PRINCIPLES IN TENNIS COACHING

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By the end of this session we will have covered...

- Relationships between the evolution of tennis and tennis coaching
- The influence and importance of Sport Science on Modern Day Tennis Coaching
- How Scientific Principles have been applied to Tennis Coaching
- How is Sport Science Applied and Used during tennis competition and training

Introduction

- The Evolution of Tennis
- How has the game changed?
- The Evolution of Tennis Coaching
- How has the coaching changed?

Principles in Tennis Coaching

- Team / Individual
- Quality / Quantity
- Sport Science / Experience

TEAM / INDIVIDUAL

- Combination
- Individual sport
- Team of people

PLAYER

COACH

PARENTS

THE TEAM

COACH

DIETITIAN

TRAINER

PSYCHOLOGIST

PLAYER

PHYSIO

PHYSICIAN

STRINGER

FRIENDS

AGENT

FAMILY

QUALITY TENNIS COACHING

COACHING GOING FOR QUALITY

- Quality process
- Involving every single person in the team
- Several functioning components
- Goal: To have a measurable and positive impact on the player

COMPONENTS OF A QUALITY COACHING PROCESS

- Top Coach Commitment
- Leadership
- 100% Player Commitment
- Communication
- Training and Competition
- Measurement and Evaluation
- Recognition and Rewards

I want to be a better coach: What do I need?

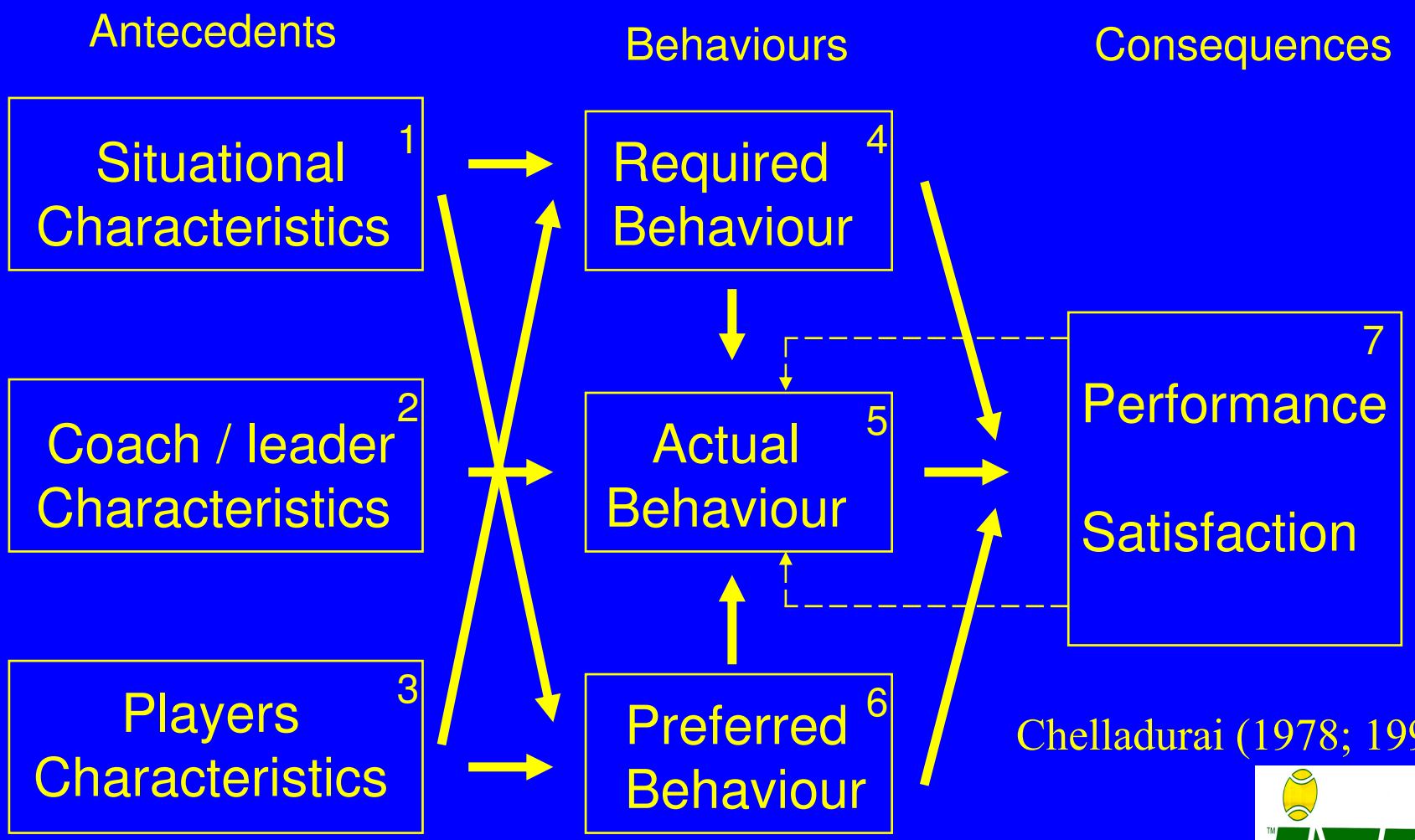
COACH COMMITMENT

- Commit their person and their time
- Active: Improve what they do
- Shared: Ensure that others know about it
- Informative: Be able to discuss with others
- Trust: Players and colleagues
- Empowered: Authority = Responsibility
- We do more than just feeding balls!

COACH LEADERSHIP

- Interaction with others
- It can be taught
- It can be learned
- The coach as a role model
- Multidimensional and situational

LEADERSHIP IN TENNIS



Chelladurai (1978; 1990)

PLAYER COMMITMENT

- Doing the right things
- Doing the things right
- Taking an active role in the process
- Working as a team
- Setting goals together
- Trying 100% and good behaviour

COMMUNICATION

- Teaching is communicating
- Coach as an effective communicator
- Verbal and non-verbal congruence
- Empathy
- Interaction

RESEARCH: COMMUNICATION IN TENNIS

- More successful tennis coaches (Claxton, 1988):
  - Ask more questions to their players
  - Show more instructional, visual and physical behaviours
  - 75% of time: Play tennis with players, talk to parents, watch in silence, organise players, structure the class...

TRAINING IN AN EFFICIENT WAY

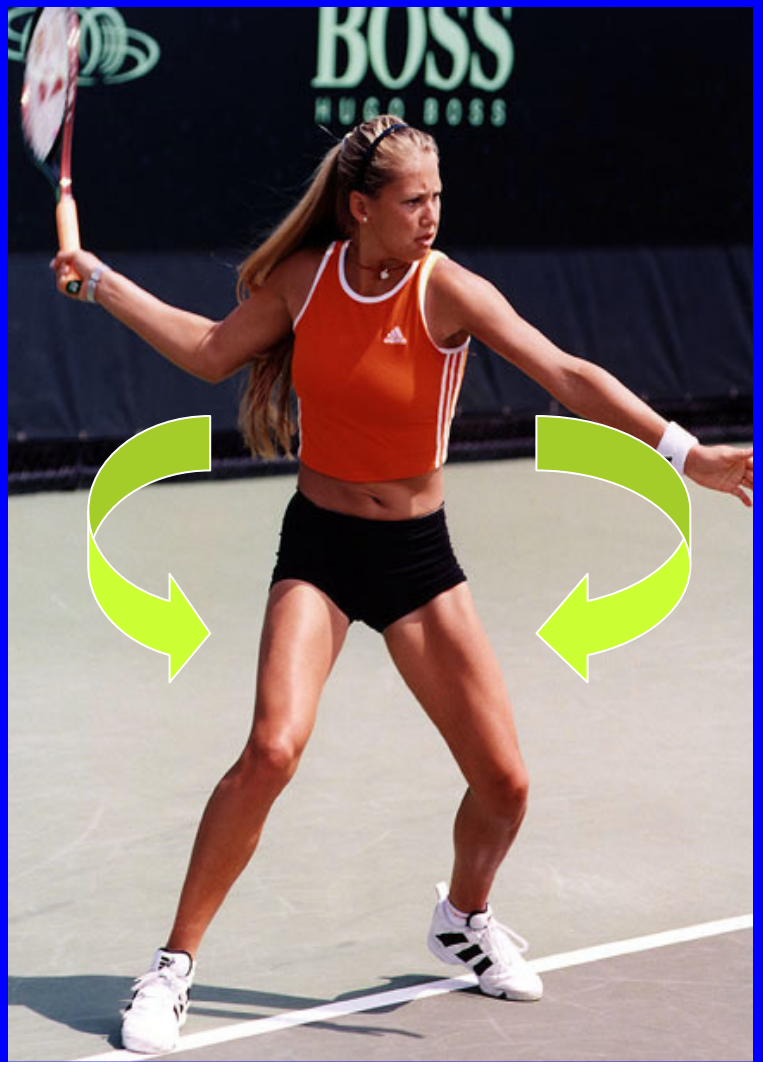
- Use the latest sport science information applied to tennis available.
- Design and implement an adequate training program
- Integration of coaching knowledge and experience together with the scientific basis of sport

EVOLUTION OF THE TRAINING CONCEPT

- Years ago: work stimulus (stress)
  - Improvement resulted from body adaptation to the gradually increased stress (overload)
  - When this work is too excessive, the overload becomes overtraining (burnout)
  - When the work is insufficient, there is little or no performance improvement
- Nowadays: Periodisation

THE MODERN CONCEPT OF TRAINING

- Training adapted to the match situation
- Individualised training
- Importance of recovery
- Importance of preventive work
- Global / Complex training
- Scientific training
- Use of Technology



EFFECTIVE COACHING

- Coaches Education is important:
  - Experience of top coaches (France)
  - Practical knowledge of Sport Sciences (UK)
- Commitment from the Coach: i.e. travel
- Coach and player learn and develop at the same time: i.e.Safin, Ferrero
- Recognise different ways to reach the top
- Develop a solid game foundation

PATHS TO THE PRO TOUR

- Normal international model: i.e. France
- Skipping international juniors: i.e. Spain
- College tennis in the US
- From junior direct to Tour: i.e.Sampras, Agassi
- Private strategies (don't play): Williams

FOUNDATION OF THE GAME

- Firmly established between age of 11-14
- Technique & competitive skills: difference between hitting balls and playing tennis
- Understand the game
- Mind is more important than muscles

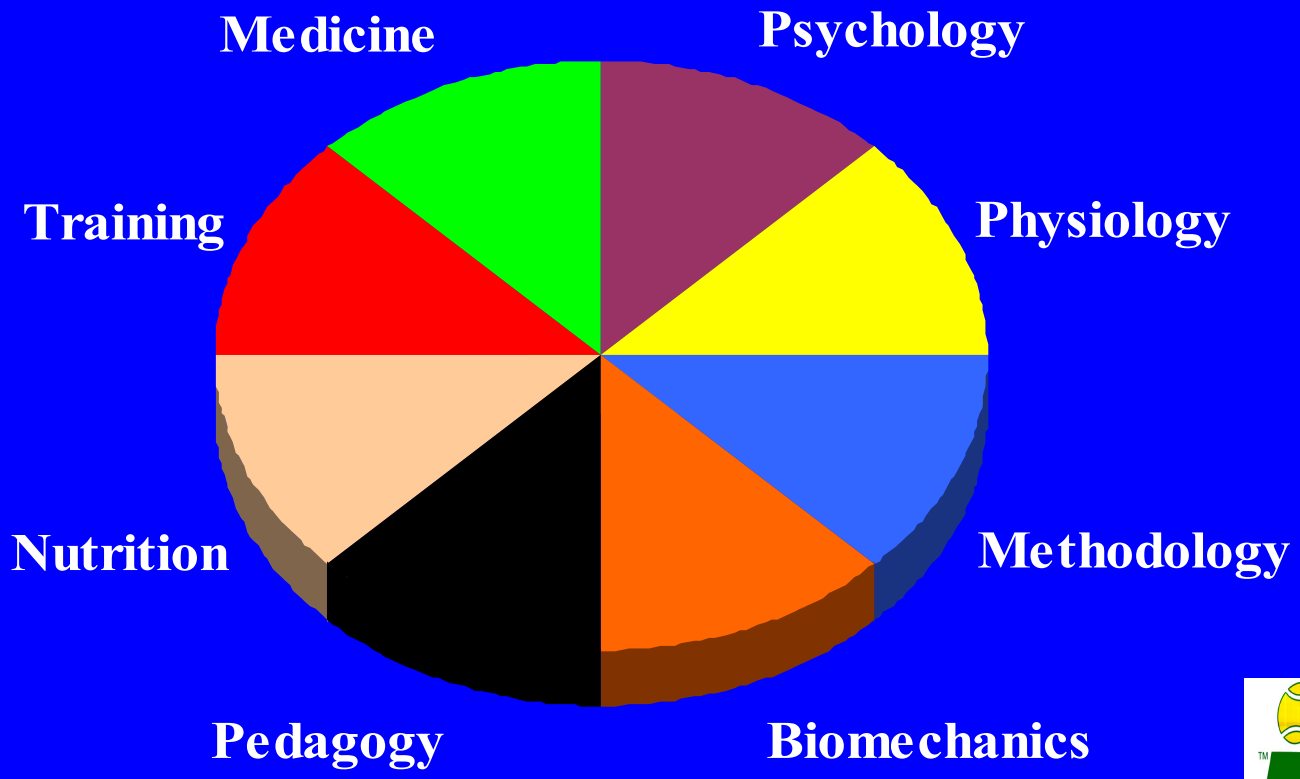
SPORT SCIENCE AND TENNIS COACHING

Sport Science & Tennis

- A better understanding of almost all aspects of the game
- Major Scientific contributions have helped the developing of coaching theory and education
- Sport Science has become a major part of Coach Education worldwide
- ITF recommended coaching syllabi -

  90+ nations

THE IMPACT OF SPORT SCIENCES



MODERN DAY COACHING & PHYSIOLOGY

Physiological Characteristics of Tennis (I)

- Approx. 300-500 bursts of energy during the course of a match
- Average point lasts less than 10sec: predominantly ATP, PCr energy supply
- Players run 4-5m per stroke and 14m per point: no more than 4 to 5 steps in one direction
- Mean rest time is 18-20sec. between points

Physiological Characteristics of Tennis (II)

- Work:Rest ratio in a tennis match is 1:2 variations on different surfaces
- Exercise intensity of a tennis match ranges from 60% - 85% of MHR
- Significant Fluid losses: Sweat rate 0.5 to 2.5 L/hour: importance of fluid replacement
- Benefits of CHO-E beverages on performance

COACHING IMPLICATIONS

- Importance of having a scientific base for the training programmes
- Training to match the nature of the game
- Plan drills in order to respect the physiological demands of tennis
- Importance of warm up, cool down and recovery routines

MODERN DAY COACHING AND PSYCHOLOGY

MENTAL CHARACTERISTICS of tennis (I)

- Individual game
- No coaching allowed
- High percentage of fast decisions
- A lot of time to think during the match
- Don’t know when you start/ finish a match
- No substitutes permitted

MENTAL CHARACTERISTICS of tennis (II)

- Knock out competition system
- Different surfaces
- Different continents
- Different types of balls
- The opponent is the umpire
- No off-season

MENTAL CHARACTERISTICS of tennis (III)

- Ranking based on best results during different years
- No time-out decided by the player
- “Silent game”: lots of concentration
- All shots are important


Anticipation & Visual Search
Behaviours of Players & Coaches
Attention & Concentration
Anxiety, stress & techniques
Confidence, Efficacy
Motivation & Goals
Personality
Visualisation
Routines & Training
Momentum
Parents
Motor Learning

MOTIVATION AND GOALS

- Goal oriented & motivational climate
- Players' and Coaches' burn-out
- Motives for playing
- Goal setting

ANXIETY AND STRESS

- Strategies (relaxation, hypnosis)
- Stress and attention
- In juniors
- In singles and doubles

CONFIDENCE AND EFFICACY

- Building self-efficacy
- Self-talk
- Attributions for win-loss
- Thoughts during session

ATTENTION AND CONCENTRATION

- Perceptual and attentional styles
- Concentration skills
- Improving attention and concentration

ANTICIPATION AND VISUAL SEARCH

- Cues in preparing the return of serve
- Visual search & anticipation
- Vision and visual aids
- Timing

VISUALISATION

- Video-modelling
- Audio-visual instruction
- Visual analysis and video feedback

PARENTS

- Perception
- Involvement
- Need more research
- Very important issue at junior level

ROUTINES AND TRAINING

- Warm-up
- Pre, during, and post competition
- Training programmes
- Professional

COACHING IMPLICATIONS

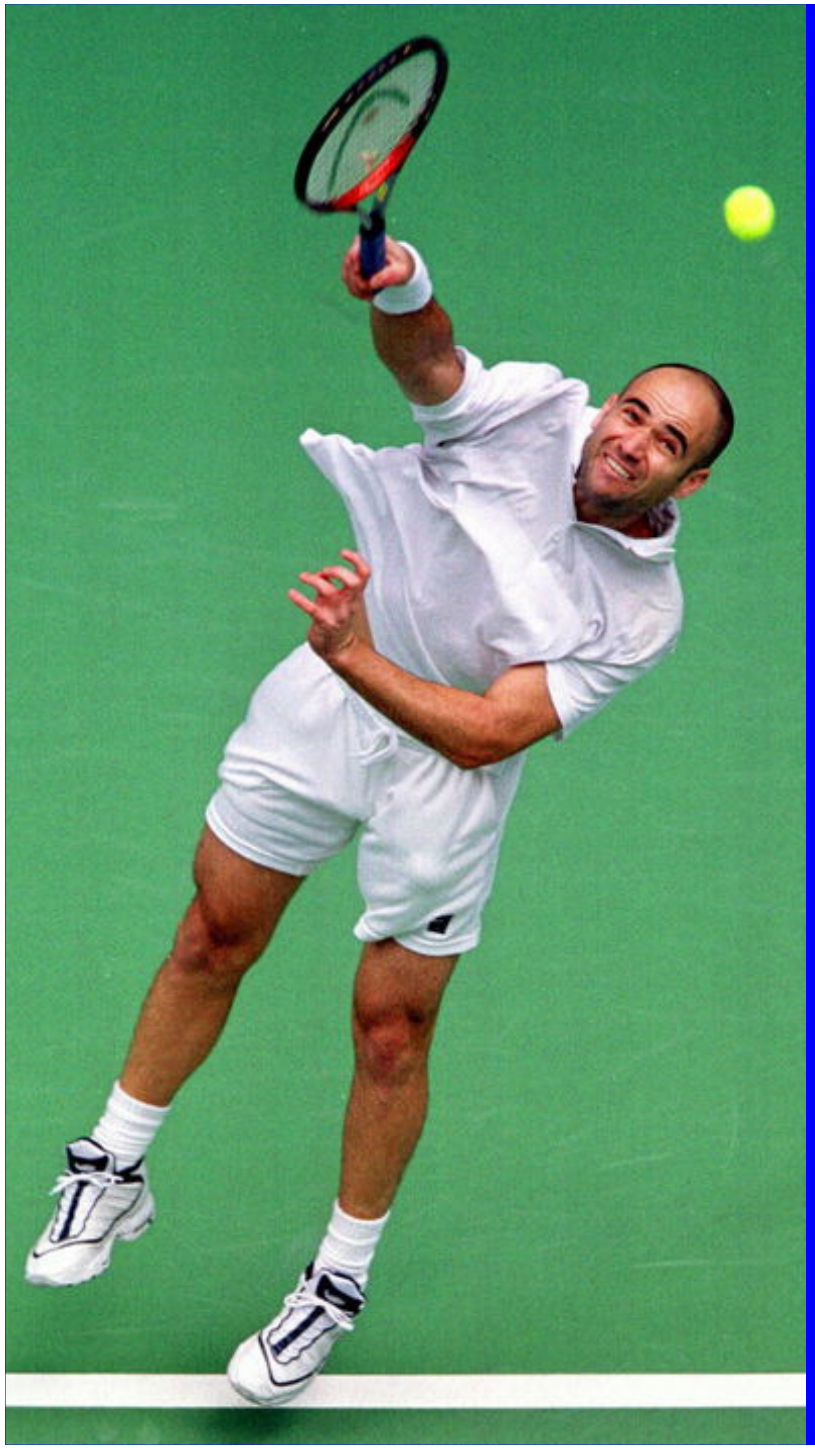
- Coaches are aware of the role of mental factors in tennis

- They are making more use of mental training techniques

- It seems they do not use psychological training enough both on and off court

COACHING IMPLICATIONS

- Coaches may need:
  - More practical evidence
  - More practical procedures both on and off court
  - To work with Sport Psychologists which know the game better



MODERN DAY COACHING AND BIOMECHANICS

RESEARCH ON TENNIS BIOMECHANICS

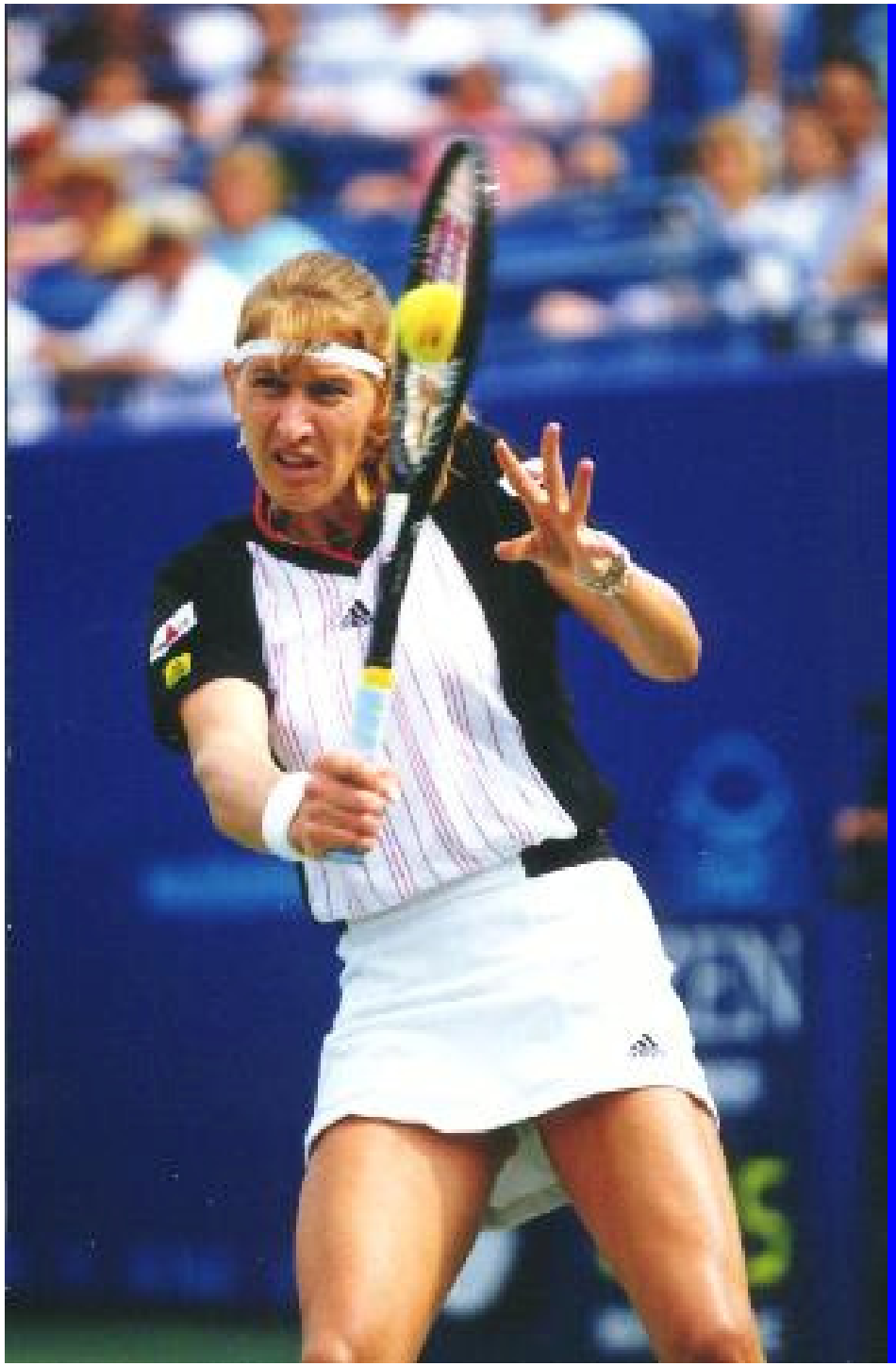
- PERFORMANCE
- PHYSICAL STRESS
- EQUIPMENT

TENNIS BIOMECHANICS

- Tennis technique analysis
- “No one specific way to hit a ball”

PERFORMANCE: ELEMENTS OF TECHNIQUE

- Efficiency - Economy
- Effectiveness - Result
- Safety - Injury free



POWER

CONTROL

STYLE

Personal interpretation and application of the biomechanics and the technique

GROUNDSTROKES

- Research on forehand and backhand
- Different spins (topspin, slice), stances (open, square)
- Different variations: 1 & 2 handed BH
- Higher participation of all body parts to produce more power and higher racket velocities

IMPORTANT CHANGES

- Dynamic balance
- Stance
- Pre-stretch - elastic energy
- Elbow leading
- Angular momentum - leg drive, hip rotation
- Elbow/wrist for power
- Players discover themselves

ADVANCES IN EQUIPMENT

- Racquets have facilitated the development of more optimum techniques

- Larger balls allow for longer rallies without causing greater load in the playing arm

ADVANCES IN TECHNOLOGY

- Biomechanical analysis: Technical corrections
- Match charting: Tactical corrections
- Computerised training programmes: Physical conditioning
- Visual training

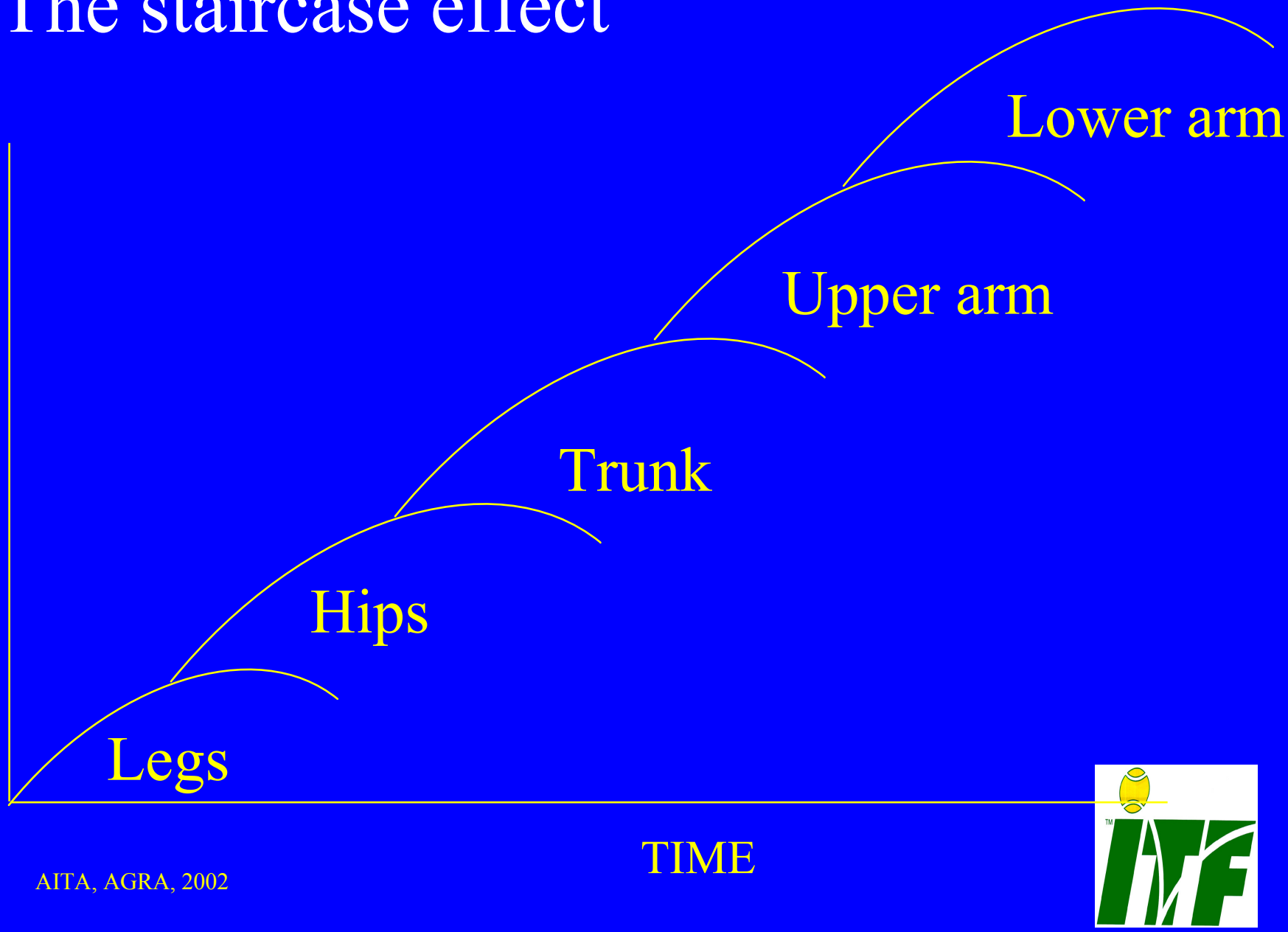
Service & Other strokes

- Different spins: flat and topspin
- Different techniques; foot up & foot back
- Body acting as a linked chain
- Volley: swing, close and far from the net, muscle activation
- Approach shot compared to groundstrokes

SEQUENCING OF BODY SEGMENTS

Body part	Biomechanics
Legs	Knees (flexion and extension)
↓	↓
Hip	Hip rotation
↓	↓
Trunk	Trunk rotation
↓	↓
Arm/Shoulder	Rotation of arm about the shoulder
↓	↓
Elbow	Elbow extension - forearm pronation
↓	↓
Wrist	Wrist flexion

The staircase effect



COACHING IMPLICATIONS

- Many variations of good technique
- Emphasis on effectiveness vs. cosmetics
- Importance of co-ordination, balance and timing to generate power in the stroke
- BIOMECT (LTA)

MODERN DAY COACHING AND METHODOLOGY

INTRODUCTION

- Significant change in teaching methods during the last 20 years
- Based on research done in tennis and in other sports
- Importance of the player involvement, understanding the game

TEACHING STRATEGY IN THE OLD METHODS

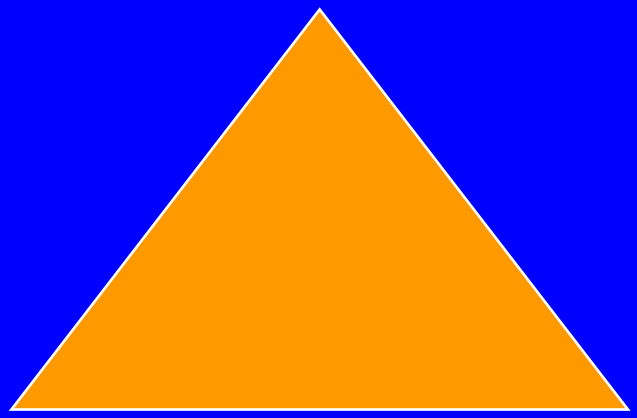
- Technique was the priority
- Tactics were taught when the player was able to master the technique
- Matches were played when players were able to rally consistently

TECHNIQUE

TACTICS

PLAYING THE GAME

CLOSED SITUATION



OPEN SITUATION

USE ONLY OF ANALYTIC METHODS FOR ALL PLAYERS

TEACHING STRATEGY IN THE NEW METHODS

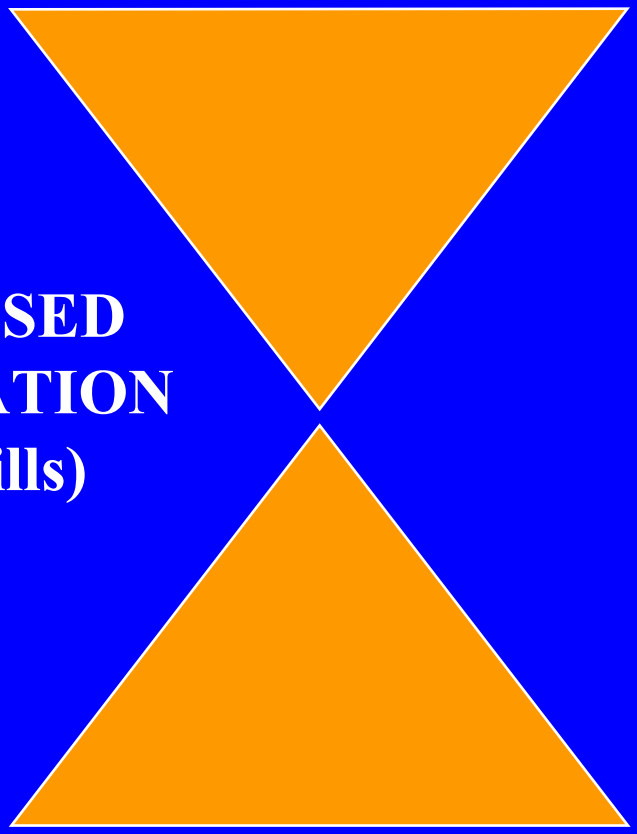
- The priority is PLAYING THE GAME (GAME BASED APPROACH)
- Technique and tactics should be taught at the same time
- Matches should be played as soon as possible
- Technique is taught to better implement tactics

PLAYING THE GAME

TACTICS

TECHNIQUE

OPEN SITUATION



CLOSED SITUATION (drills)

OPEN SITUATION (match)

GLOBAL METHODS (e.g. mini-tennis)

USE OF ANALYTIC METHODS IF NEEDED (technical training)

GLOBAL METHODS

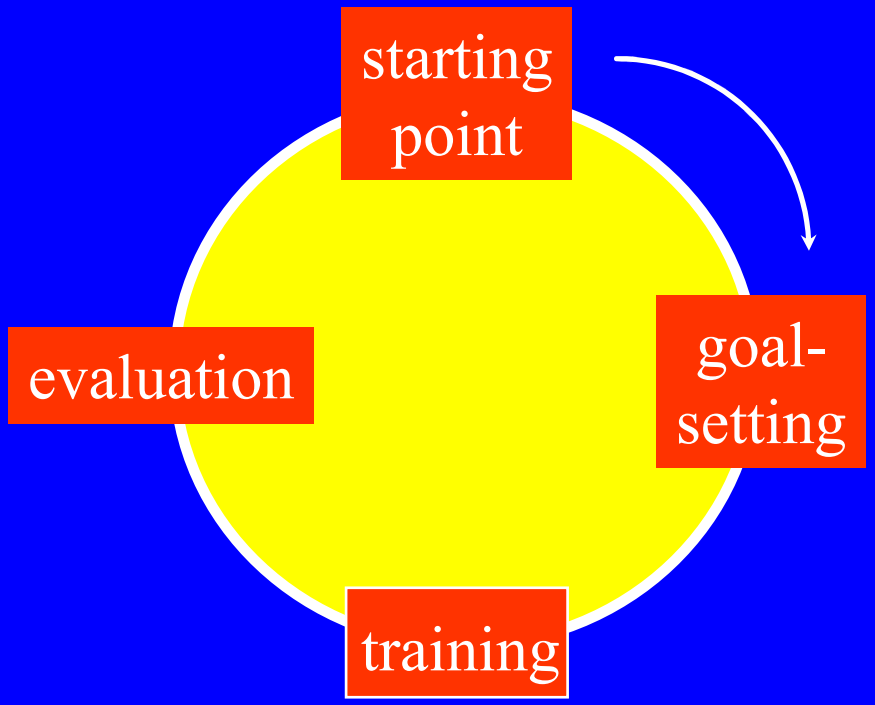
Teaching approaches	The players	The learning process	Class organisation	Dealing with group & players
Old approach	All players learn the same way. The coach teaches everyone in the same way	No attention to the different stages of learning	Based on using line formation	All players in the group doing the same task at the same level of difficulty
New approach	Each player learns differently	The are different stages of learning that should be respected	Based on using buddy teaching, task assignment	Individualisation & inclusion. Adapt the task to the characteristics of each player
Conclusions	Understand kinesthetic, visual and auditory learners	Be aware of cognitive, repetitive and automatic stages of learning	More activity and independence, less control	Possibility of working individually within group lessons

IMPLICATIONS FOR COACHING

- Use a more player centred learning strategy
- Use drills with more tactical intentions
- Create a positive learning environment:
  - Strengths vs. Weaknesses
  - Positive reinforcement
  - Command vs. Guided Discovery

MODERN DAY COACHING AND PEDAGOGY

A Pedagogical Model



The (actual) starting situation

- **Possibilities / Opportunities:** Player's options.
- **Limitations / Weaknesses:** Be aware.
- **Weapon / Strenght:** 'lethal', Gaining (many) points.

Goal setting

- Short term and long term.
- Use a ‘S.M.A.R.T.(E.R.)’ description.
- Make sure the goals link to the ‘starting. situation’.
- Performance and outcome.
- Sub-goals.

Training

- Should be ‘gamelike’;
- The purpose (goal) should be clear;
- ‘Load’ should be related to the goal;
- ‘Objective’ and measurable results are highly motivating

Evaluation

- Can build up selfconfidence;
- Should be positive but realistic;
- Performance and/or outcome;
- Match analysis;
- May lead to new goals.

MEASUREMENT AND EVALUATION

- Importance of tests
- Use of Sport Science
- Share results
- Learn from experience

RECOGNITION AND REWARDS

- Important for players
- Keep motivation
- Avoid extrinsic rewards as much as possible

CONCLUSION

- Principles in tennis coaching will help coaches to help players
- Ultimate goal: THE COACH AS FACILITATOR OF THE LEARNING PROCESS