



A Natural Movement Approach
(NMA), Applied Principles using the
ActionTypes Approach (ATA)

January 26th
Chamonix

Part 1

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"We have a brain
for one reason and
one reason only —
and that's to
produce adaptable
and complex
movements."



[Cambridge Laboratory Site](#)

Daniel Wolpert
FMedSci FRS and
neuroscientist

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Two Attentions to Deal with the World

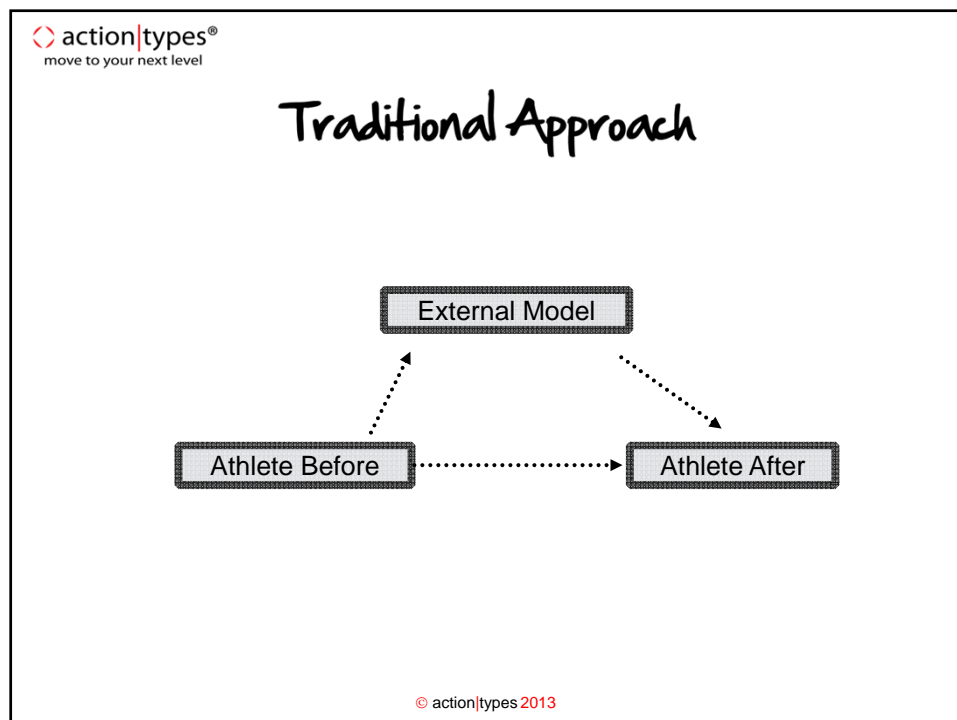
1. Balance
2. Fluidity
3. Speed
4. Economy

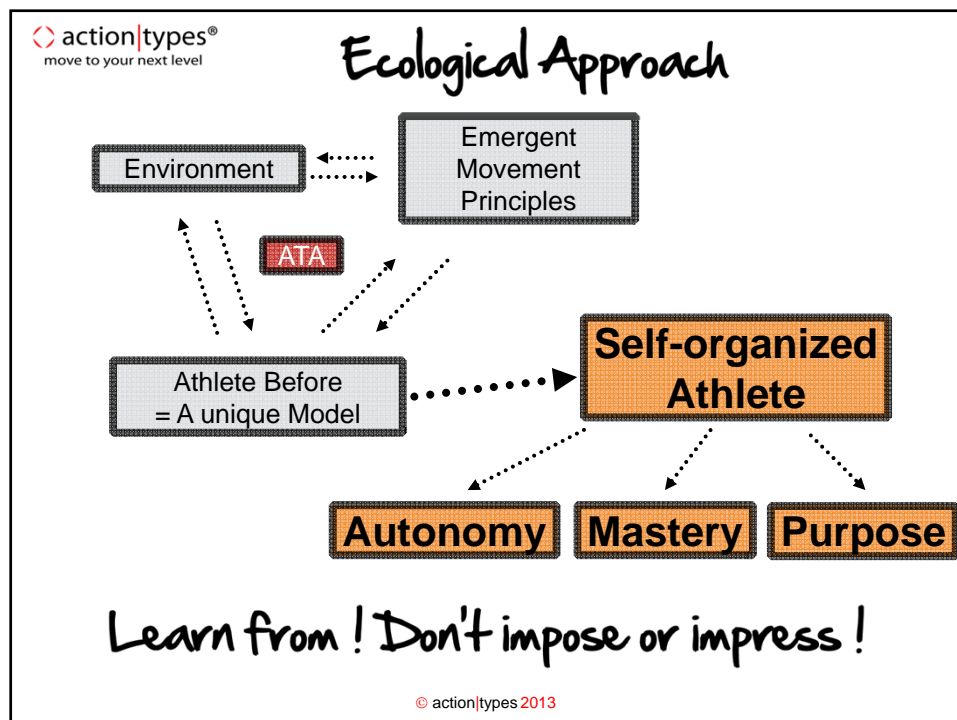
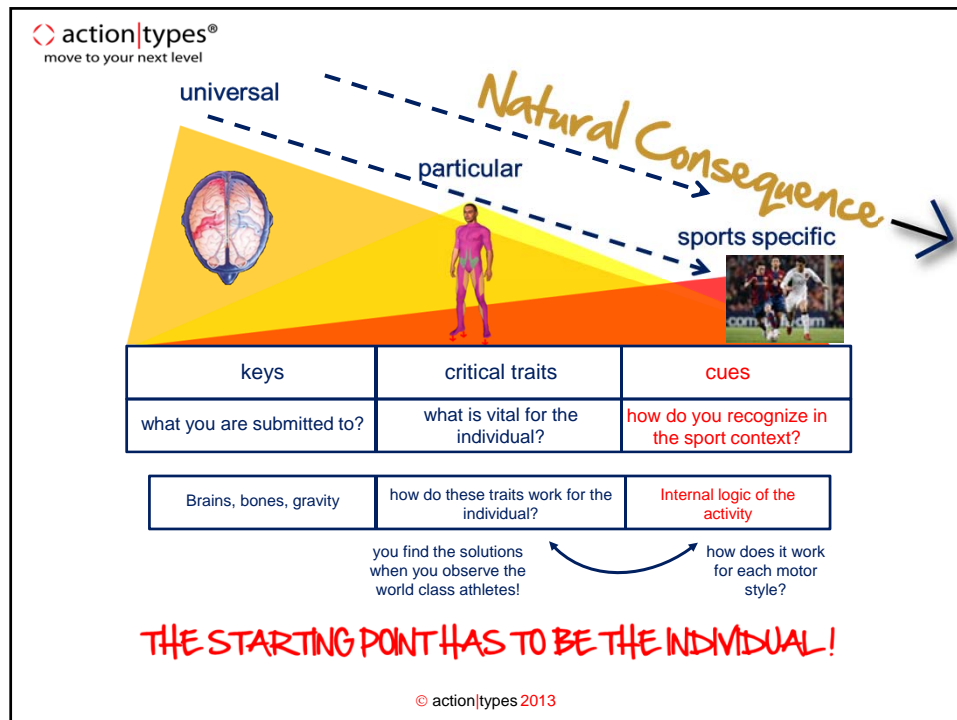
Frontal lobe
Left hemisphere
Right hemisphere
Posterior
Occipital lobe

The Science of Soccer
JOHN WESSON

Nature Reviews | Neuroscience

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**POSTURE = preparation to move
(readiness for action)**

↓

1. Relaxation
2. Loosening up
3. Availability
4. Performance

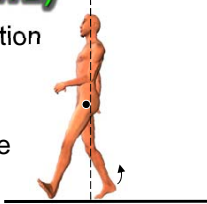
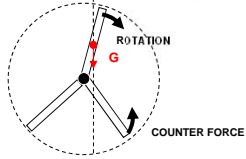
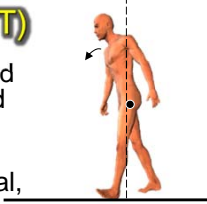
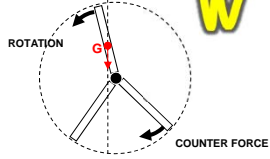
↓

Also allows information to be integrated so as to anticipate!

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Two Main Walking Patterns

- Walk from the Bottom (WB)**
 - The hips initiate the action and places the foot
 - Consequences: linear, stable, translational, symmetrical, contractile mode

- Walk from the Top (WT)**
 - The shoulders & head initiate the action and places the foot
 - Consequences: rotatory, asymmetrical, elastic mode



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Two Main Muscle Chains

WT


Posterior Medial Chains
(multiple) PM



• Walking from the top

WB

Anterior Medial Chains
(multiple) AM



• Walking from the bottom

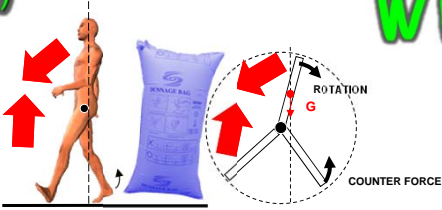
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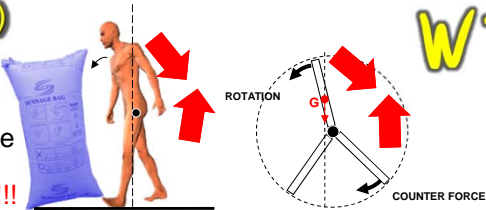
Two Main Muscle Chains

- Walk from the Bottom (WB)**

– Anticipation and timing is optimal on the back space
– Control comes from the use of the frontal muscle chains
– **Danger if to fall forward !!!**

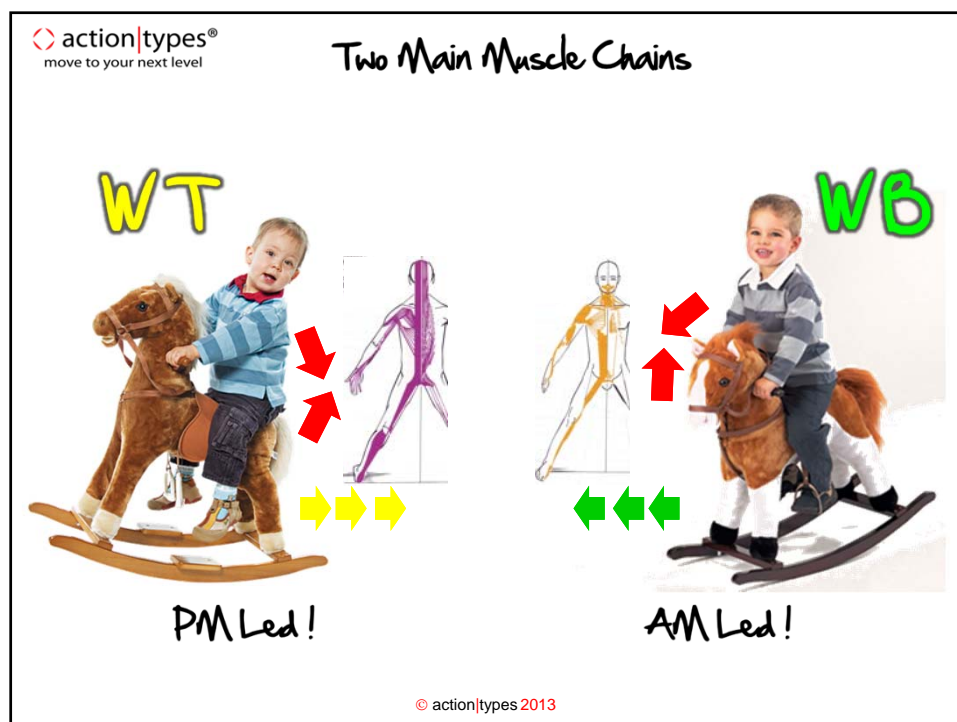
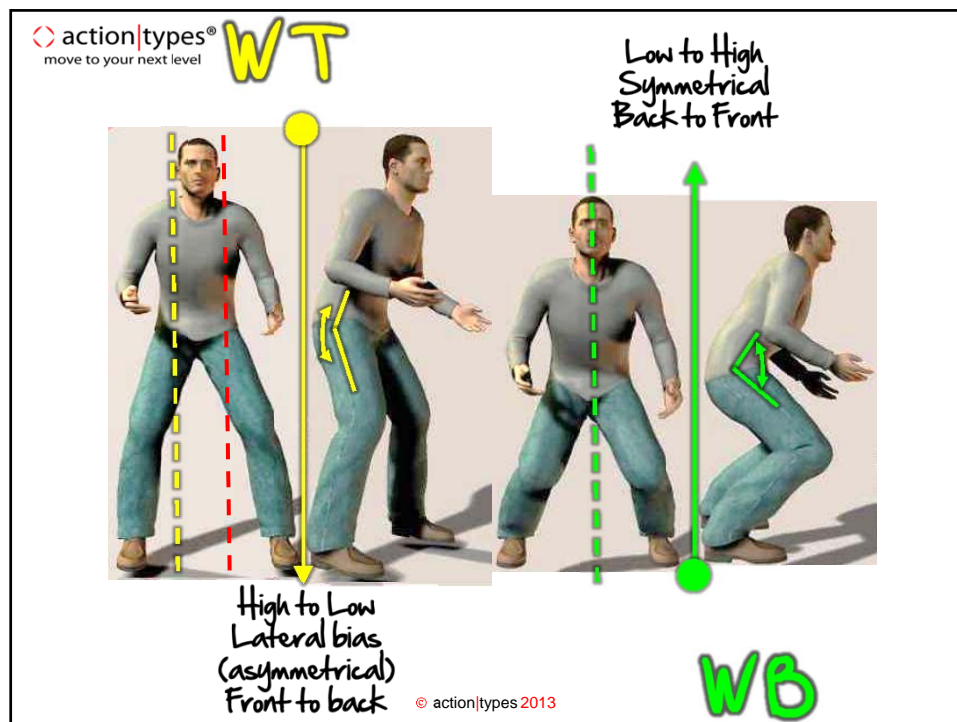

- Walk from the Top (WT)**

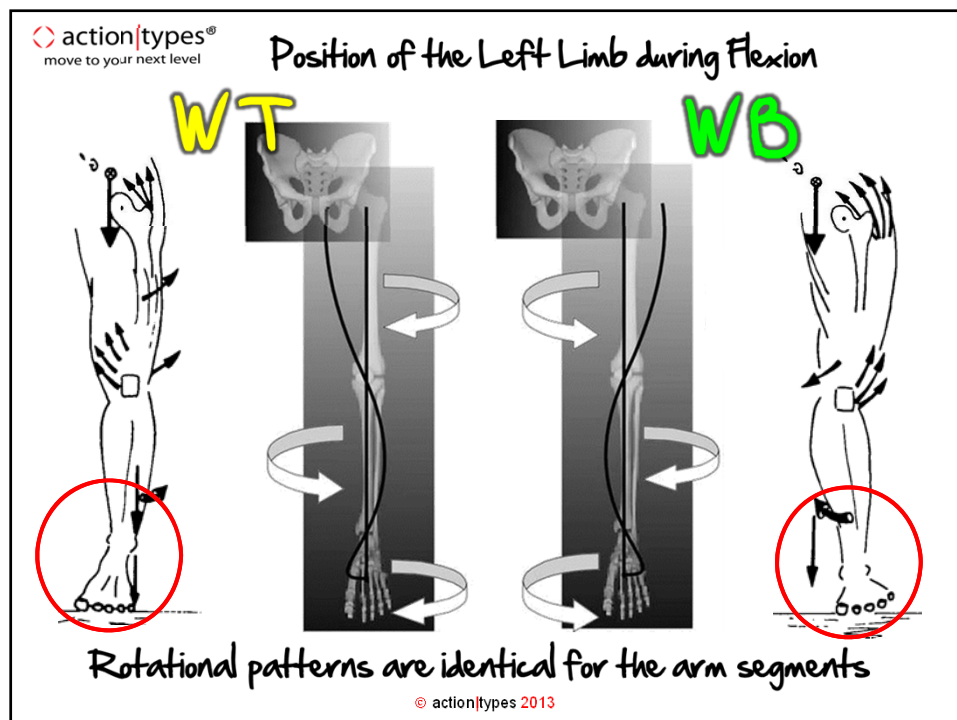
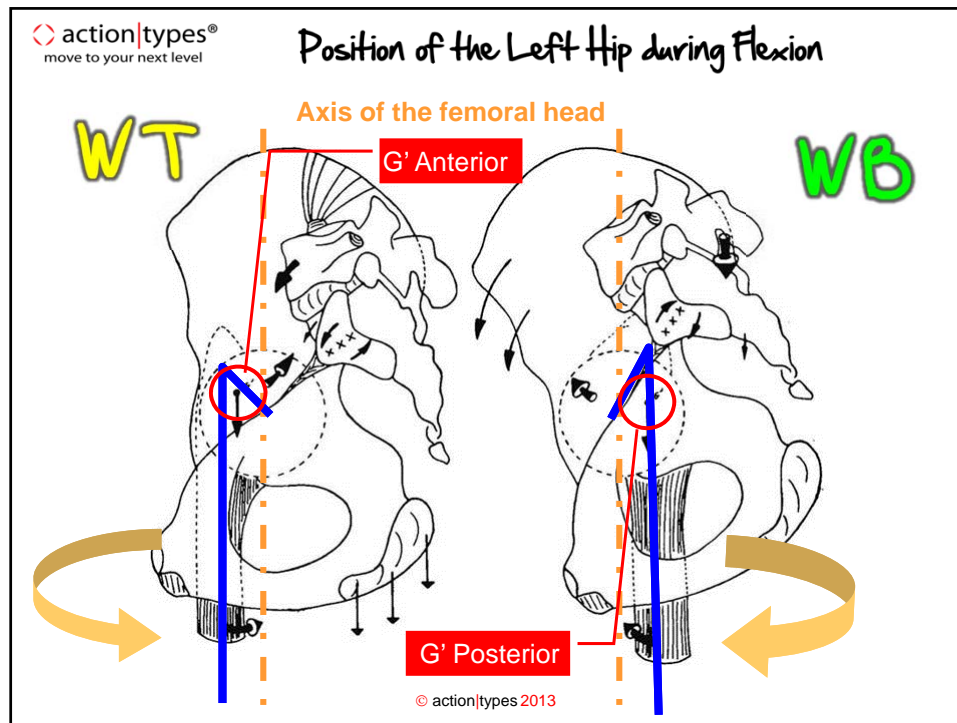
– Anticipation and timing is optimal on the front space
– Control comes from the use of the back muscle chains
– **Danger if to fall backward !!!**



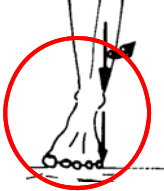
Natural Proprioceptive
"Air Bag"

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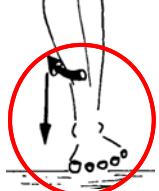


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WT

WB



During	Flexion	Extension
WT - Weight	To the inside	To the outside
WB - Weight	To the outside	To the inside

Most of the time these patterns are functional and should be respected



They are supposed to organize the absorption of the shocks from the impact

There is a tendency to try to correct them causing more damages than helping people



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The action|types® profile can help determine the proper stride organization for a given individual (economy)

mise en tension (amortissement)
détente (poussée)

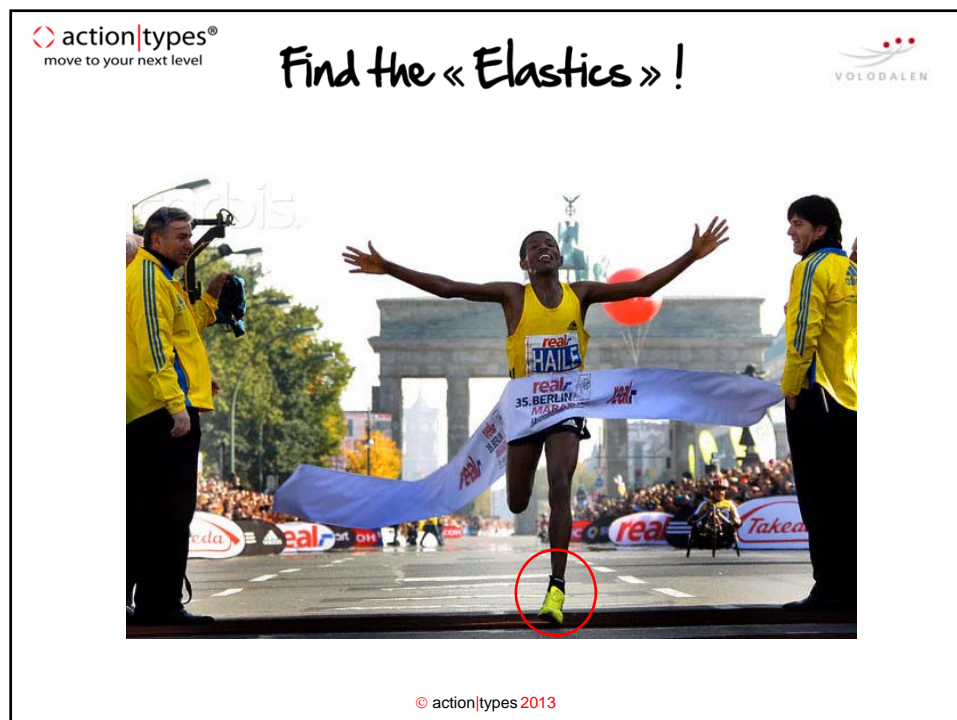
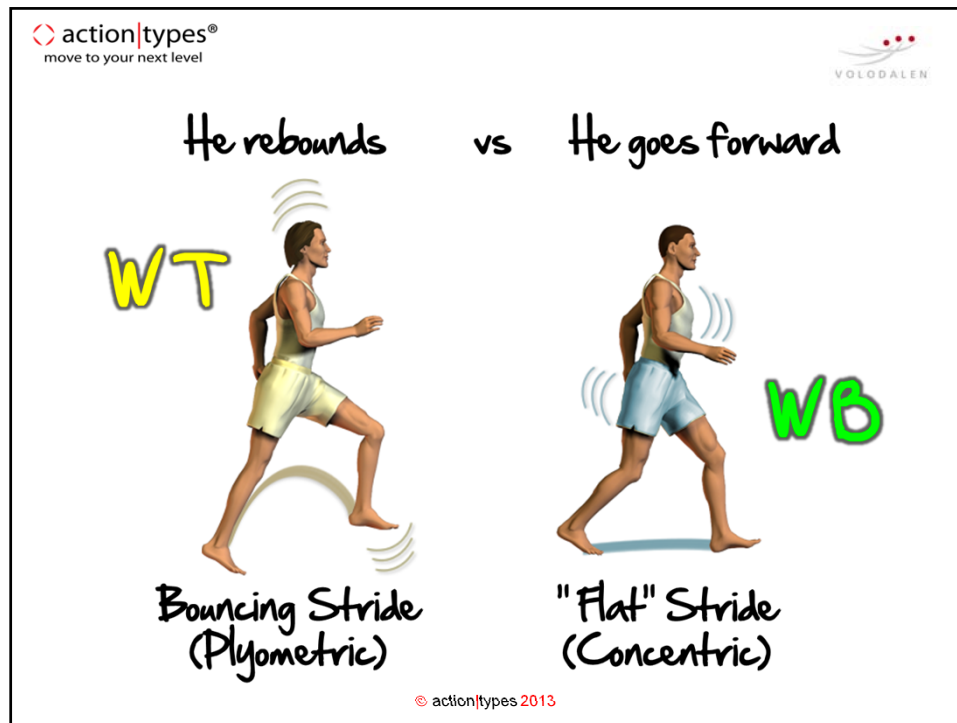
WT

WB

Underneath, shorter foot path

In front, longer foot path

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Find the « Plyometric accent » and
the « Concentric accent » !



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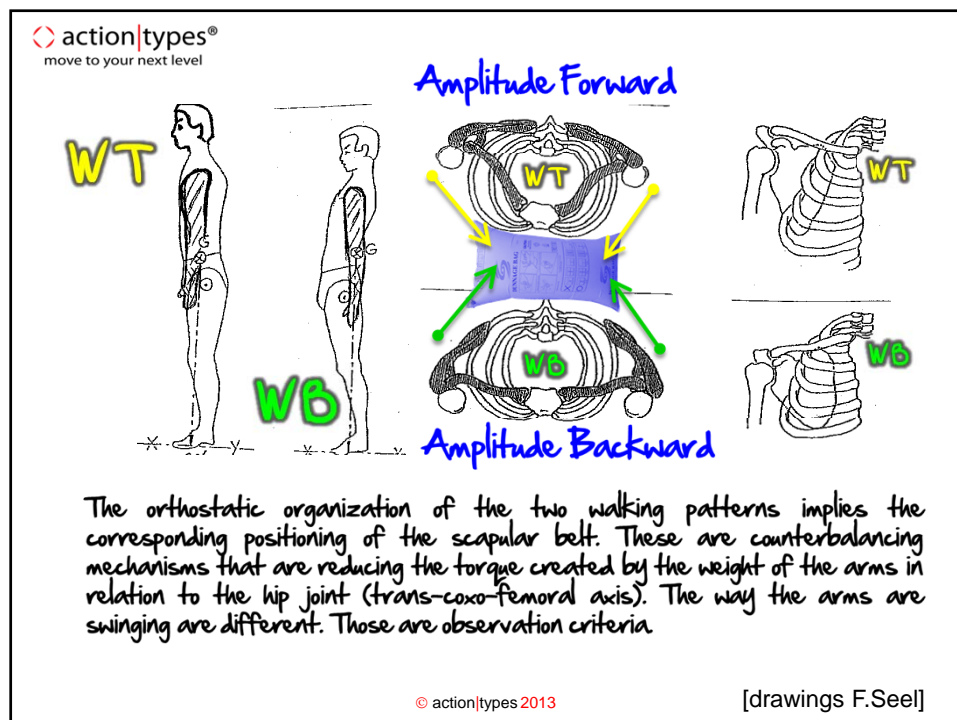
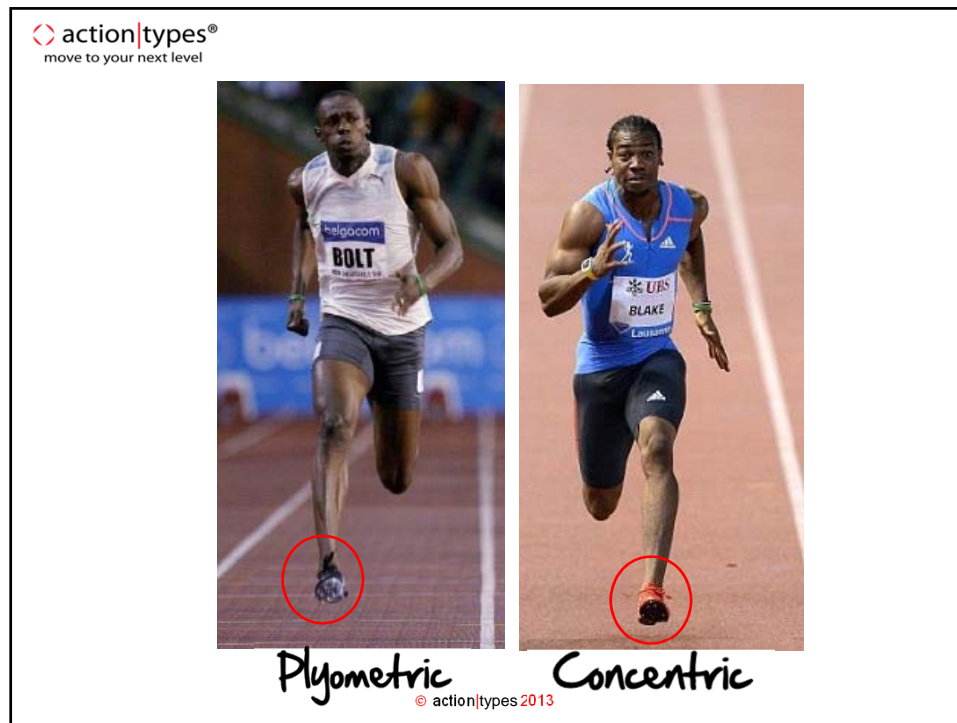
VOLODALEN

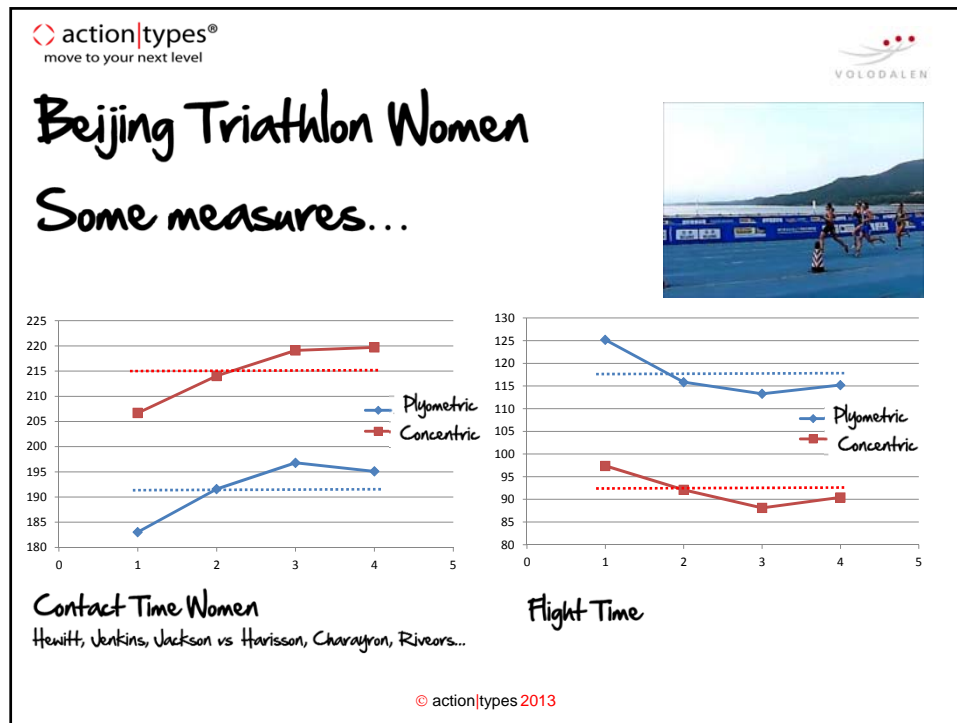
Find the « Plyometric accent » and
the « Concentric accent » !

Inversion at identical speed !



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Observables	Concentric Accent	Plyometric Accent
Stride	+ Flat and forward	+ Rebounding and upward
Pre-contact	+ Dorsiflexion (in the axis)	+ Inversion
Support	+ Heel - unroll	+ Flat
Arm	+ From the shoulder	+ From the elbow
Laterality	+ Symmetrical	+ Asymmetrical (right or left)
End of the push phase	+ Leg Adduction	+ Leg Abduction

1st implications	Concentric Accent	Plyometric Accent
Ground	+ Soft or indifferent	+ Hard
Shoes	+ Thick or indifferent	+ Light
Gradient	+ Ascent	+ Descent (not too steep)

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The 80 / 20 Principle

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Build your plans...

Pyramide Lydiard

Pyramide Inverse

Quantity of Quality

Quality

Build your sessions...

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Differentiation

VOLODALEN

Different sessions and instructions

EXERCICE POUR OBTENIR UNE FOULEE PLUS AEROBIQUE

EXERCICES POUR OBTENIR UNE FOULEE PLUS TERRIENNE

1/ Rebonds "en sautoir": les jambes restent tendues

1/ Fentes (progresser en faisant de grands pas bas sur l'appui)

2/ Course en légère descente

2/ Cilles avec l'intention de "pousser long"

3/ Foulées bondissantes

3/ Course sur terrains peu résistants (boule)

4/ Course d'entraînement avec pour consigne technique d'être "haut sur l'appui et rebondir sur le sol".

4/ Course d'entraînement avec pour consigne technique d'être "long au sol". "Je prends et j'envoie le sol derrière moi".

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Two Cricket Hypothesis Courtesy of Peter Moores

<p>Plyometric Accent Asymmetrical organization</p> <p>WT</p> <ul style="list-style-type: none"> ▪ Head and Shoulder lead ▪ Lean into the shot ▪ Weight on the front foot ▪ Hands through the ball ▪ High front elbow ▪ Batting is a sideways on game 	<p>Concentric Accent Symmetrical organization</p> <p>WB</p> <ul style="list-style-type: none"> ▪ Wide stance and stable base ▪ Don't commit weight forward ▪ Hit the ball with your hips ▪ Finish off with your hips square to the line of the ball ▪ Move forward only after contact with the ball ▪ Sequence = hips-contact-follow through
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AT Approach in 4 Phases

- 1 Reveal intrinsic natural strengths that have to be respected
- 2 Learn to trust and rely on them
- 3 Nurture and develop them in order to bypass and compensate weaknesses
- 4 Integrate and add the natural strengths in a team

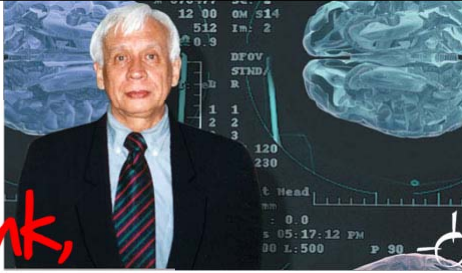
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We don't move
because we think,
we think because
we move!

Rodolfo R. Llinàs
I of the vortex: MIT Press 2001

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A portrait of Rodolfo R. Llinàs, an older man with white hair, wearing a dark suit, white shirt, and a striped tie. He is positioned in front of a background that appears to be a medical scan or a technical display with various numbers and a brain-like structure.