

**Q: What Can Football and Dance
Teach Us?**

A: The Language of “Making”

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The Language of Making

How do we talk about, communicate and discuss “making new things”
such as:

- a new match
 - a new choreography
 - a new computer model
 - a new building architecture
 - a new wine or perfume
 - ...
- Rinus Michels, Total Football, 1970's
 - Wayne McGregor, FAR, 2010
 - Ivan Sutherland, FLEET, presently
 - Frank Gehry, Bilbao, 1997



Bilbao Guggenheim Museum (Frank Gehry)



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Getting a grip on this matters

because “*how*” we make (new) things determines

- how we train and coach new talent
- how we work best in projects, contracts, startups
- how we align everyone’s expertise for an amazing performance
 - Think of the movie “Ocean’s Thirteen” (George Clooney, Andy Garcia)



Association Football

- Association football, a.k.a. soccer (Oxford colloquial for “association”)
 - Sport, between two teams, each with 10 field players and 1 goalkeeper
 - Played on a rectangular field of grass, with a goal at each short end
 - Called “foot”-ball for only goalkeepers can touch the ball with hands or arms
 - Playtime of two 45-minute periods
 - Objective is to score by driving the ball into the opposing goal
 - The team that scores the most goals wins
- Rules established by the Football Association (FA) in England in 1863
 - At final meeting, the first FA treasurer and representative from Blackheath withdrew his club in protest to the removal of two draft rules
 - running with the ball in hand
 - obstructing such run by kicking opponent in the shins, tripping, holding
 - ... and formed the Rugby Football Union, in 1871
- Highest governing: FIFA (Fédération Internationale de Football Association)
 - World cup every 4 years (most recent one in Summer 2010)



Total Football and “Clockwork Orange”

- Pioneered by Dutch football club Ajax (subsequent coaches below) 1969-1973
- Used by the Dutch National Football Team in the FIFA World Cup 1974
- Michels and Kruijff brought it to FC Barcelona as coach
- Kruijff’s legendary #14 is the only shirt number Ajax ever retired



Total Football = Ultimate Spatial Awareness

Allow players to adjust position to exploit space afforded by the opponent

Strategy-1: Playmaking style

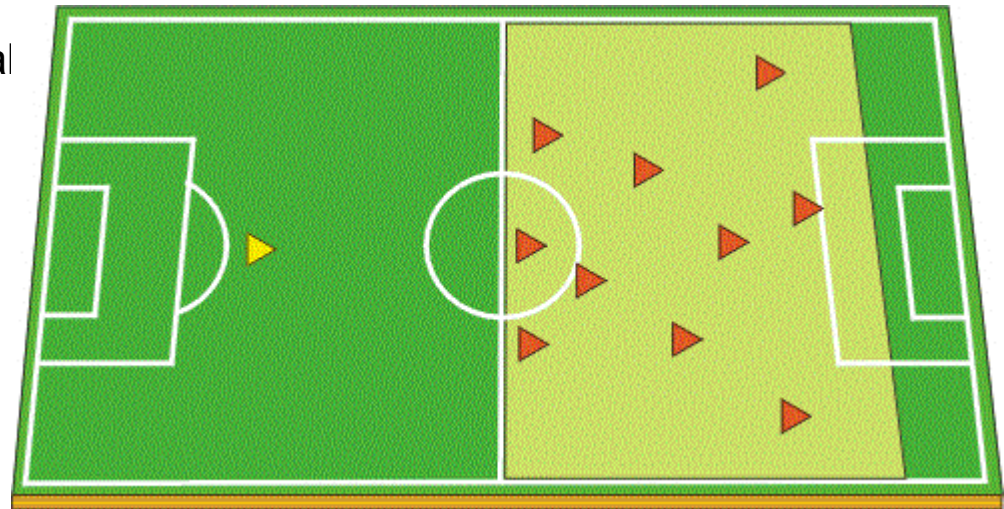
- All field players are allowed to participate in the build-up and attack
- Team retains the intended organizational structure
 - e.g. in 4-3-3 formation, the main task of the 4 defenders is to defend

Strategy-2: “Hunt” for the ball (attacking pressure)

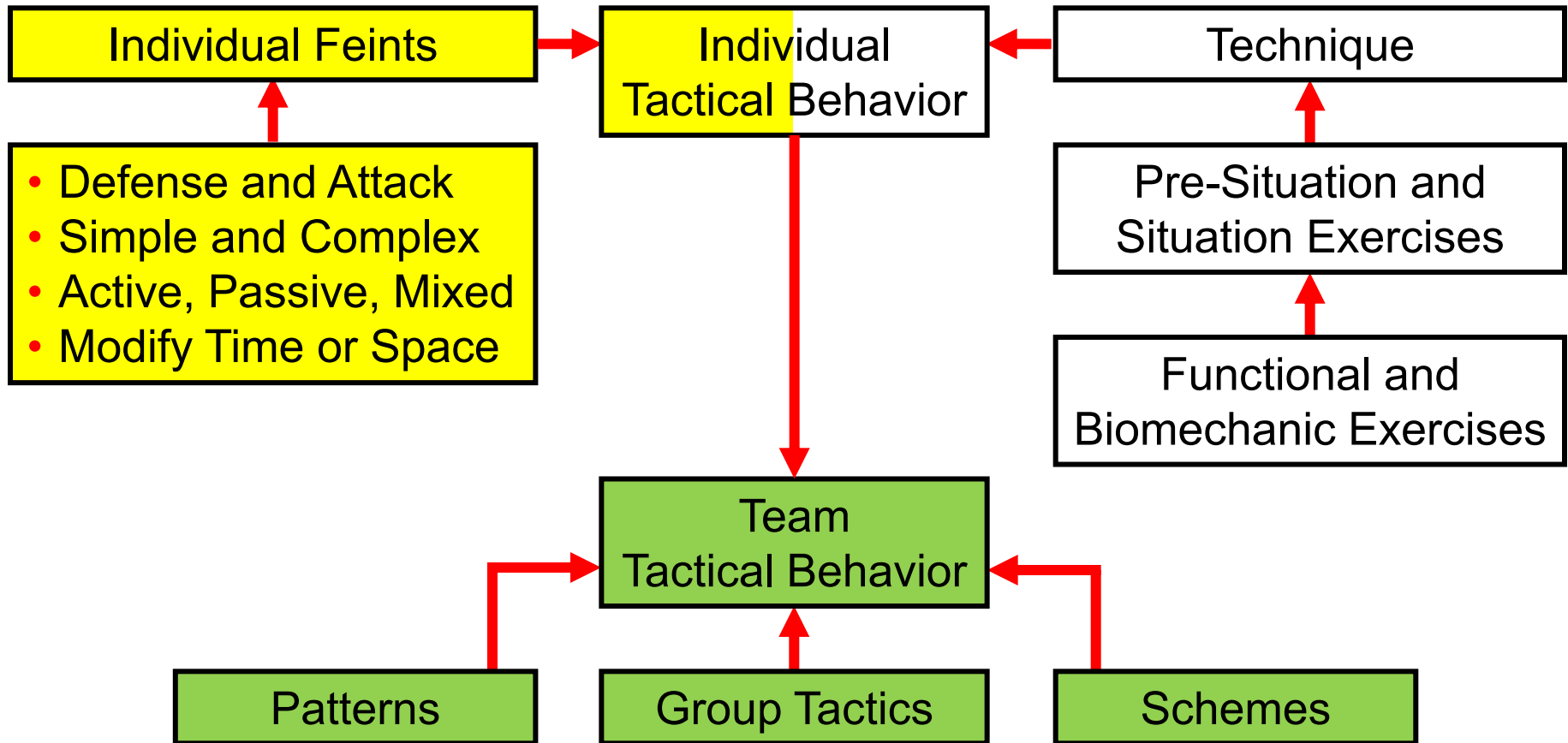
- Regain the ball ASAP if lost on the opponents half during an attack
- Example:
 - all players on the opponent half
 - goal keeper acts as sweeper

This requires: TIC

- Technique
- Insight
- Communication



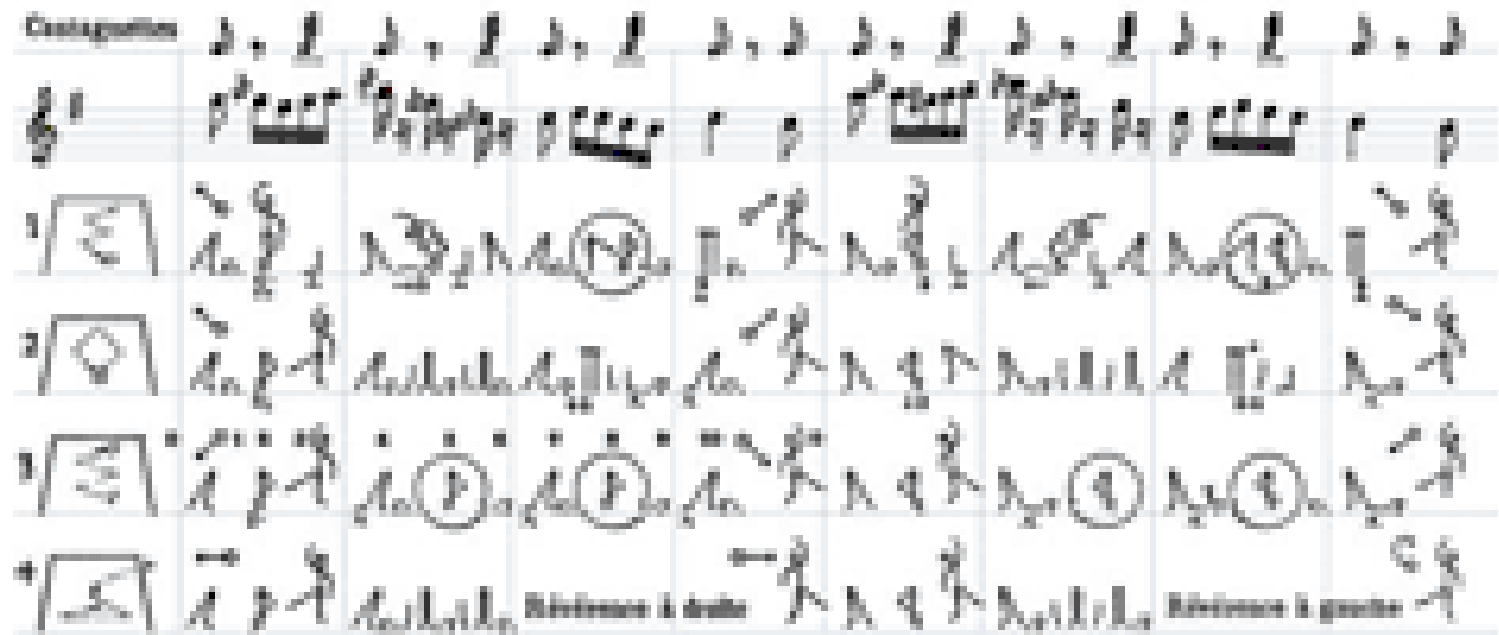
The Language of Technique Insight Communication



- Plus whatever it takes to build trust, respect and confidence as a team
- Notice that this is not much different for technical teams in our domain
- But how well are we using this? And where and how does it fail?



The Language of Dance



From Edward R. Tufte, *Envisioning Information*, Graphics Press 2008, page 117, showing extracts from Friedrich Albert Zorn *Grammar of the Art of Dancing: Theoretical and Practical*.



The Language of Dance - continued

[Lincoln Kirstein of the New York City Ballet]

...The systems, each of which may hold some slight improvement over its predecessor, are so difficult to decipher, even to initial mastery of their alphabet, that when students approach the problem of putting the letters together, or finally fitting the phrases to music, they feel triumphant if they can decipher even a single short solo *enchaînement*. An analysis of style is not attempted, and the problem of combining solo variations with a *corps de ballet* to provide a chart of an *entire* ballet movement reduces the complexity of the problem to the apoplectic.

This profound and informed frustration reflects the essential dilemma of narrative designs — how to reduce the magnificent four-dimensional reality of time and three-space into little marks on paper flatlands.

From Edward R. Tufte, *Envisioning Information*, Graphics Press 2008, page 119.



And then came: **Wayne McGregor & Random Dance**

- Who explore formal procedures for generating unique movements, and for exploring new movement opportunities
- Using an autonomous Choreographic Language Agent (CLA), under development by Marc Downie (PhD MIT Media Lab, 2005)
 - CLA is one of a set of new tools to help “choreographic thinking”
 - It works somewhere between “intention” and “physical technique”
 - It gets a set of choreographic instructions from McGregor that it can translate into a minimalist point-line-plane vocabulary
 - It has a graph-rendering model to rapidly sketch movement explorations at all levels in a reference space for limb, body, stage
- McGregor’s objective is to find the right balance of surprise, expectation and controllability in working with the CLA
 - Like Rinus Michels in football, McGregor is after a vocabulary for “making”



Wayne McGregor & Random Dance: FAR (developed using the Choreographic Language Agent)



Sadler's Wells Theatre, London, 17-20 Nov 2010

