Tapering for individual sports: single-double-multiple peaks

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- Previous training
- Innovative tapering strategies
- Individual adaptation profiles
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  - Integrated macrocycles (accentuated loads)
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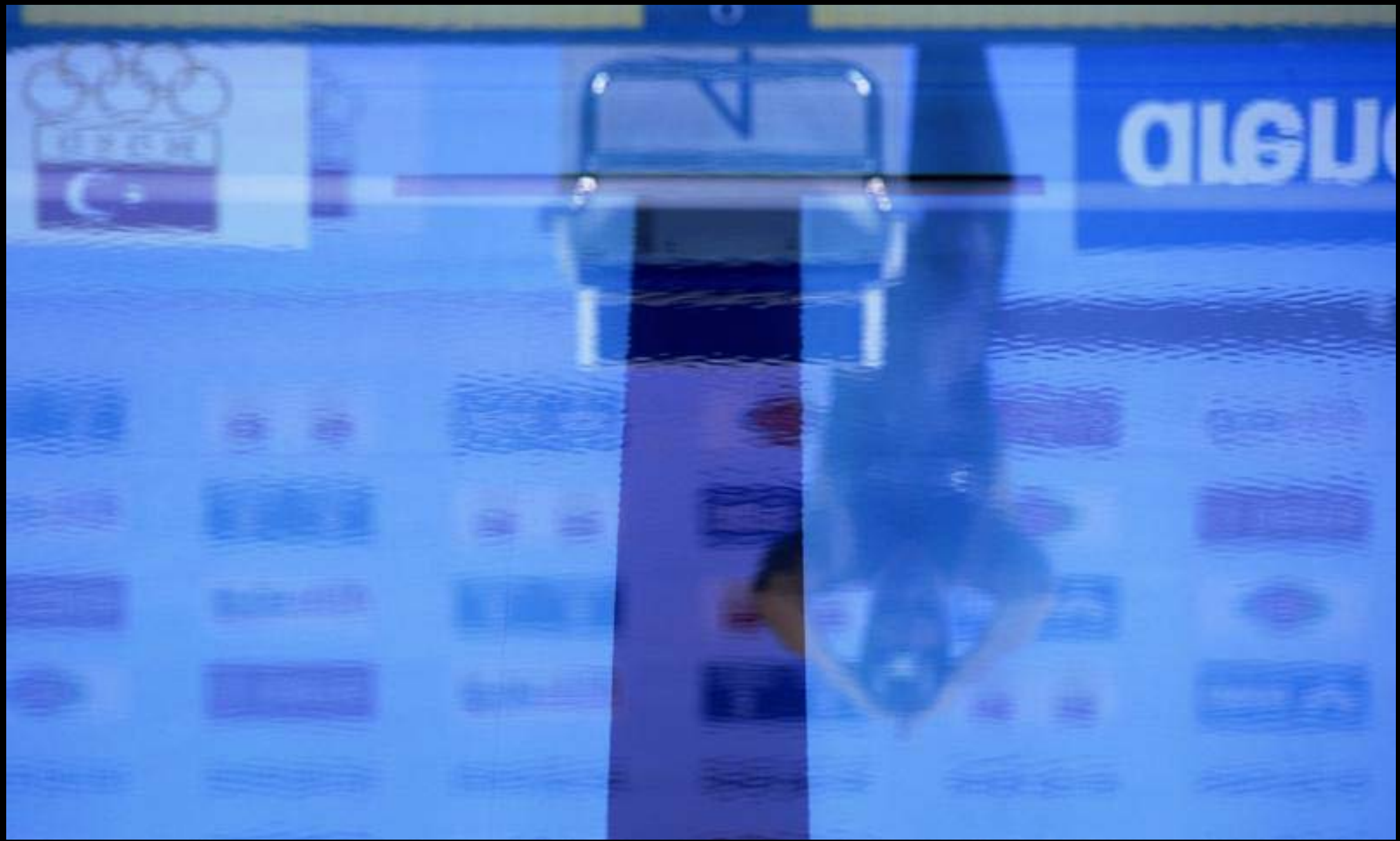
  - Periodization for sports with a long competitive period

Traditional periodization



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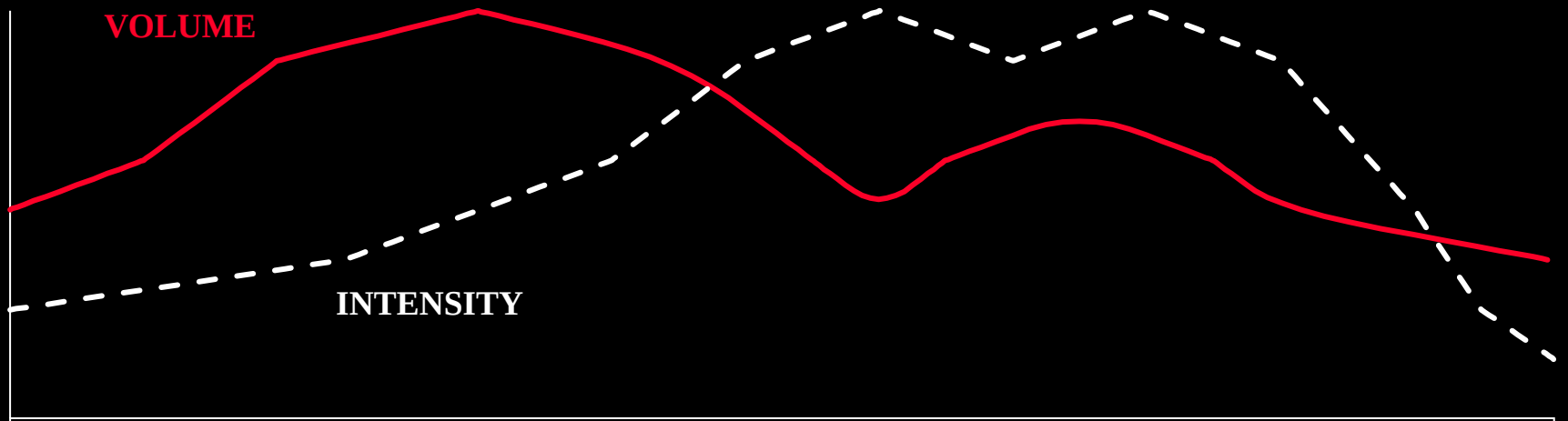
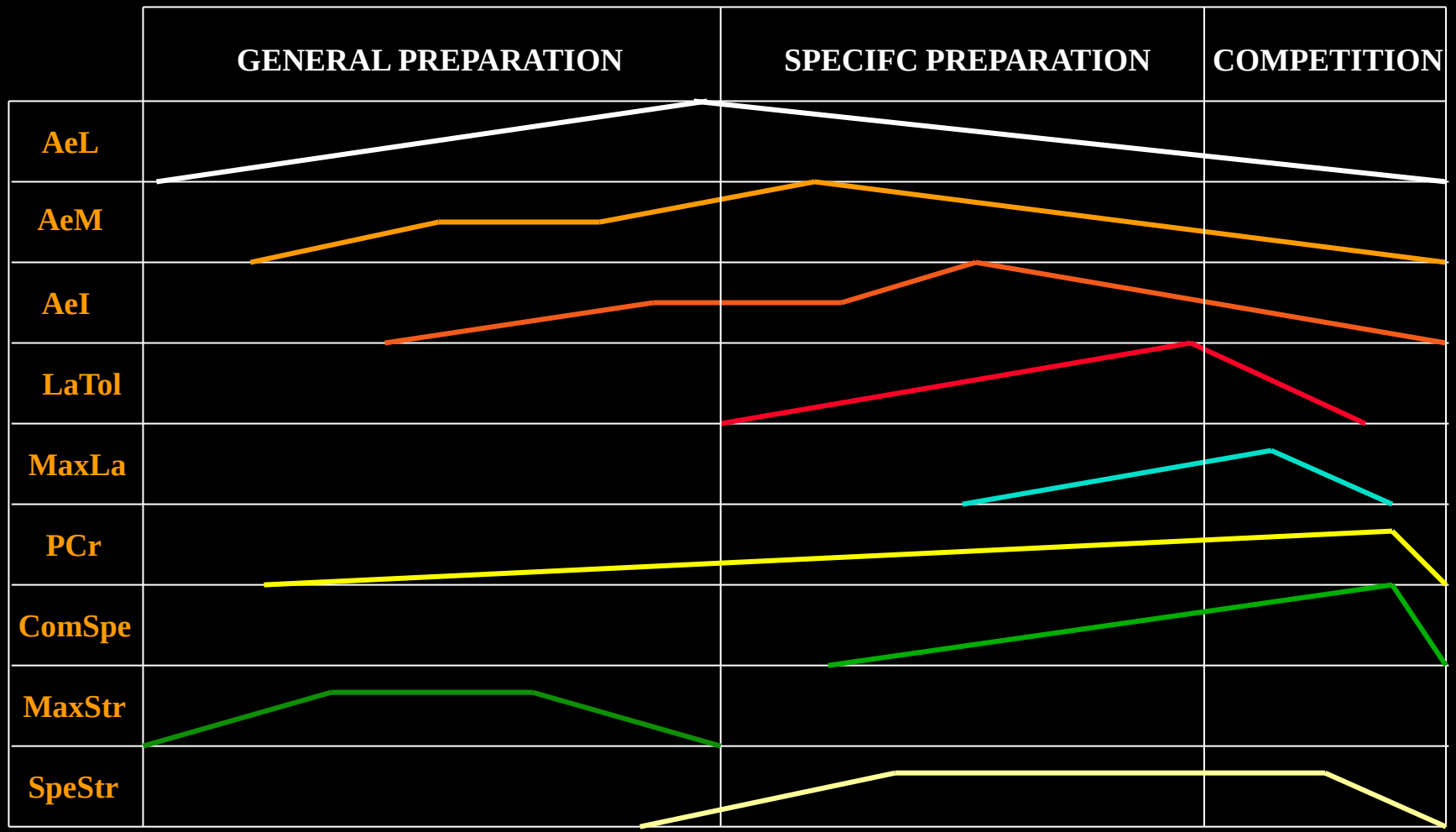


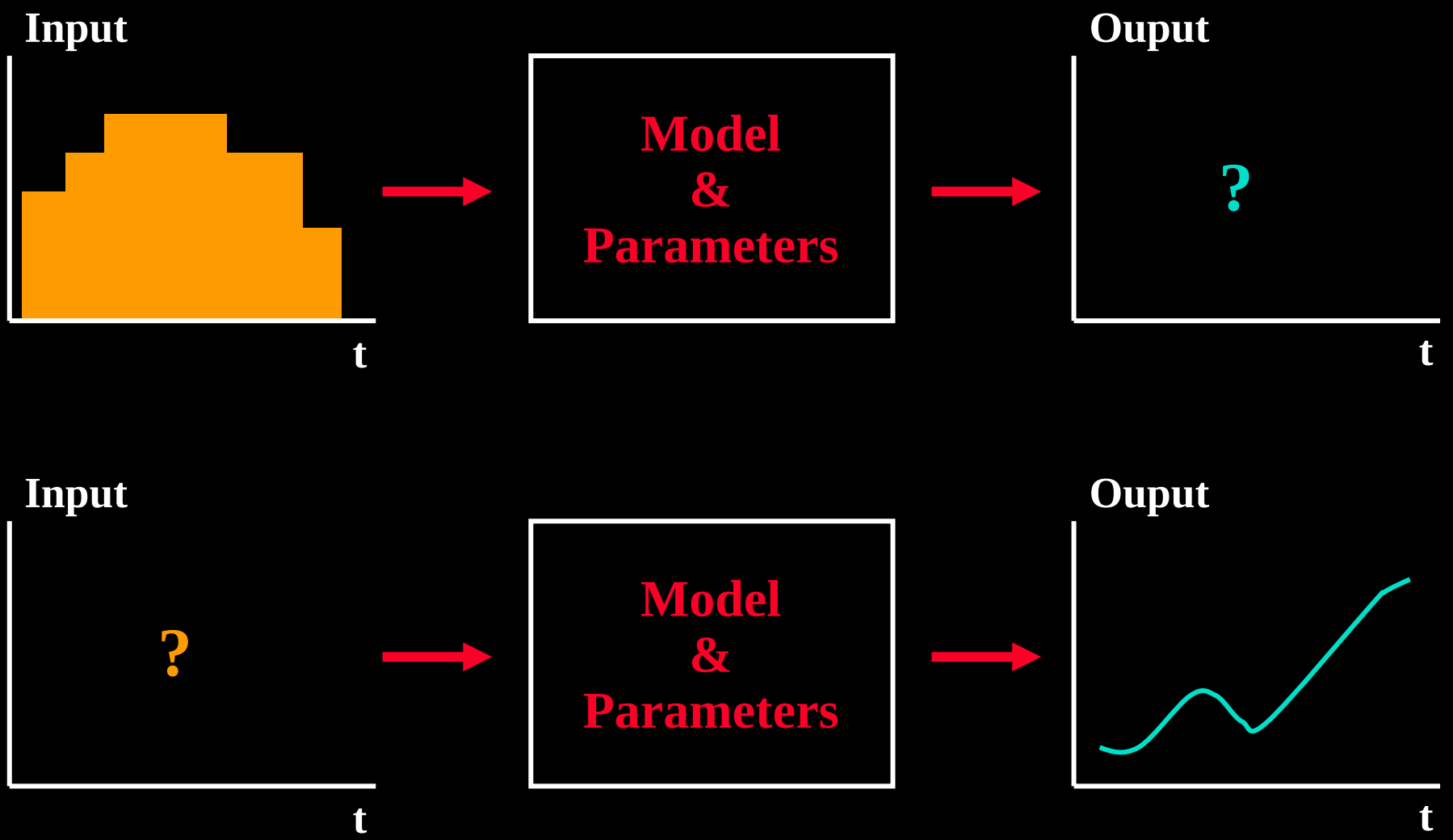
I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
GENERAL PREP.			SPECIFIC PREP.			PRE-COMP.		COMPETITIVE			TRANSITION
PREPARATORY PERIOD						COMPETITIVE PERIOD					TRANSITION

Traditional periodization



Previous training

Prediction of system's behaviour from previous observation



Busso & Thomas. *Int. J. Sports Physiol. Perf.* 1: 400-405, 2006

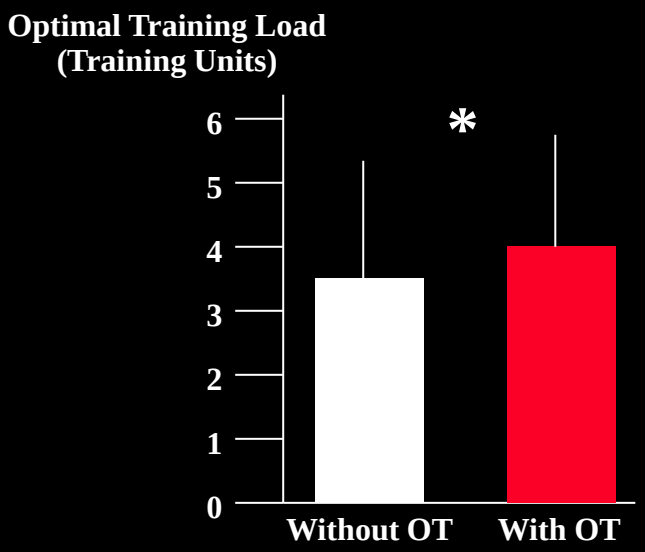
Characteristics of the optimal simulated taper

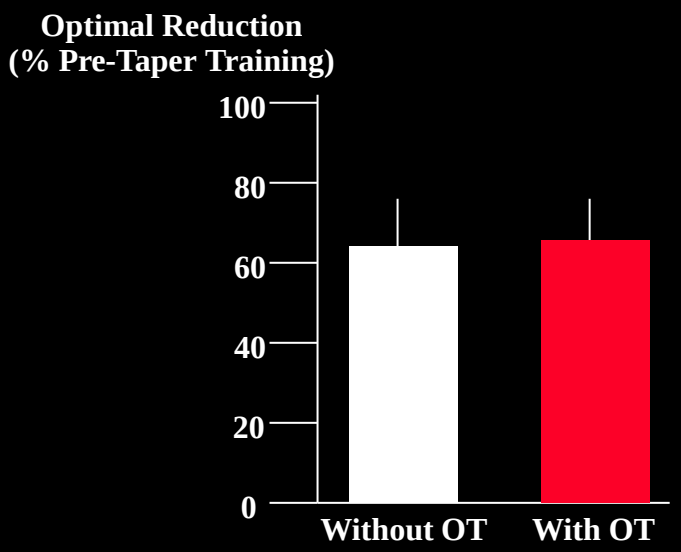
		Form of training reduction		
		Step	Linear	Exponential
% Reduction	Without OT	65.3	46.3*	54.7*$
	With OT	67.4	43.1*	51.6*$
Duration (days)	Without OT	16.4	25.4*	22.3*
	With OT	22.4	42.5*	39.1*
Performance (% Personal record)	Without OT	101.1	101.1	101.1
	With OT	101.4	101.5*	101.5*

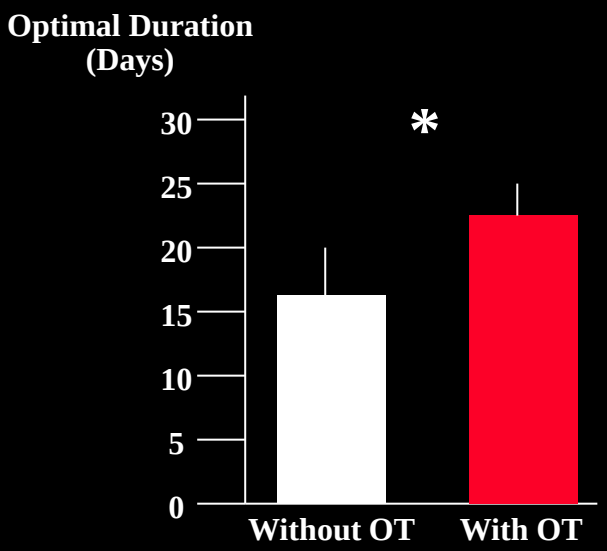
*: different from Step; $: different from Linear

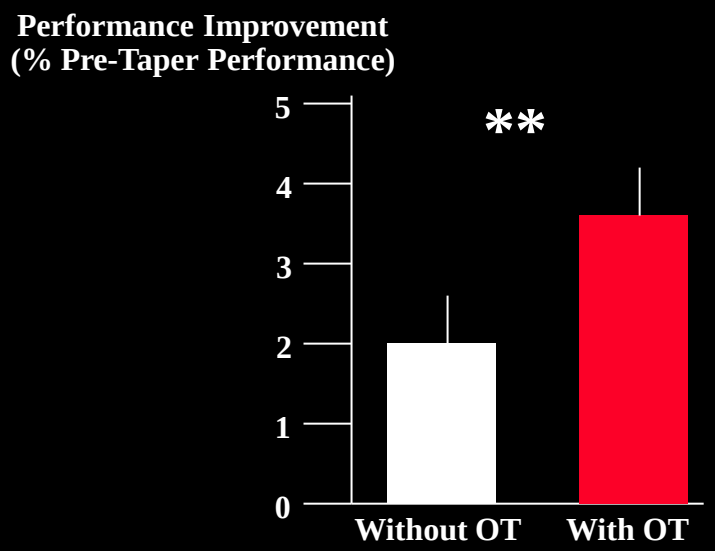
Thomas et al. *J. Sports Sci.* 26: 643-652, 2008

Effects of previous training on optimal taper characteristics



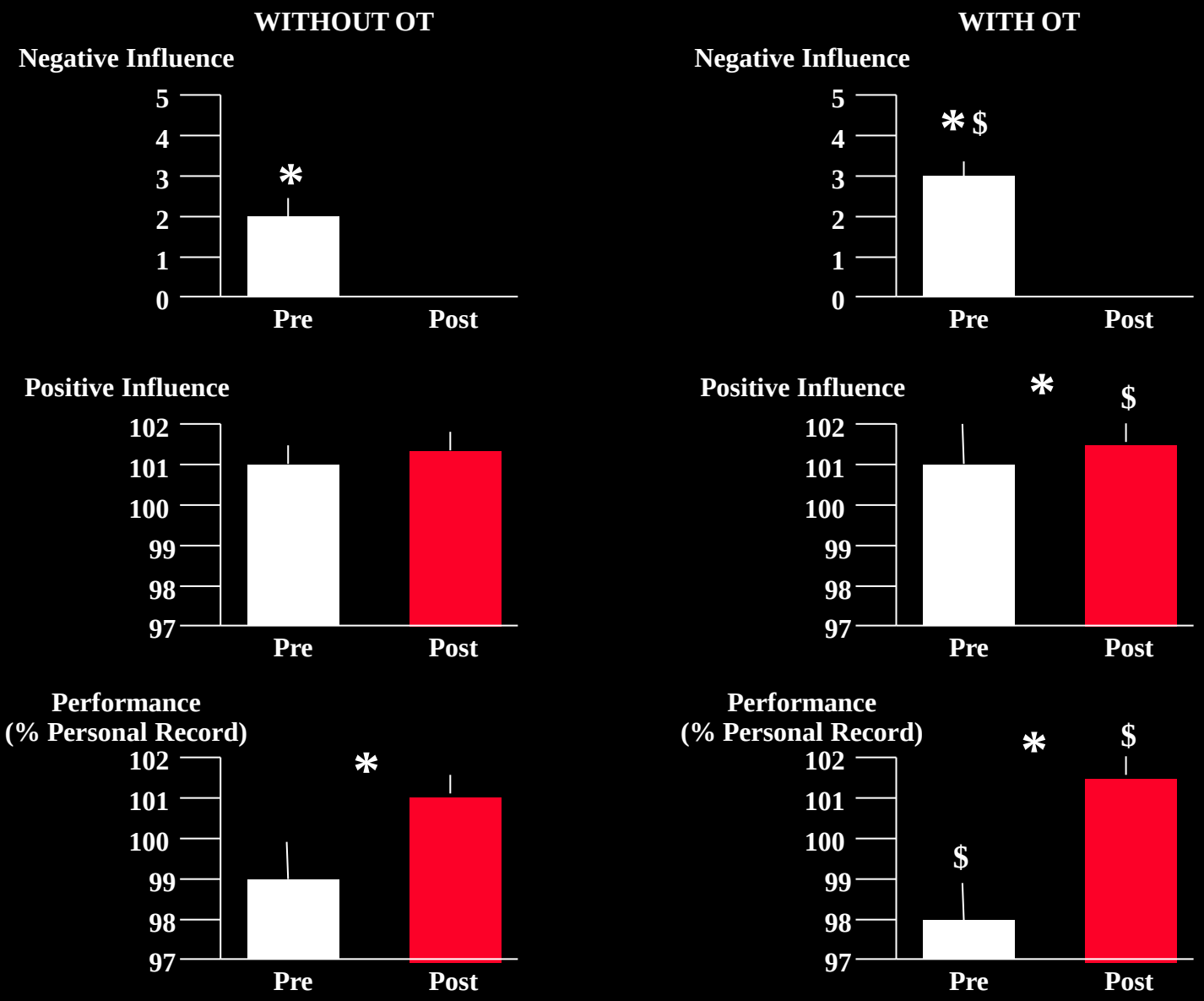






Thomas et al. *J. Sports Sci.* 26: 643-652, 2008

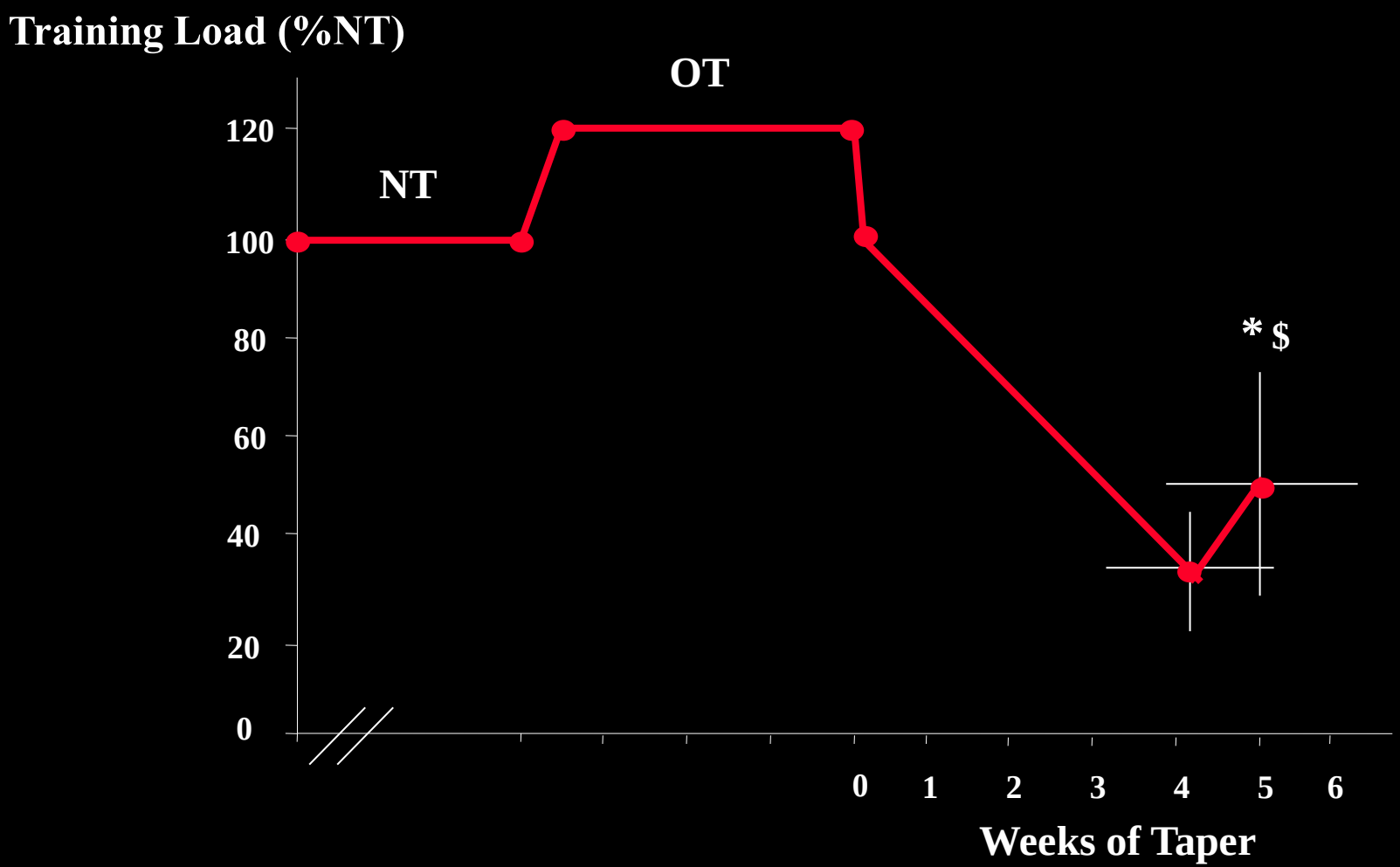
Effects of optimal taper on NI, PI and performance



Thomas et al. *J. Sports Sci.* 26: 643-652, 2008

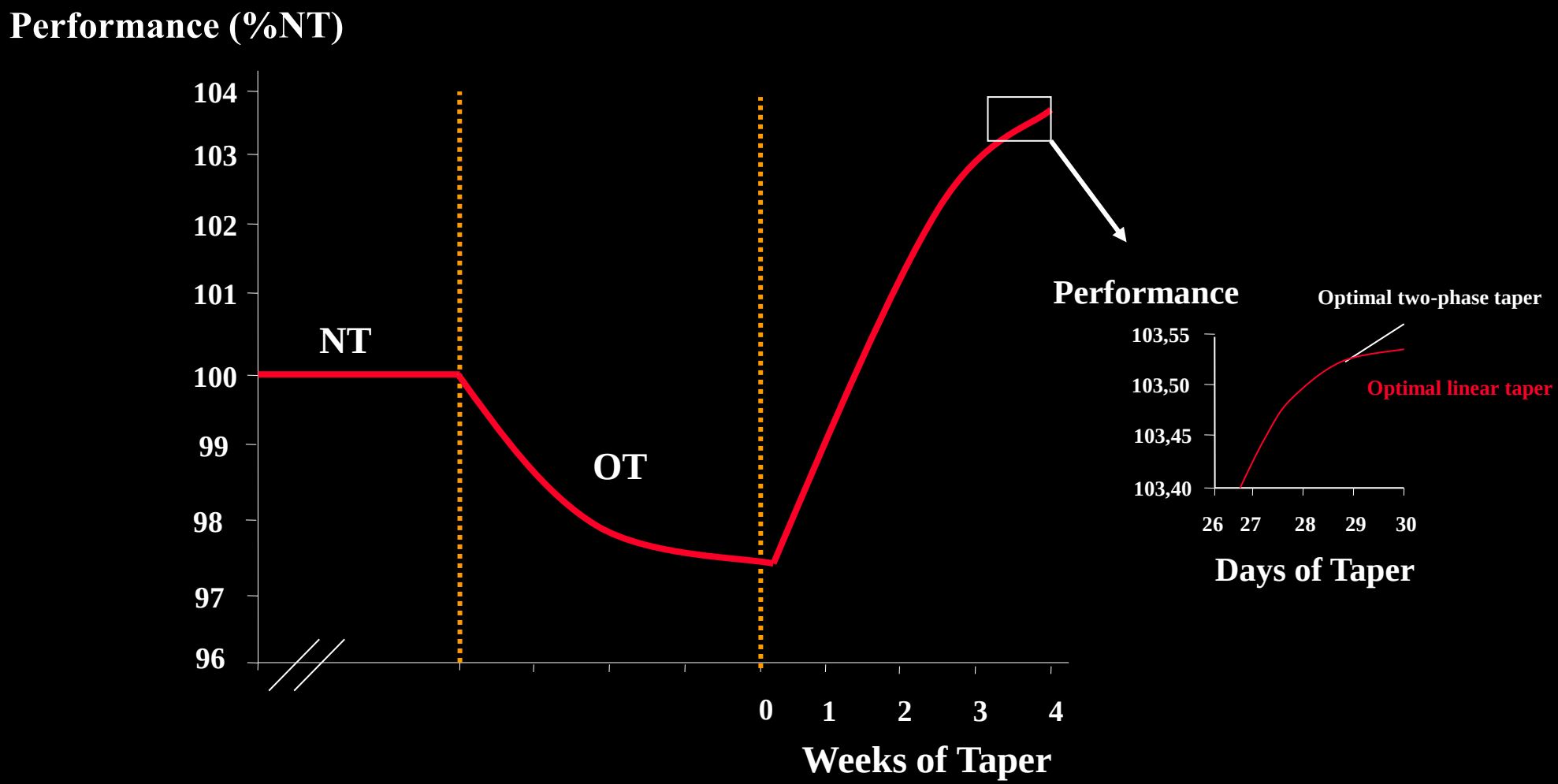
Innovative tapering strategies

Changes in training load during optimal two-phase taper



Thomas et al. *J. Strength Cond. Res.* In press

Performance changes during optimal two-phase taper



Thomas et al. *J. Strength Cond. Res.* Submitted

Individual adaptation profiles

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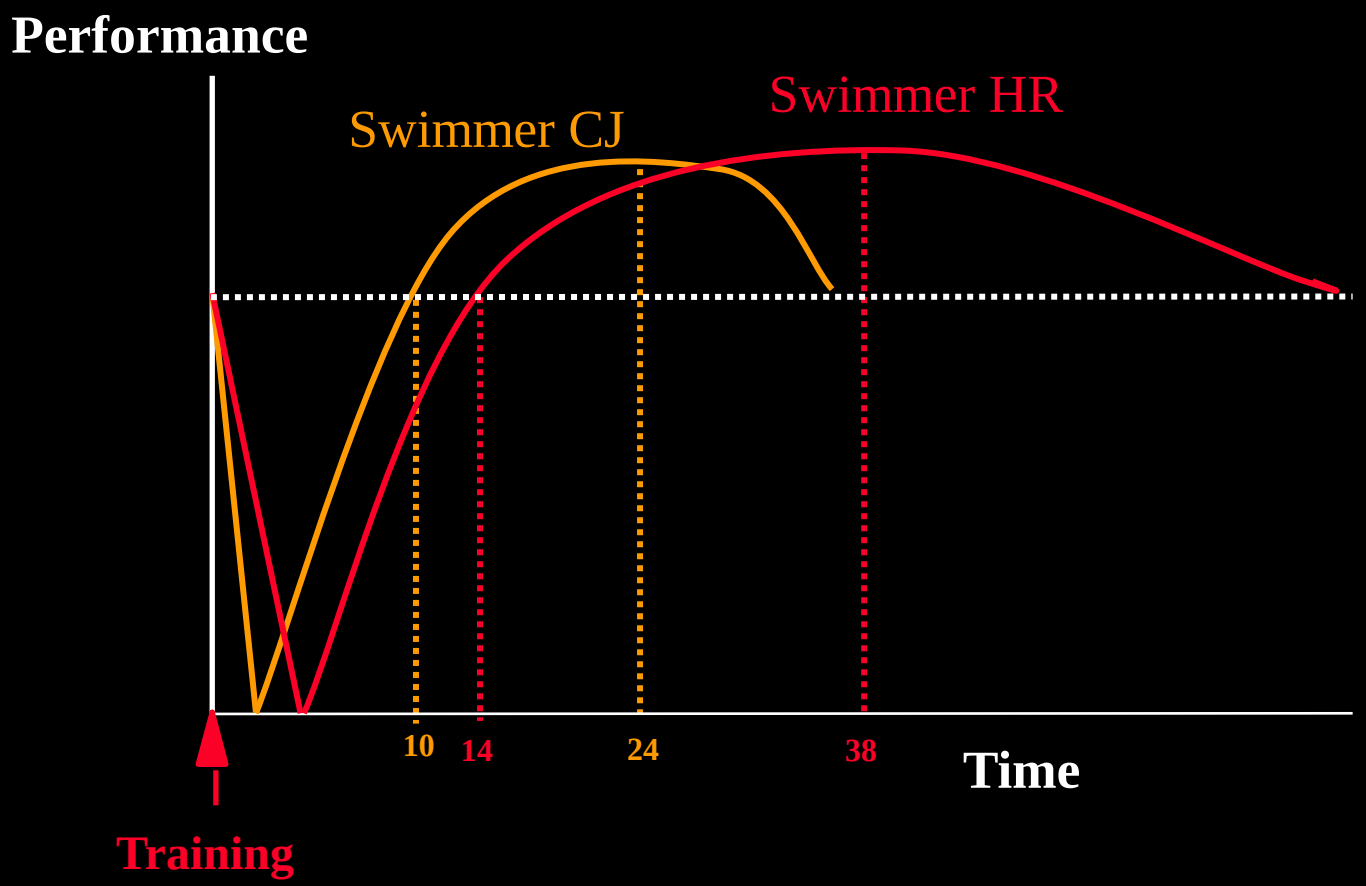


Tapering for multiple-peak sports

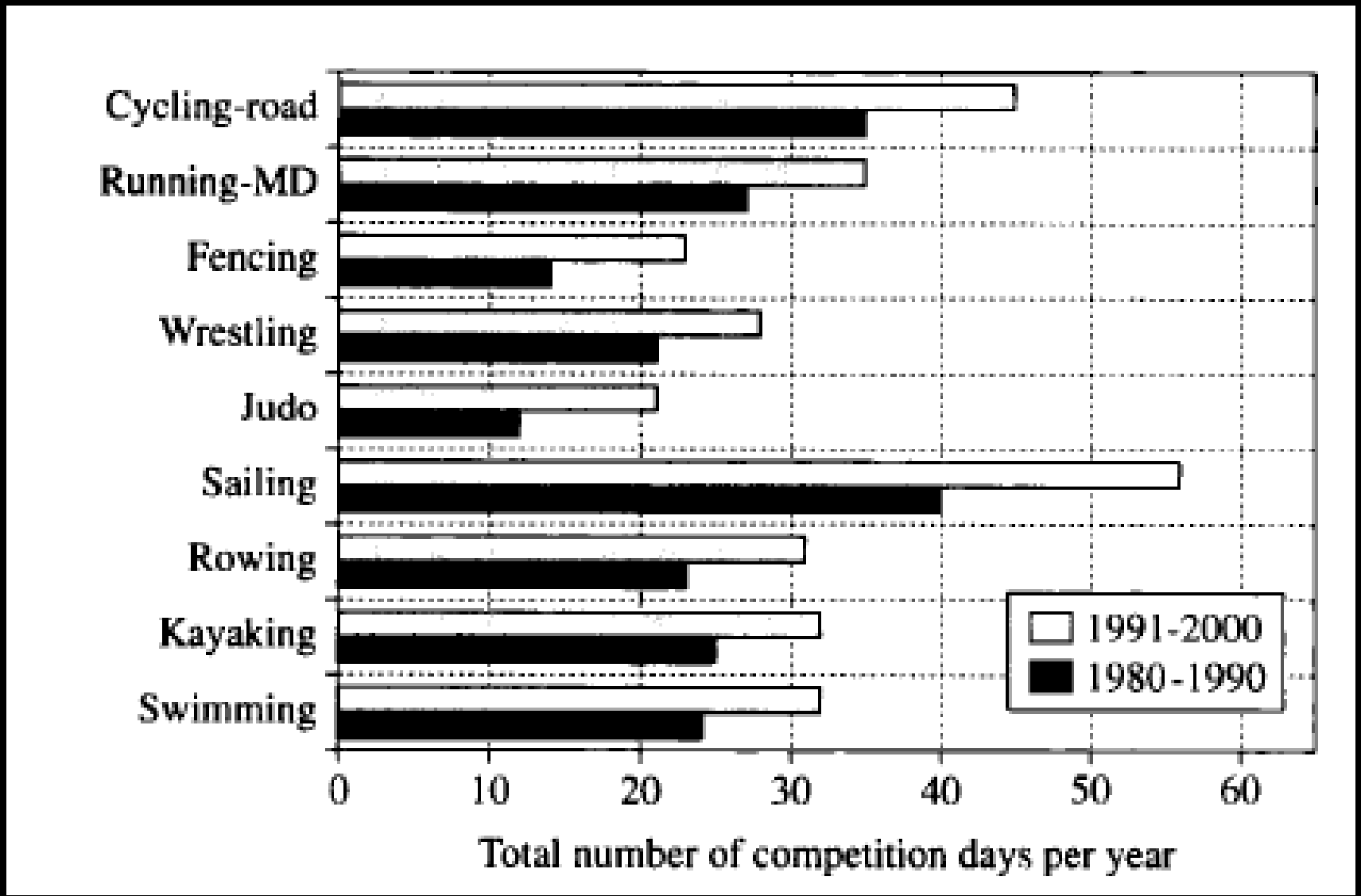
Limitations of traditional periodization

Limitations of traditional periodization

- Inability to provide multi peak performances
- Drawbacks of prolonged mixed training programs
  - Excessive fatigue accumulation
  - Stagnation or reduced improvement rate
  - Pronounced stress response at upper limits of biological adaptation: increased risk of overtraining
- Interactions of non- (or restrictedly compatible workloads) inducing conflicting training responses
- Insufficient training stimuli for high-performance athletes

Issurin, *J. Sports Med. Phys. Fitness* 48: 65-75, 2008

Evolution of number of competition days



Issurin, *J. Sports Med. Phys. Fitness* 48: 65-75, 2008

Total volumes of yearly workloads

Sport	1985-1990	1993-2006
Swimming	1400- 3000	1250-2700
Middle distance running	3300- 5000	3000-4700
Canoe/kayak paddling	4500-6.200	3500-5500
Rowing	5500-6700	5000-6300
Road cycling	35000-45000	25000-35000

Issurin, *J. Sports Med. Phys. Fitness* 48: 65-75, 2008

Integrated macrocycles (accentuated loads)

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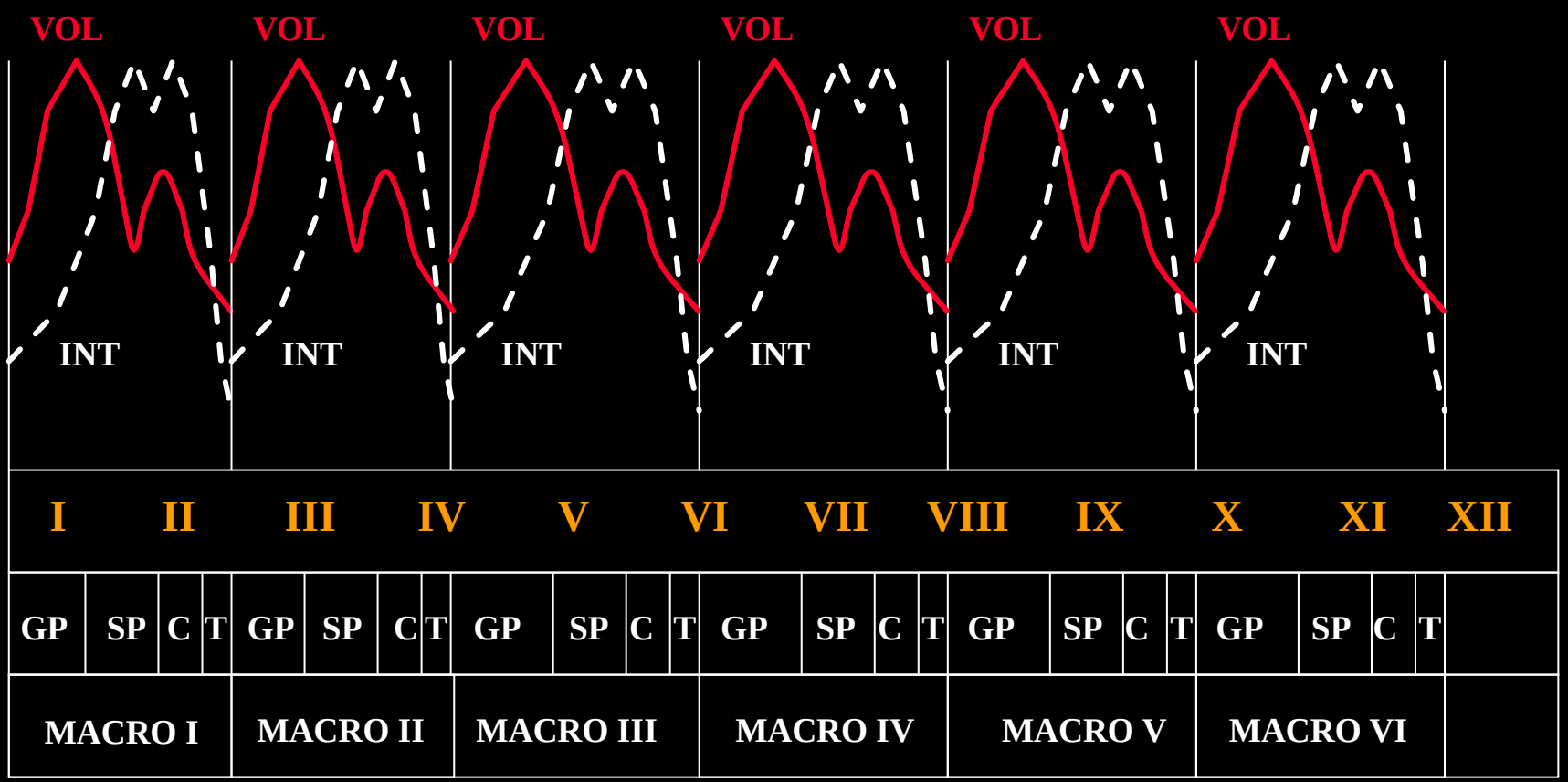
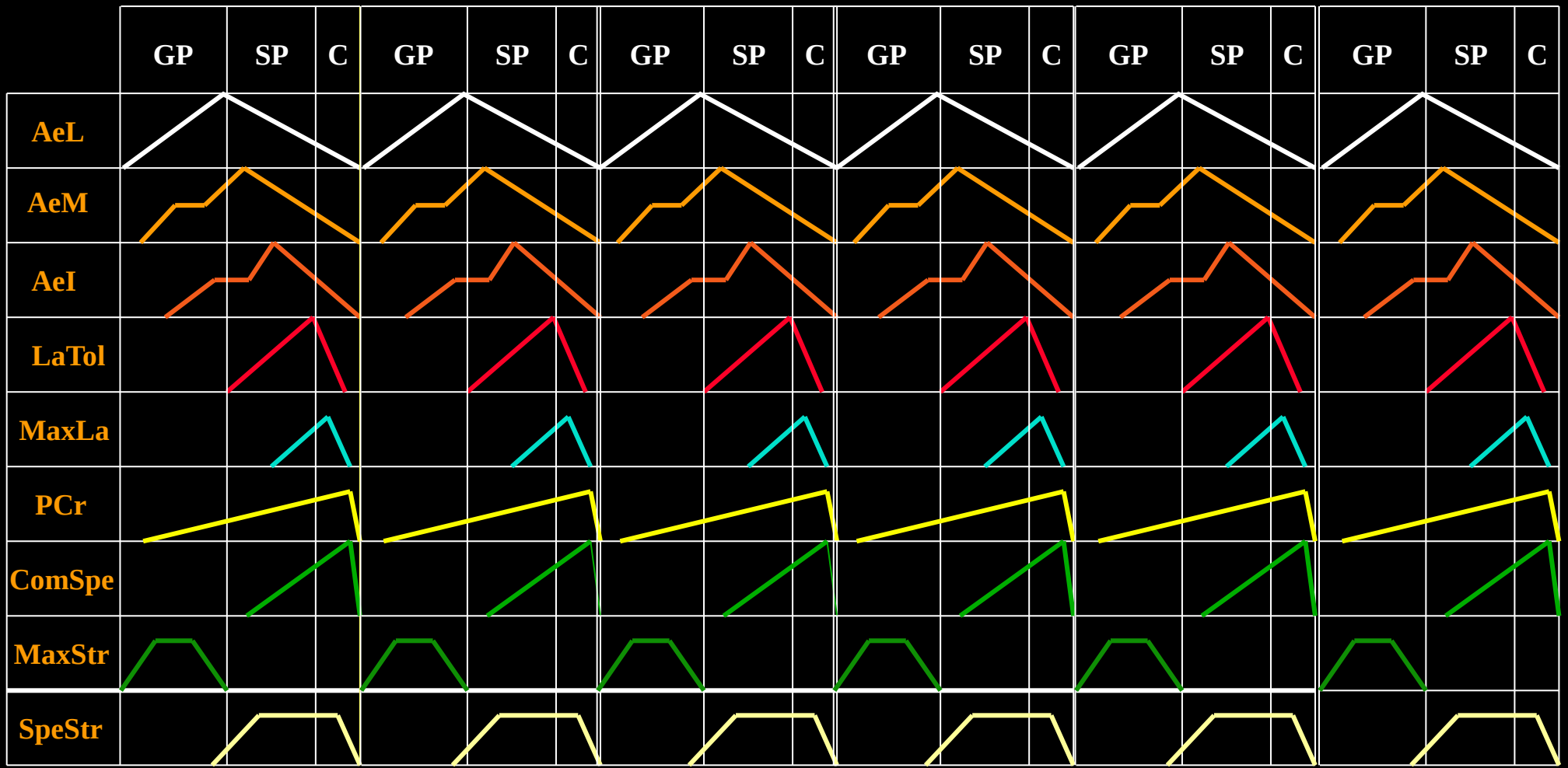
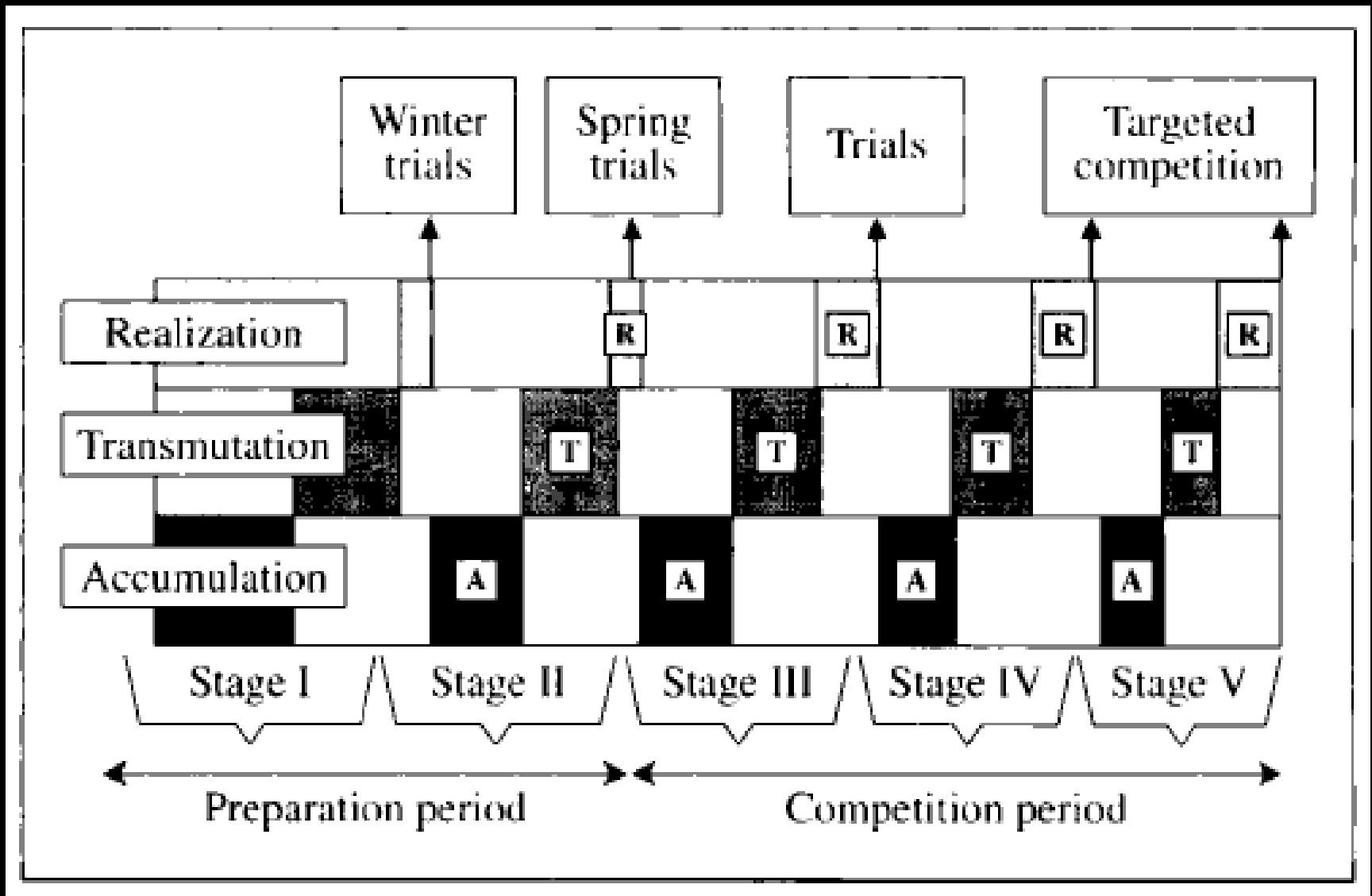


Integrated macrocycles (accentuated loads)



Non-traditional Block periodization (concentrated loads)

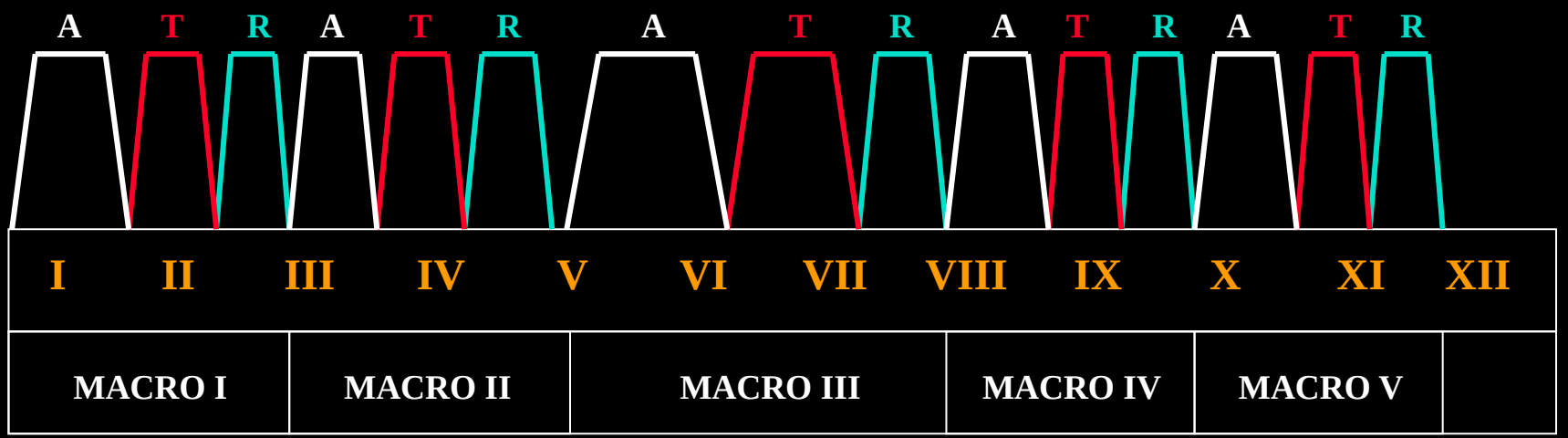
Annual training cycle following Block periodization



Issurin, *J. Sports Med. Phys. Fitness* 48: 65-75, 2008

Non-traditional Block periodization (concentrated loads)

A: Accumulation **T: Transmutation** **R: Realization**



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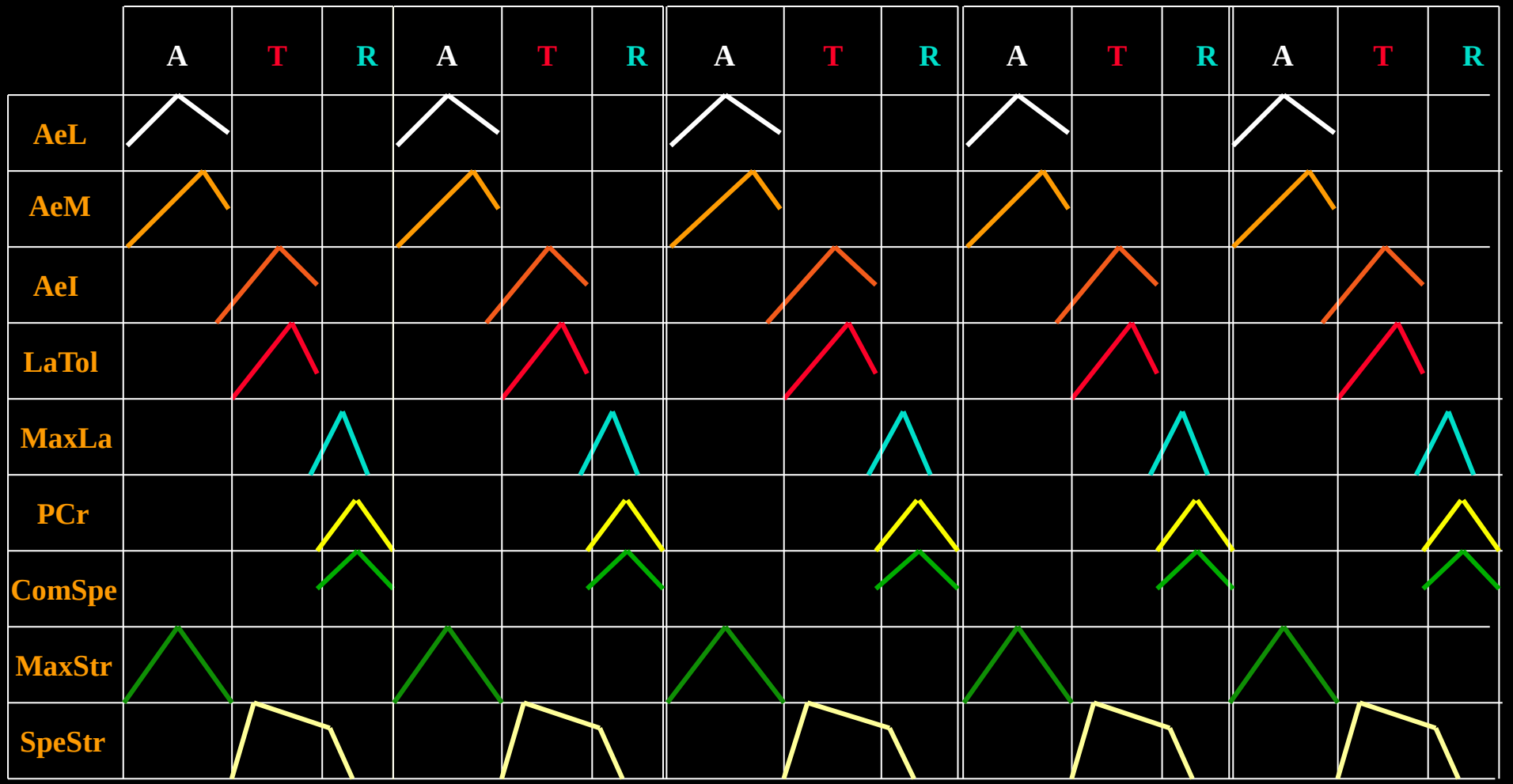
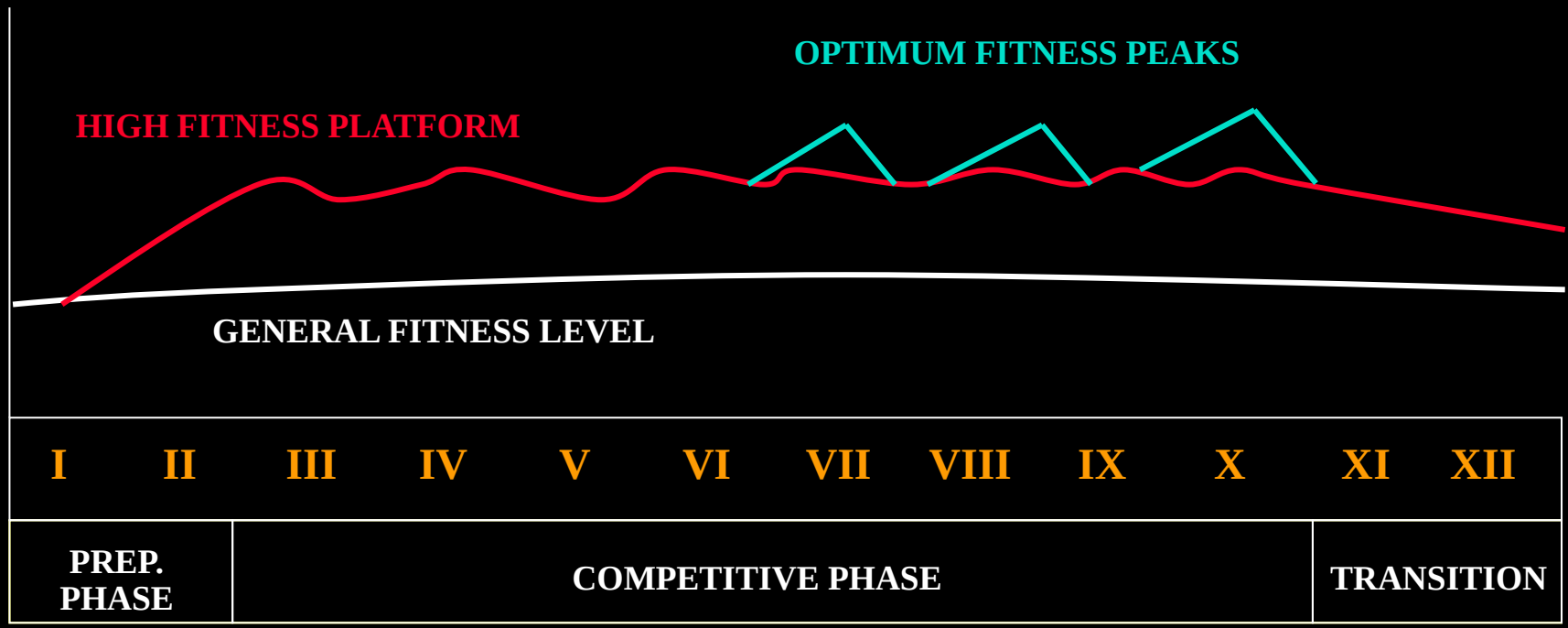
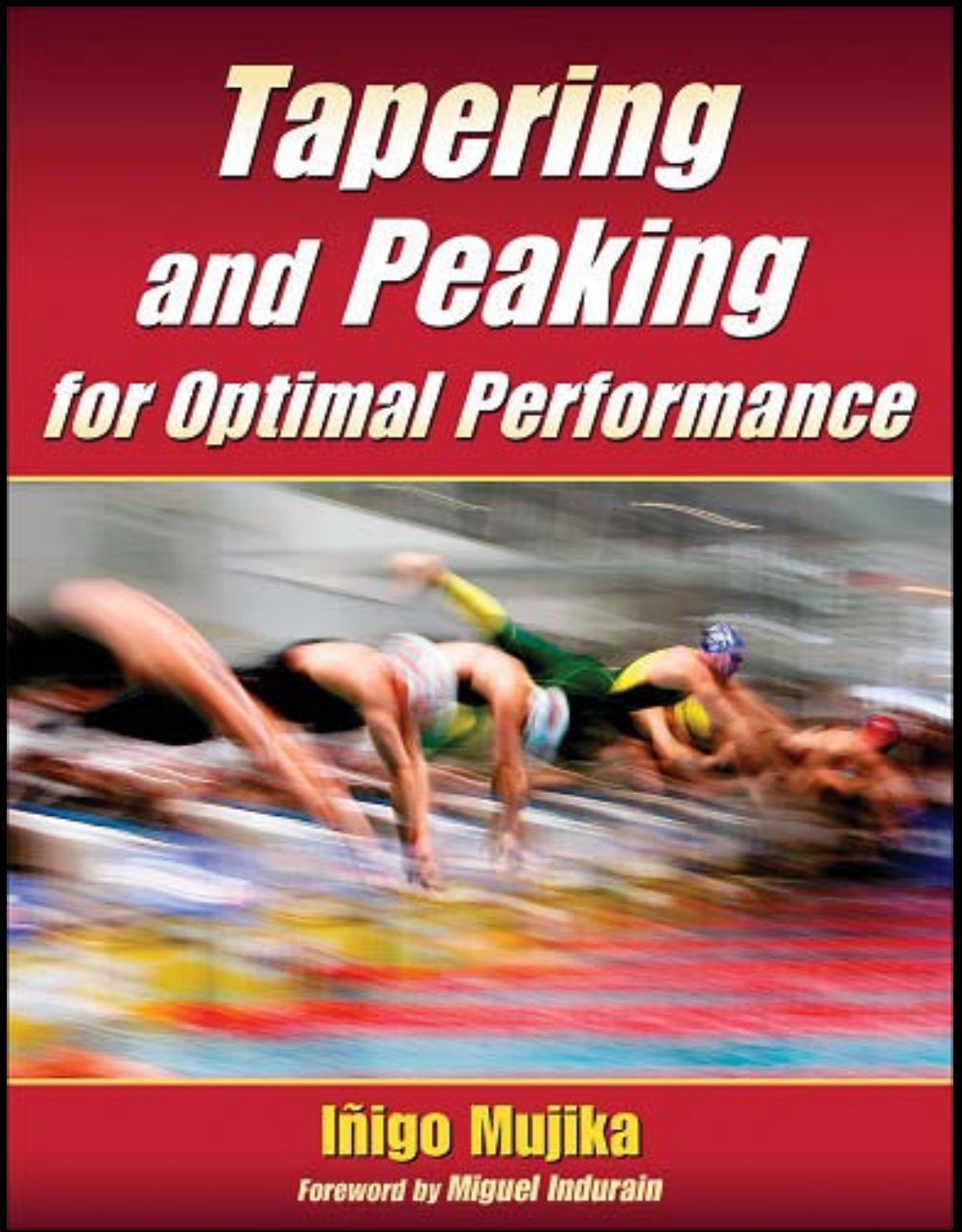


Periodization for sports with a long competitive period



Practical recommendations from elite sport figures



Chapter 9 – Tapering for Individual Endurance Sports

Martin Fiz

Triumphing in Eight Elite Marathons

- **Set an achievable goal and analyze all the environmental variables that may affect training programs and race tactics**
- **Perform huge running volumes to improve economy and prepare your body for such a grueling race**
- **Learn the ideal race pace**
- **Avoid racing during the taper at velocities much faster than marathon pace**
- **Visualize the race and analyze the strengths and weaknesses of the main rivals**

Chapter 10 – Tapering for Sprint and Power Events

Mike McFarlane

Tapering to Win International Sprint Events

- A training program should prepare an athlete for competition from the beginning of the season, not just during the taper

Chapter 10 – Tapering for Sprint and Power Events

Gary Winckler

Producing Extraordinary Sprint Runners

- **Plan a taper that does not interrupt the natural rhythm and flow of an athlete's usual training and recovery scheme**
- **Focus on psychological fitness to help athletes be confident about their competence to perform the required skills under the pressure of competition**
- **Slightly reduce the training volume but maintain similar intensity during the taper**
- **Maintain short, intense bouts of strength work right up to the day before competition**
- **Perform the sessions at the time of the main event**

ESKERRIK ASKO!
(“Thank you very much!” in Basque Language)

Iñigo Mujika
PHYSIOLOGY & TRAINING