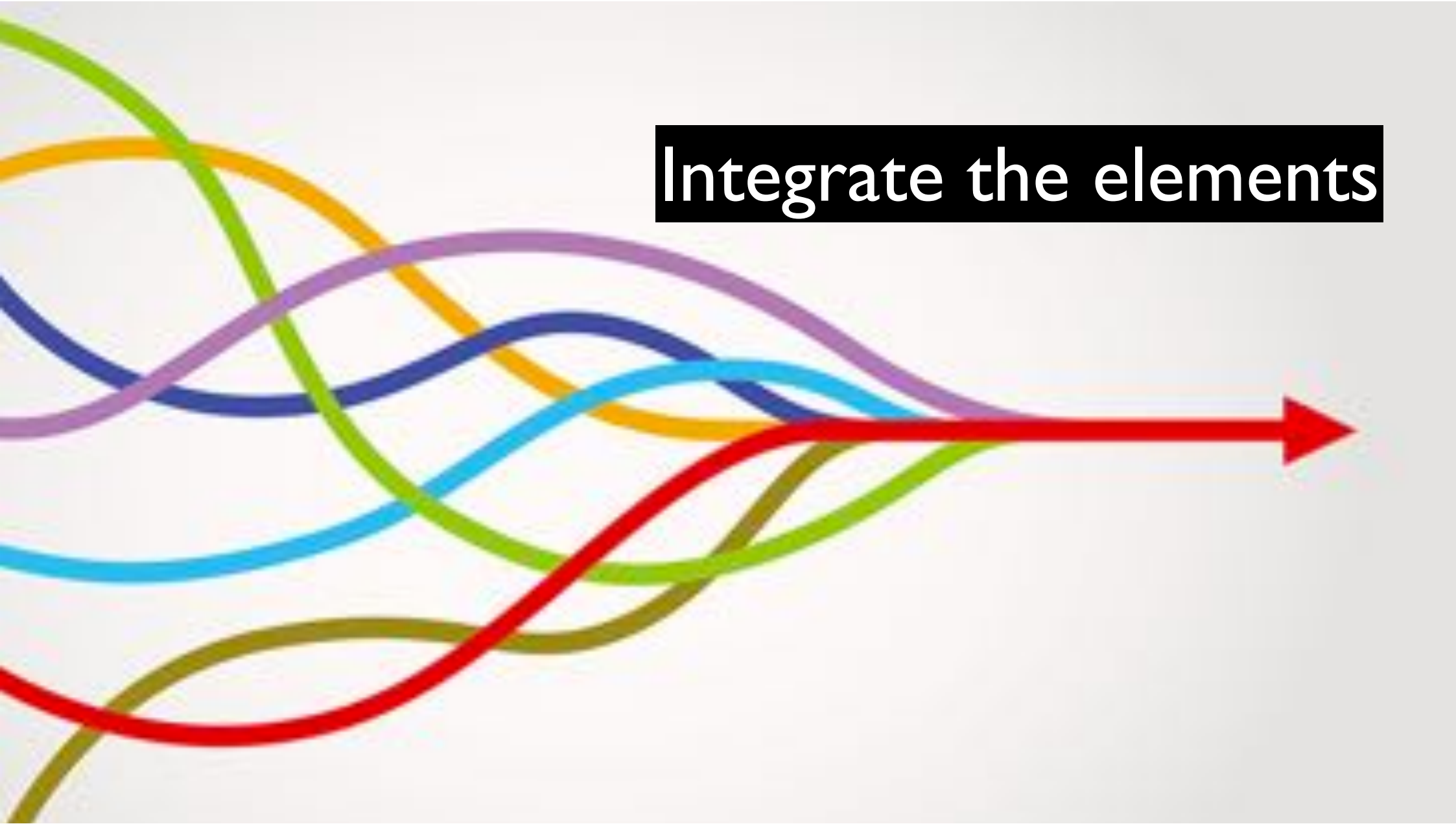
# Principles of Planning

## Part 3

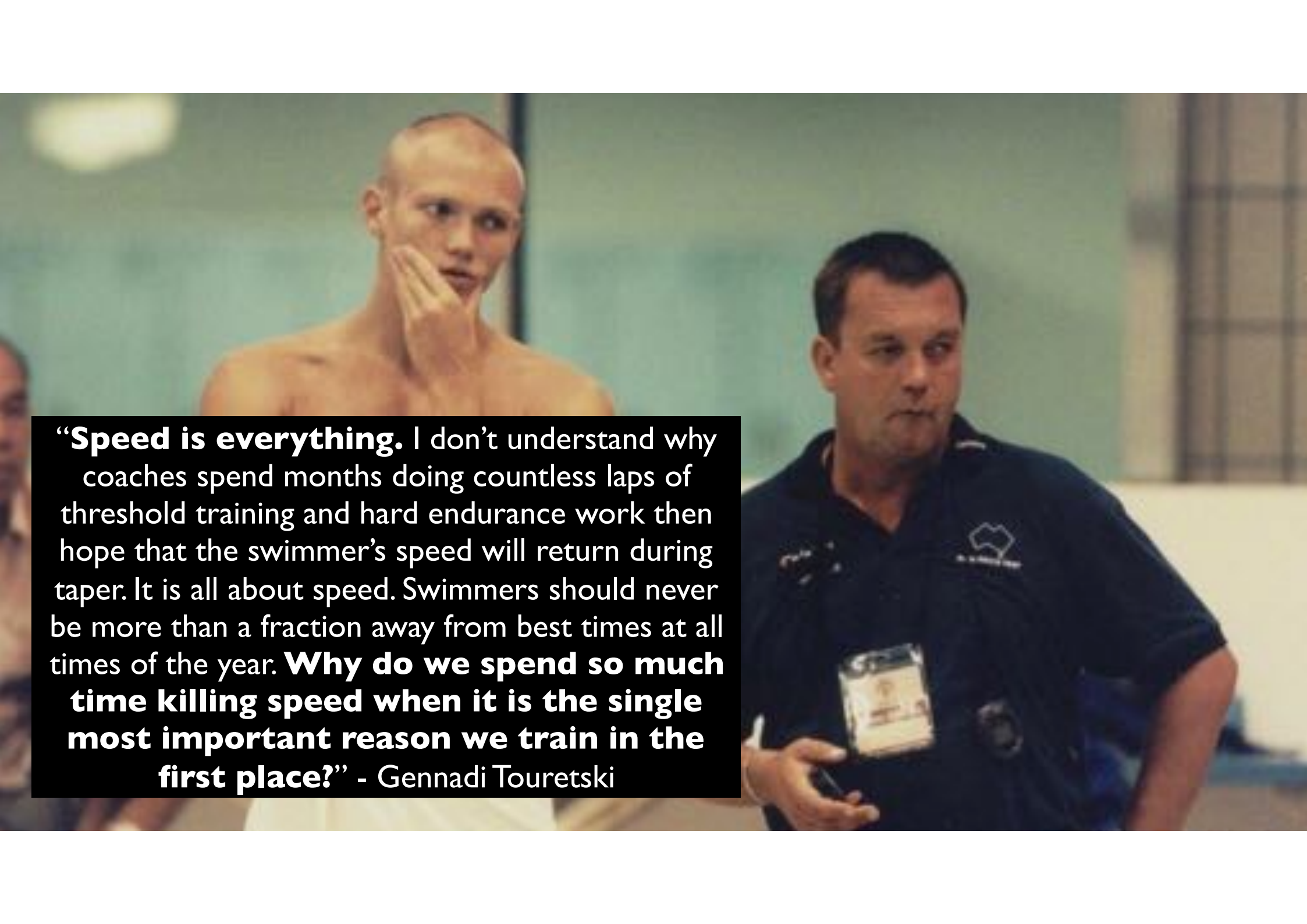
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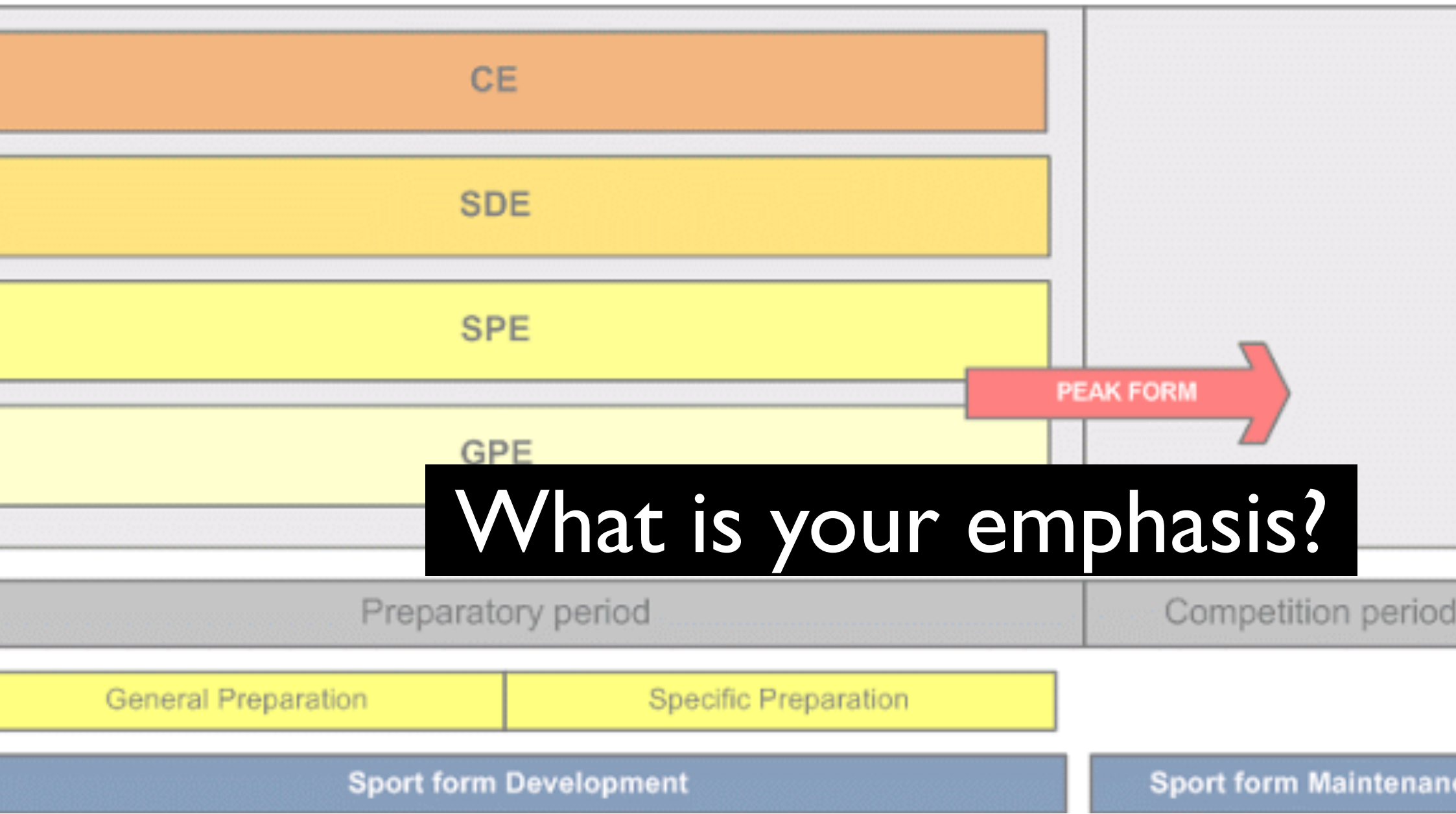
**Integrate the elements**








**“Speed is everything.** I don’t understand why coaches spend months doing countless laps of threshold training and hard endurance work then hope that the swimmer’s speed will return during taper. It is all about speed. Swimmers should never be more than a fraction away from best times at all times of the year. **Why do we spend so much time killing speed when it is the single most important reason we train in the first place?”** - Gennadi Touretski



**What is your emphasis?**



Rethink the offseason: what type of “foundation” are you trying to build?



Injury prevention and remedial work should be transparent



Fit the program to the athlete



# Connect Workouts

No workout can stand alone - WOD

Always leave training with something left in the tank



Hard should be hard and easy should be easy



Don't get stuck in between



These top performers rarely trained at marathon racing speed!



# What is balance?

*Bowerman Hard-Easy Model:*

Mo	Tu	We	Th	Fr	Sa	Su
20 miles	6 miles	6 miles	12 miles	6 miles	12 miles	6 miles

**Microdosing: Small Sessions Accumulate!**





Don't get lost inn the weeds & minutia

Need to do

Nice to do

**Compatible**

**vs.**

**Complementary**

# Factors to Consider in Planning

## Part 4

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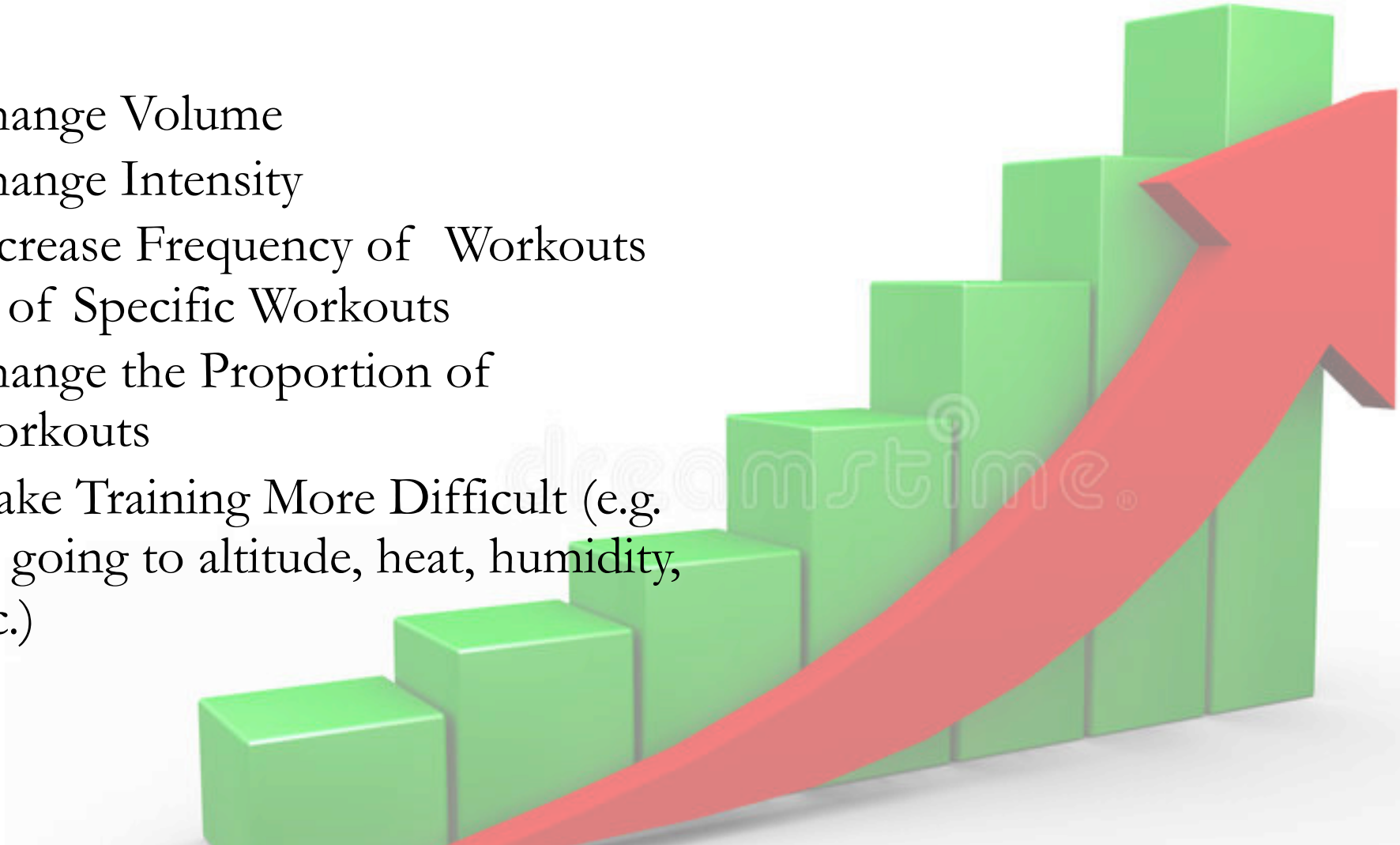


# Progression

Fitting the pieces together

# Progression Variables:

- Change Volume
- Change Intensity
- Increase Frequency of Workouts or of Specific Workouts
- Change the Proportion of Workouts
- Make Training More Difficult (e.g. by going to altitude, heat, humidity, etc.)



## Accumulation:

- Day to Day
- Week to Week
- Month to Month
- Year to Year



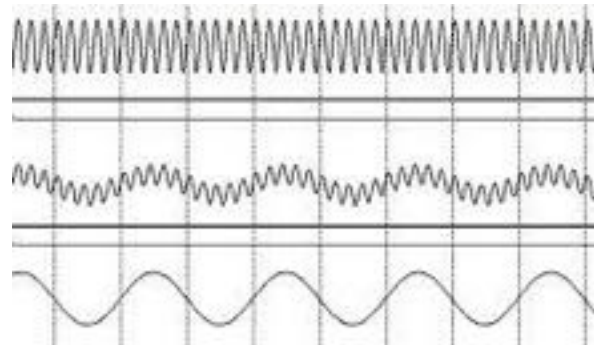


# Variation

Hard/Easy

Fast/Slow

Simple/Complex



Heavy/Light

Work/Rest

**All with a purpose!**

# Individualization



vs.





Individual Response:

Fast & Slow Adapters

Responders & Non-Responders



## Adaptation Time

Flexibility - Day to Day

Strength - Week to Week

Speed - Month to Month

Work Capacity - Year to Year

# Training Effects

Acute - Those that occur during the exercise

Immediate - Changes from a single workout

Cumulative - Changes from a series of workouts

Delayed - Changes over time

Residual - Retention of changes after cessation of training

# Window of Adaptation

Developing Athlete

vs.

Elite Athlete



# Stimulus Threshold

Think & look for optimum, not maximum

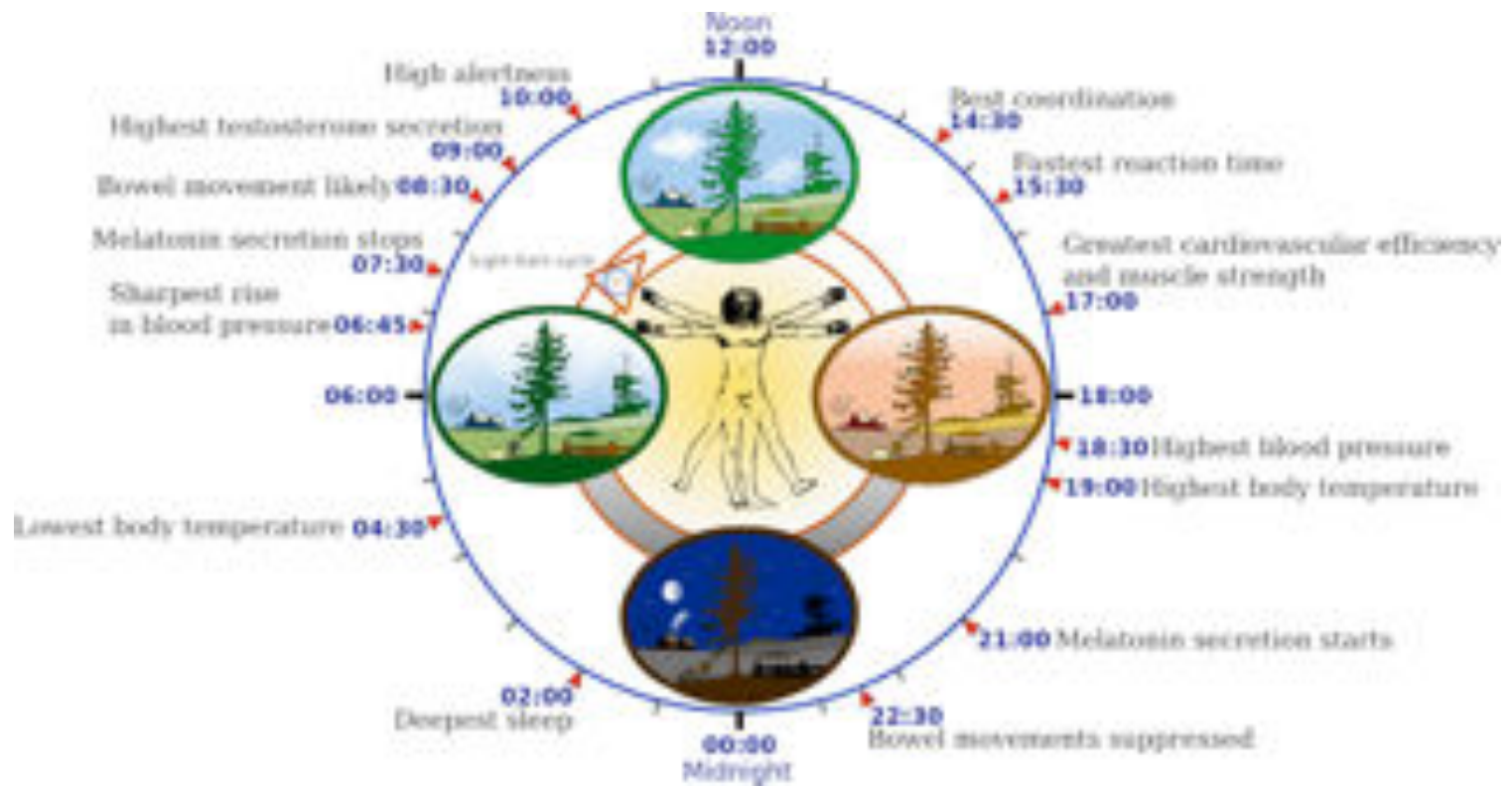
Less is often more

# Gender





# Chronobiology



# Time Frame



# Training Session Unity/Synergy

$A \rightarrow B \rightarrow C = \text{One Workout}$

No workout/session stands alone, everything is connected

Each workout is superimposed on effects of previous workload

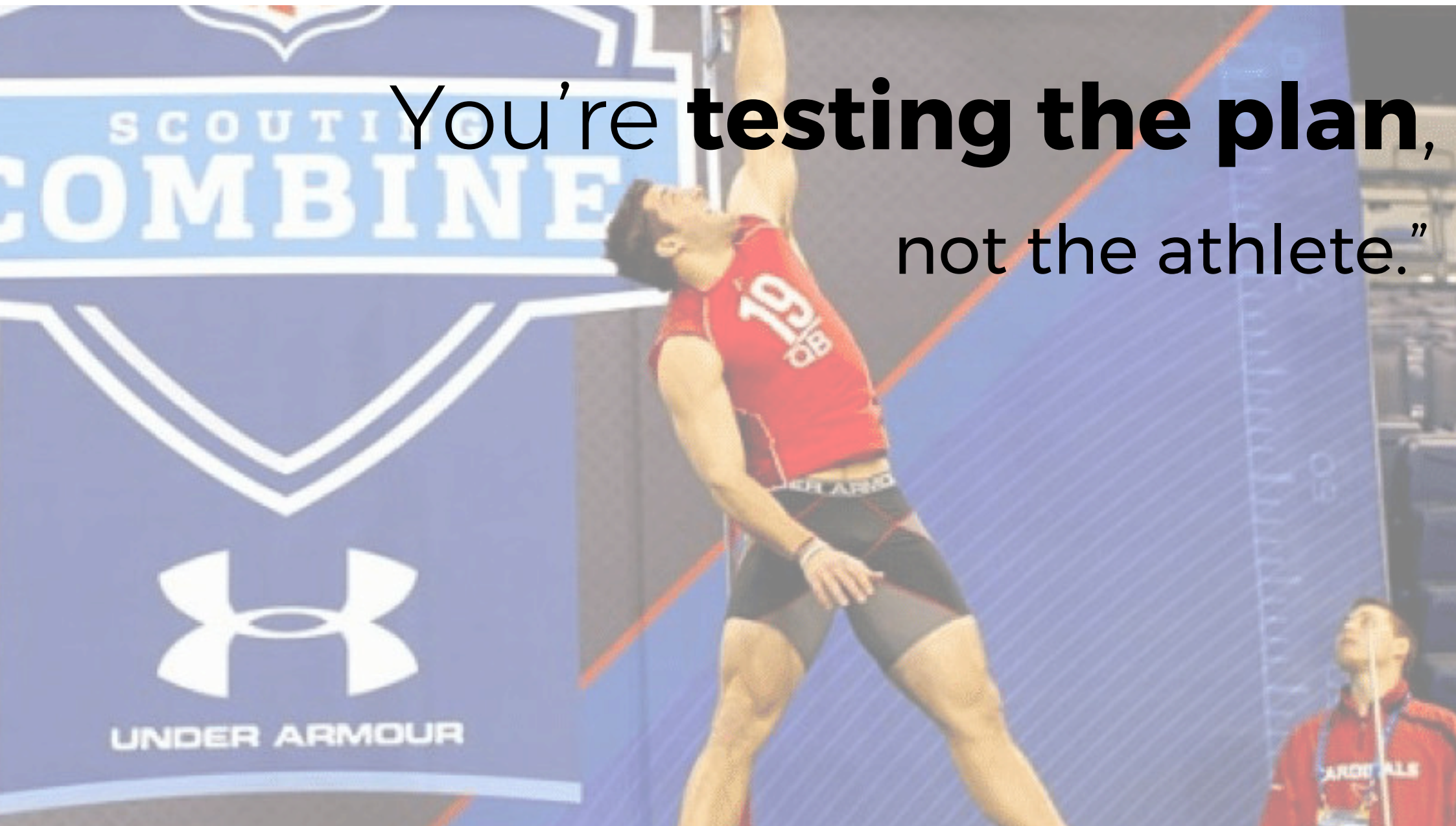
Training sessions must mesh, not clash

# Testing and Data

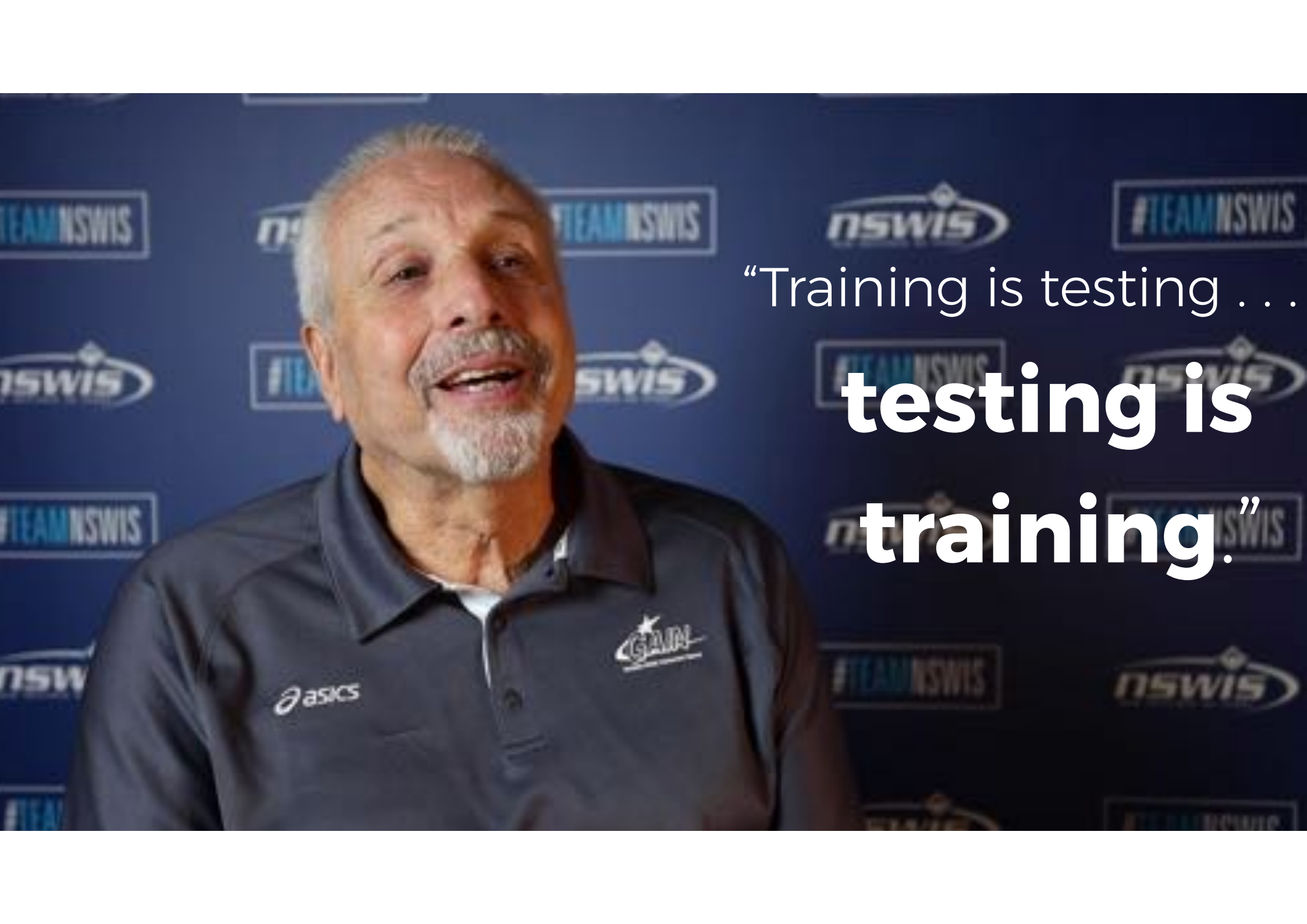
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You're **testing the plan,**  
not the athlete."



“Training is testing . . .

**testing is**

**training.”**



**of testing**



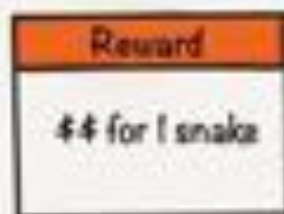
Case Study

## **Anatoliy Bondarchuk**

1. Measure What Matters
2. Measure What You Can Capture
3. Measure What You Will Use
4. Minimize The Variables
5. Don't Overreact



## Goodhart's Law



When a measure becomes a target, it ceases to be a good measure.

# Is it relevant?

TRAIT	MEAN VELOCITY
Absolute Strength	< .5m/s
Accelerative Strength	.5 - .75m/s
Strength-Speed	.75 - 1.0m/s
Speed-Strength	1.0 - 1.3m/s
Starting Strength	1.3m/s

# Reflection

- What information am I getting?
- What am I learning?
- Is it actionable?
- Does the athlete relate to it?

# Examples

## Part 6

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# Seven-Day Microcycle Plan

Front Loaded (Multiple Session)

Goals:			
Emphasis	Day	Session	Session
Preparation 50%	One		
	Two		
Adaptation 35%	Three		
	Four		
	Five		
Application 15%	Six		
	Seven		
Notes:			

## Fourteen-Day Microcycle Plan

Block:		Microcycle:	
Goals:			
Emphasis	Day	Session	Session
Preparation	One		
	Two		
	Three		
	Four		
	Five		
Adaptation	Six	REST	
	Seven		
	Eight		
	Nine		
	Ten	REST	
Application	Eleven	Active Rest	
	Twelve		
	Thirteen		
	Fourteen	Active Rest	
Notes:			

## Example from American football

Goals: 1) Routine 2) Raise Intensity & Volume			
Emphasis	Day	Session	Session
Preparation	5/2	Stair Runs 10 x 10 sec Seat Roll & Up Crawl & Up Hurdle Unders	Str Trn DBC 1* & Cometti 1 (Add weight on squat)
	5/3	Agility - C of D Dot Drill Str Trn - UB Crawling Core	POOL
	5/4	Sp/Ac Variable* or repeat Monday	Str Trn DBC 2* & Cometti 2 (Add weight on squat)
	5/5	Agility - Footwork Ladder	Str Trn - UB Med Ball Wall Series
	5/6	Speed Endurance #1 Five Sets - 2 to 3 min recovery	Pool
Adaptation	5/7	REST	
	5/8	Sp/Ac Variable*	Str Trn - DBC 1* & Mini Leg Circuit 1x5 (Add Bar)
	5/9	Agility - Footwork Ladder Crawling Core	Str Trn - UB Med Ball Wall Series
	5/10	Speed Endurance #1 5 x Mini Leg Circuit 1 (No rest between circuits)	
	5/11	REST	
Application	5/12	ACTIVE REST (POOL & STRETCH)	
	5/13	Sp/Ac - Driving Str Trn Db Snatch 6 x 2, Db Split Jerk 6 x 2 & Cometti 3 x 3	
	5/14	Agility - Footwork & C of D Str Trn - UB Med Ball Wall Series	
	5/15	ACTIVE REST (POOL & STRETCH)	
Notes: * Sp/Ac Variable - 3 reps Exergenie/ 1 Tow/ 1 Normal On DBC go back to 6 reps increase weight			