



# REFLECTIONS ON COMPETITIVE FENCING – HOW TO START THINKING AS A TOP-COMPETITIVE FENCER

BYGDØY 16 FEBRUARY 2024  
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# DIFFERENCES TO THE NJORD 230831 PRESENTATION

- The Njord presentation was scientific where the reasoning came first and the conclusions came last. The scientific findings and reasoning were building up to the conclusion. And it took for ever to present it all.
- This is more like a newspaper presentation where the conclusions (the headlines) are introduced first and the reasoning into why is presented later including the scientific findings.
- The objective is to stimulate into thinking and all interactions will be awarded with gifts.
- It is my firm believe that from approximately from age 20 or so, it is only one person that can know what is going on in a fencing match and that is the fencer him/herself. Not team mates, not coaches.
- The first consequence of this believe is that the fencer him/herself needs to take charge of the direction of the development of the progression of fencing. Where do I want to be in 1, 3, 6 months, in 1 ,2 ,3 years?
- The second consequence is that the fencer needs to be in charge want will happen in the next minute or the next second. When is the time to change tactics? And into what tactics? And what is then the point of on strip coaching?

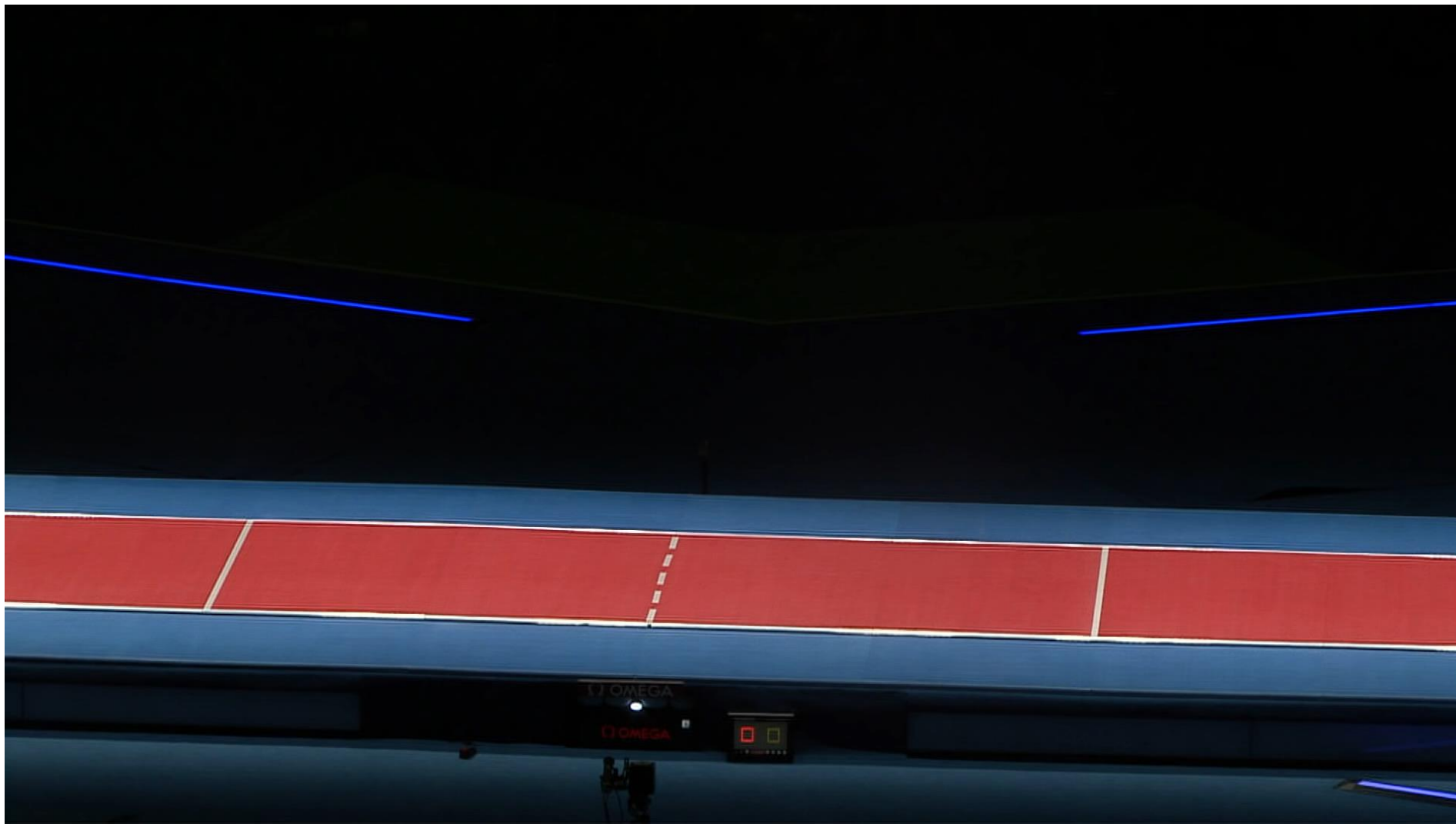
# JH GREAT DISAPPOINTMENT WITH SWEDISH FENCING

- Over the last 30 years or so, Sweden has had quite a number of hopeful 20-year old fencers with substantial talent and reasonable competitive success defined as reaching top 64 in a World Cup on a good day.
- They have then trained very hard during 5 years with the best guidance which includes the Swedish Olympic Committee. The effort has been well funded. After 5 years of hard training, they find themselves in the same competitive situation - top 64 in a World Cup on a good day (Peter Wanky is the only exception to this depressing tradition). I have even invented a Swedish verb for this depressing feature: **“att platåa”** – the feature of not reaching better competitive results in spite of hard training for many years – thus reaching a competitive plateau.

# I DO NOT KNOW WHY BUT I OFFER A COUPLE OF GENERAL COMMENTS.

- The 20-year old, all had a special features (särdrag) making them difficult to read. These were all gone 5 years later.
- If you train like everybody else, you become like everybody else.
- The 20-year old has experienced an impressive progression with general fencing training. It is tempting to assume that if you continue the same training, the progression will continue.
- Swedish attitude – do not be sorry
  - there is a new competition in 3 weeks and
  - “sometimes you win and sometimes you lose” - it is random (slumpmässigt)
- JHs attitude– be very sorry and learn. Every loss is a great learning experience. And besides you want to win every time and every match. Win now and not in 3 weeks (US attitude).
- You want to educate winners and fencing is now 15-touch bouts. If you do not win at least a couple of 15-touch bouts, you are at the wrong competition. Swedish attitude is that if you lose many times you will start winning eventually. I strongly disagree. Swedish fencers often perform well in pools but loses directly in the 15-touch bouts.
- With the 15-touch direct elimination procedure, even if you fence for many years and perform well, you will not meet many international opponents many times. So even if your special features (särdrag) do not reward you in a national setting, they may reward you in an international setting.
- Bottom line is to take charge of your own development, learn from the losses and do not be afraid to cultivate special features (särdrag).
- Quiz: JH had only a short international career (4 years) which resulted in 2 gold medals in world championship (one bronze which I am a bit ashamed of), one Olympic gold and a total of 3 victories in Heidenheim and Bern World Cups. I also won the total World Cup twice. But how many individual Swedish championships did I win? I competed in all three weapons both as a junior and a senior?

# FINAL OLYMPICS 2016



# THE 10 ATTRIBUTES

## **The final of the Olympic Games 2016 – the 10 attributes**

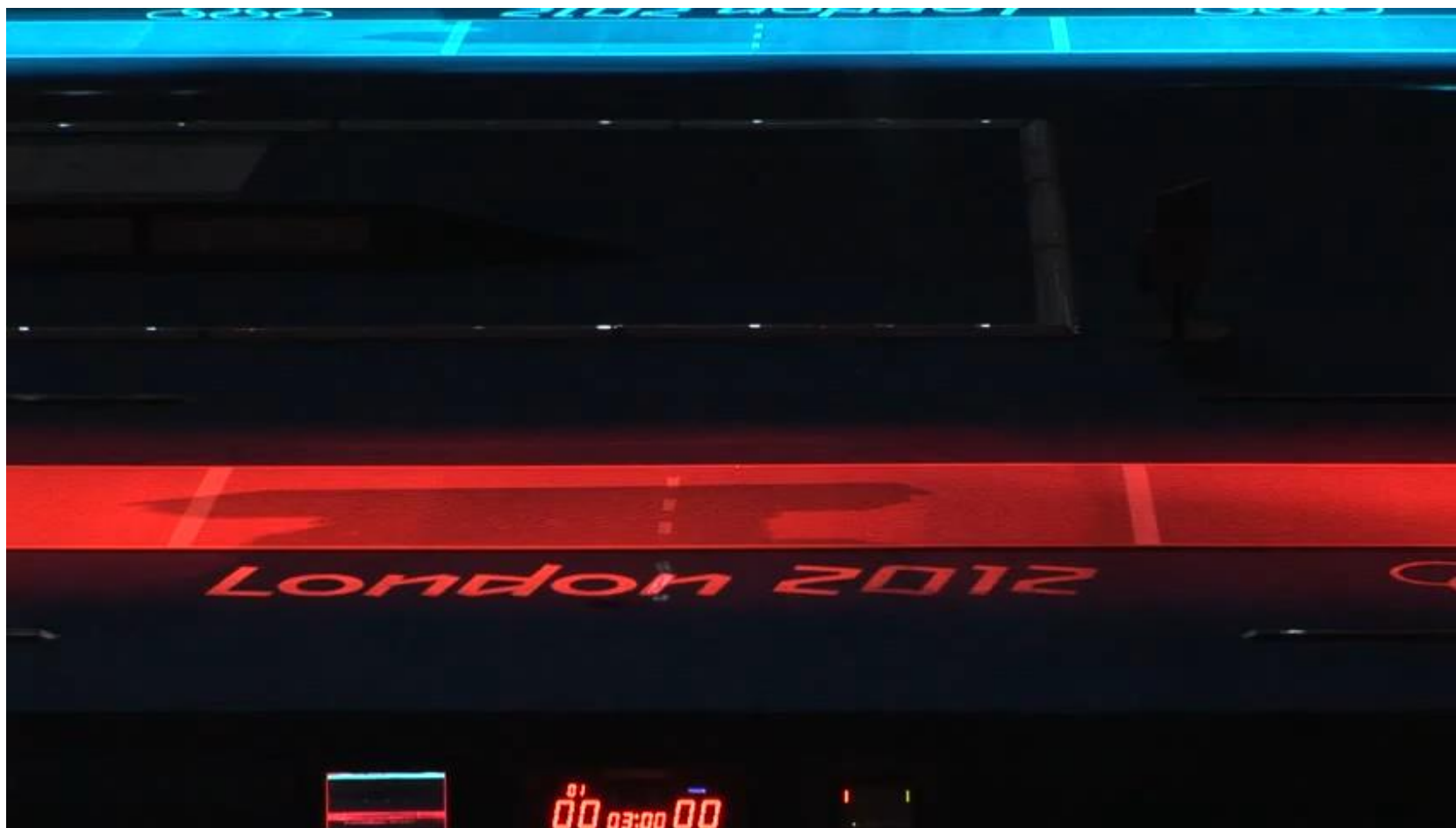
A natural starting point for discussing fencing strategy is the final bout between Imre-Park in the Olympic Games 2016 that can be found on internet (Most international bouts look like this which we will discuss later).

The following attributes can be noticed:

1. Bouncing on-guard position. Many bounce in important matches but not in training!
2. Short distance
3. Very bent arms
4. Little to no blade-to-blade contact
  - a. Few parries (only when Imre was stupid at the end)
  - b. Few faints with the blade or the point – few disengages
5. The points are rarely pointing towards the opponent in the on-guard position
6. Many body faints
7. Few full attacks (advance-lunge or even a full lunge)
8. Late but very rapid arm extensions

Consideration: How many of these attributes are reflected in the fencing lessons?

# LONDON 2012 GRUMIER – BARTOSZ PIASECKI



# CONSIDERATION

- Bartosz is the best Norwegian fencer ever. Grumier was the number 1 or so in the world at the time. This match is central in the history of Norwegian fencing. But what can we learn?
  1. How many of the 10 attributes can you find?
  2. Who is driving the distance?
  3. What do you call Bartosz's fencing style?

BARTOSZ AS A 20 YEAR OLD.

# SUCCESS, SUCCESS

1. Bartosz has undergone an impressive progression from 20 to 26 years. Yes, I have been a member of Bygdøy and was fencing there 2006 at age 52.
  - a. From a disengaging fencer to a non-disengaging fencer.
  - b. From a parrying fencer to a non-parrying fencer.
  - c. From a normal distance fencer letting me decide the distance to a fencer that decides the distance for Grumier.
  - d. It is so impressive but was this the plan 2006 or did it just happen? How so? You really developed your special features (särart) during this time.

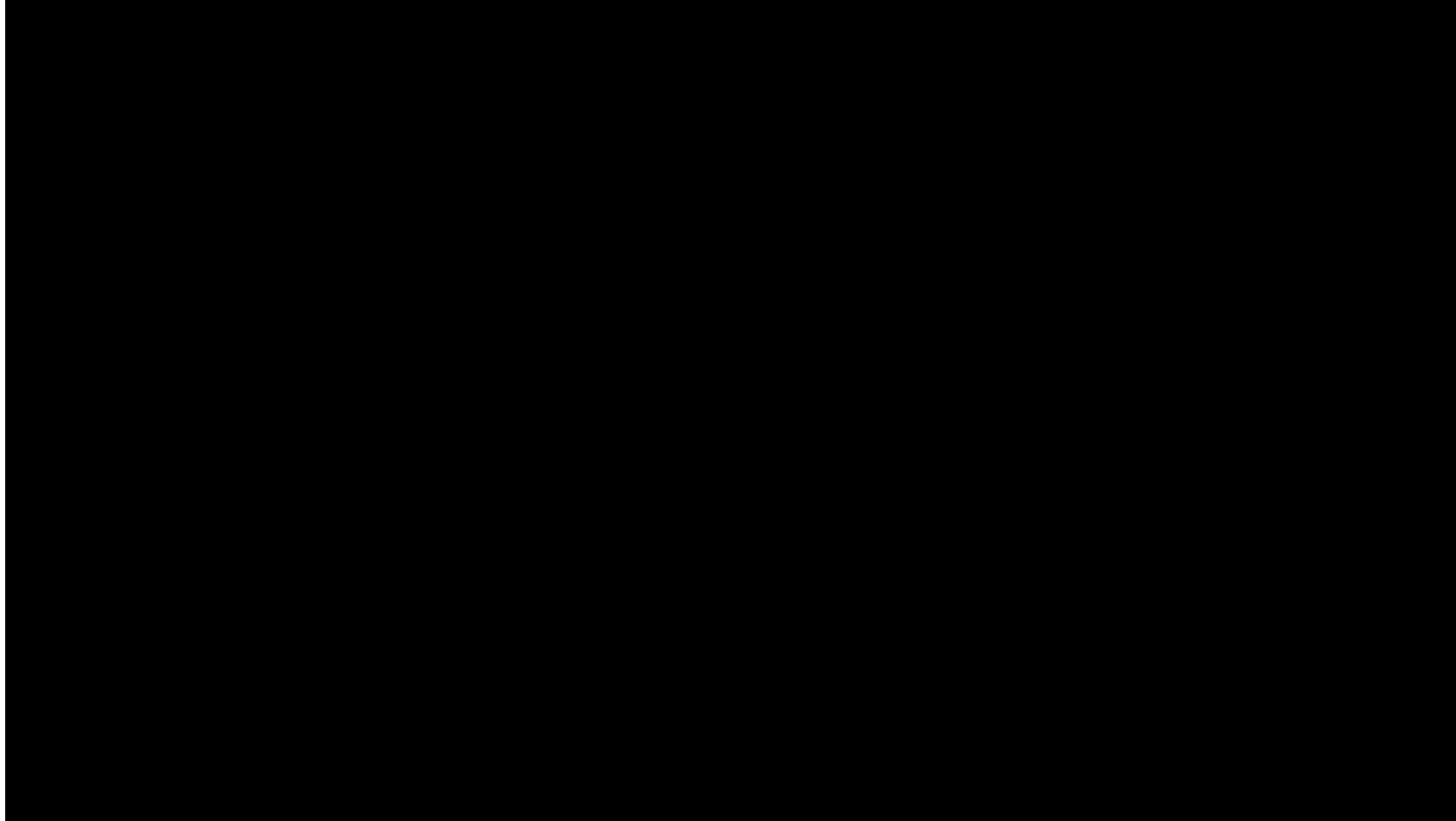
# HOPPA OCH STRÄCK (JUMP AND EXTEND)

- Now you are the coach. Bartosz has at age 24 (with 2 years to Olympics) made a sensation by beating Grumier. But how should he train? Let us vote.
  1. 100% hoppa och sträck
  2. 80% hoppa och sträck, 20% annat
  3. 50% hoppa och sträck, 50% annat
  4. 20% hoppa och sträck, 80% annat
  5. 100% annat

# CONSIDERATIONS “ANNAT”

- Sollee anecdote
- Would be training a rather wide range of movements including but not limited to parries, bindings, disengages, lunges, flèches and so on. This is what I call “gott och blandat”.
- Would provide a range of new alternatives but would normally not result in world class performance of any of the features.
- Needs to be a balance between special features (särart) which should be of world class and “gott och blandat” which cannot be of world class (unless you are a very special talent).
- “Gott och blandat” may result in training that is similar across the globe and thus the surprise factor may be small.

HOPPA, HOPPA, HOPPA 2012



- Who taught you to bounce?
- One thing taught in fencing clubs.
- But it is often left to the fencer to find out what is meaningful in competition without coach guidance.
- Is this optimal?
- Do we retain the “right” beginners?
- Who is faster you or Bartosz?

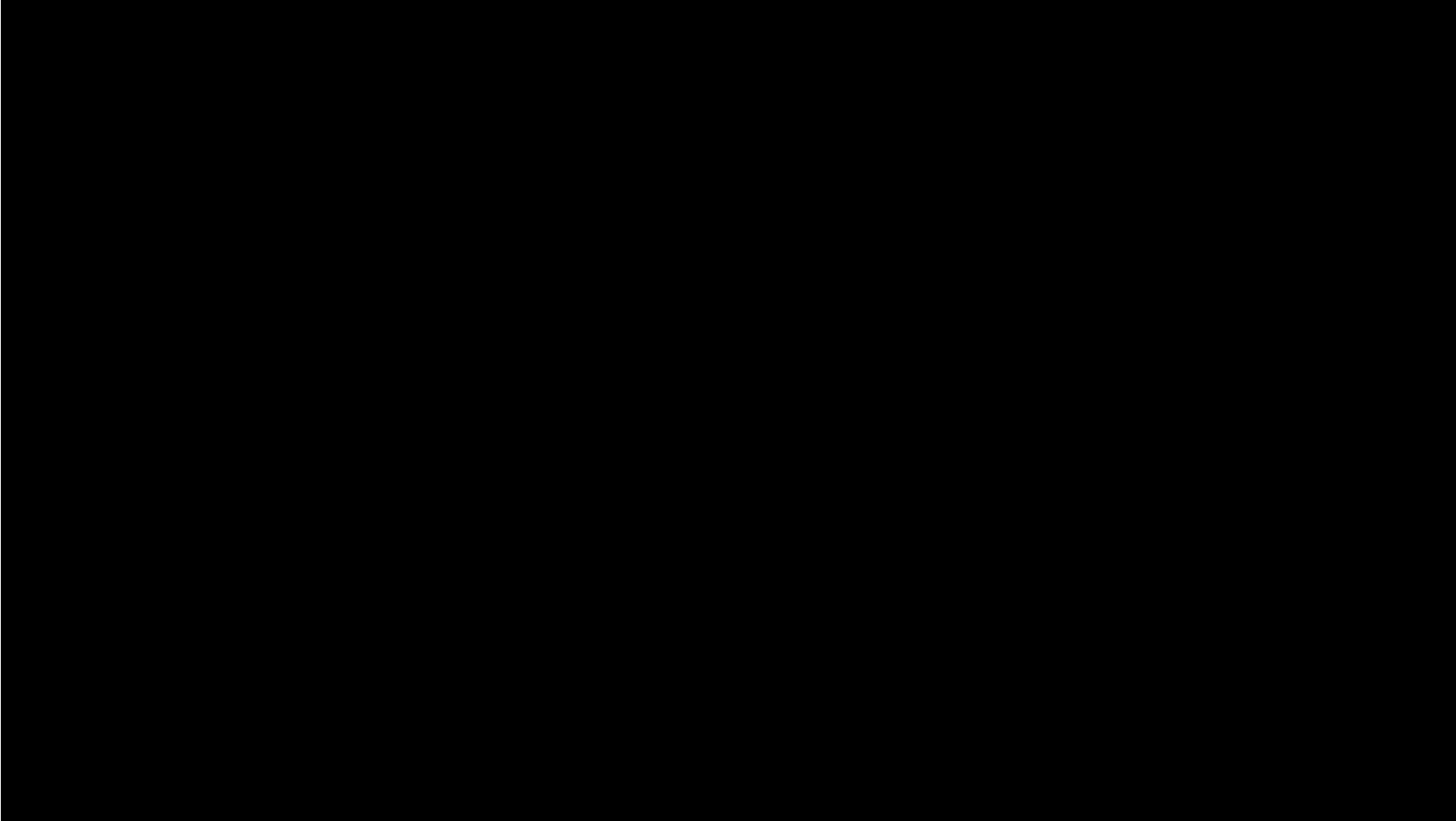
# WHY BOUNCE?

1. Increases speed
2. More energy economic
3. Movement without shifting weight between feet
  - Note - fasten back foot
4. Decrease risk of contra-attack from opponent (point 1, 3)
5. Allows for shorter fencing distance (point 1, 3, 4)

# TAE KWON DO



# FENCING



TAKE HOME MESSAGE – HOW MANY OF THE 10  
ATTRIBUTES DO YOU FIND IN A STANDARD FENCING  
LESSON? PREPARATION FOR COMPETITION?



# THE SCIENCE OF FENCING

## Anthony Turner, Middlesex University

- Background in Taekwondo and Boxing
- Around 15 important fencing scientific articles
- Cited in 6151 articles

Check for updates

Review

## Why fencers should bounce: A new method of movement to engage the stretch-shortening cycle

Anthony N Turner<sup>1</sup> and Johan Harmenberg<sup>2</sup>

International Journal of  
Sports Science  
& Coaching

International Journal of Sports Science  
& Coaching

0(0) 1–9

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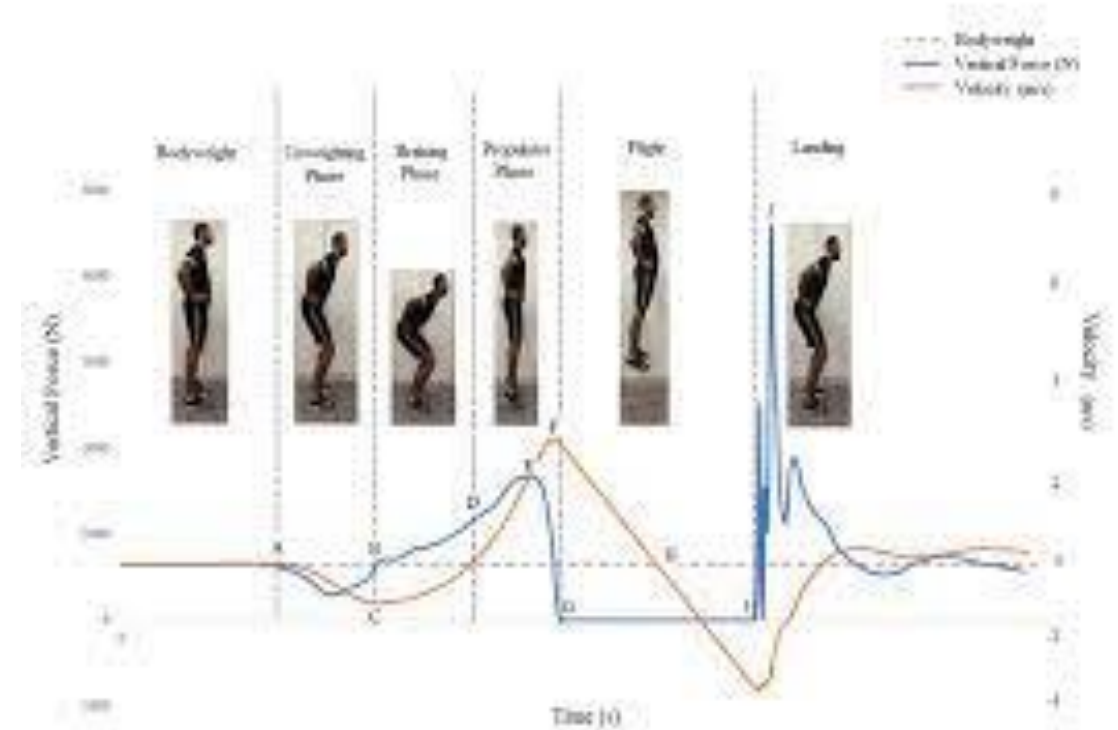
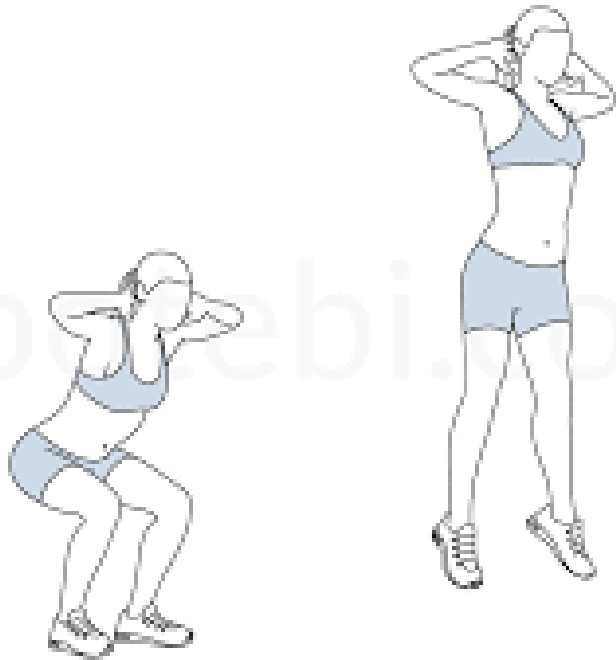
DOI: 10.1177/1747954117747133

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 SAGE



# SQUAT JUMP VS CONTRA-MOVEMENT JUMP (CMJ)



# ENERGY SOURCES

- There are three available energy sources
  - Alactic anaerobic energy system (foil, sabre)
    - 5-10 seconds
    - ATP and creatine phosphates (CP) as fuels are stored in limited quantities in the muscle
    - ATP-CP phosphagen system
    - Do not use  $O_2$  or produce lactic acid
  - Lactic anaerobic energy system (epee)
    - Dominating after the alactic system is depleted (5-10 seconds) until the aerobic system takes over (2 minutes)
    - Glycolytic system. Convert glucose to lactic acid. 2 ATP per glucose molecule
    - Increase lactic acid concentration especially over 4 mmol/L is connected with fatigue and poor decision-making process
  - Aerobic energy system
    - Oxygen demanding system. Needs 2 minutes to get going. Produces 38 ATP per glucose molecule

# BLOOD LACTATE (BL)

- Normal BL = 0.5-1.0 (2.0) mM
- Hyperlactatemia = 2.0-4.0 mM
- Metabolic (lactic) acidosis > 4.0 mM
  - Primary factor in muscular fatigue
  - Poor decision-making
- Lactate tolerability can be trained.

# BOUNCING (STRETCH-SHORTENING CYCLE, SSC) CONSERVES ENERGY AND IMPROVES SPEED

- During hopping, jumping, and running, for example, our legs exhibit similar characteristics to a spring, whereby the leg spring compresses on ground contact and stores energy, before rebounding at push-off and releasing energy. It is currently recognized that the tendon (senor) is the primary site for the storage of elastic energy (EE). Length of energy storage is perhaps 300 mSec.
- EFFICIENT STRETCH-SHORTENING CYCLE (SSC) MECHANICS RESULT IN ENERGY CONSERVATION AND ENHANCED PROPULSIVE FORCES.
- Bouncing gives more speed for less energy cost compared to Heel-Toe-Travel (HTT)
- SSC can be trained
- Turner et al., Strength Cond J, 32(4): 87-99, 2010

# JOHAN'S 15 SECONDS RULE EXPLAINED

- JH has always advocated that if you put your opponent under strong pressure during 15 seconds, one of you will make a mistake (you or your opponent). This will happen mostly after the 10<sup>th</sup> second.
- JH lost once a 4-4 or 9-9 bout during his 4 years of being top competitive. (3 of JH's 4 victories in the Olympic final was with last touch)
- JH had the feeling that the opponent through himself to JHs point in these situations. Up until recently JH believed that he was just smarter than the opponent. The opponent was just stupid.
- A feasible explanation is now that since JH did bounce and the opponents did not (at the time), the opponent acquired lactic acidosis while JH did not. Lactic acidosis creates general and muscular fatigue and poor decision making abilities.
- **So if your opponent is better than you, put him/her in lactic acidosis.**

# TAKE HOME MESSAGE

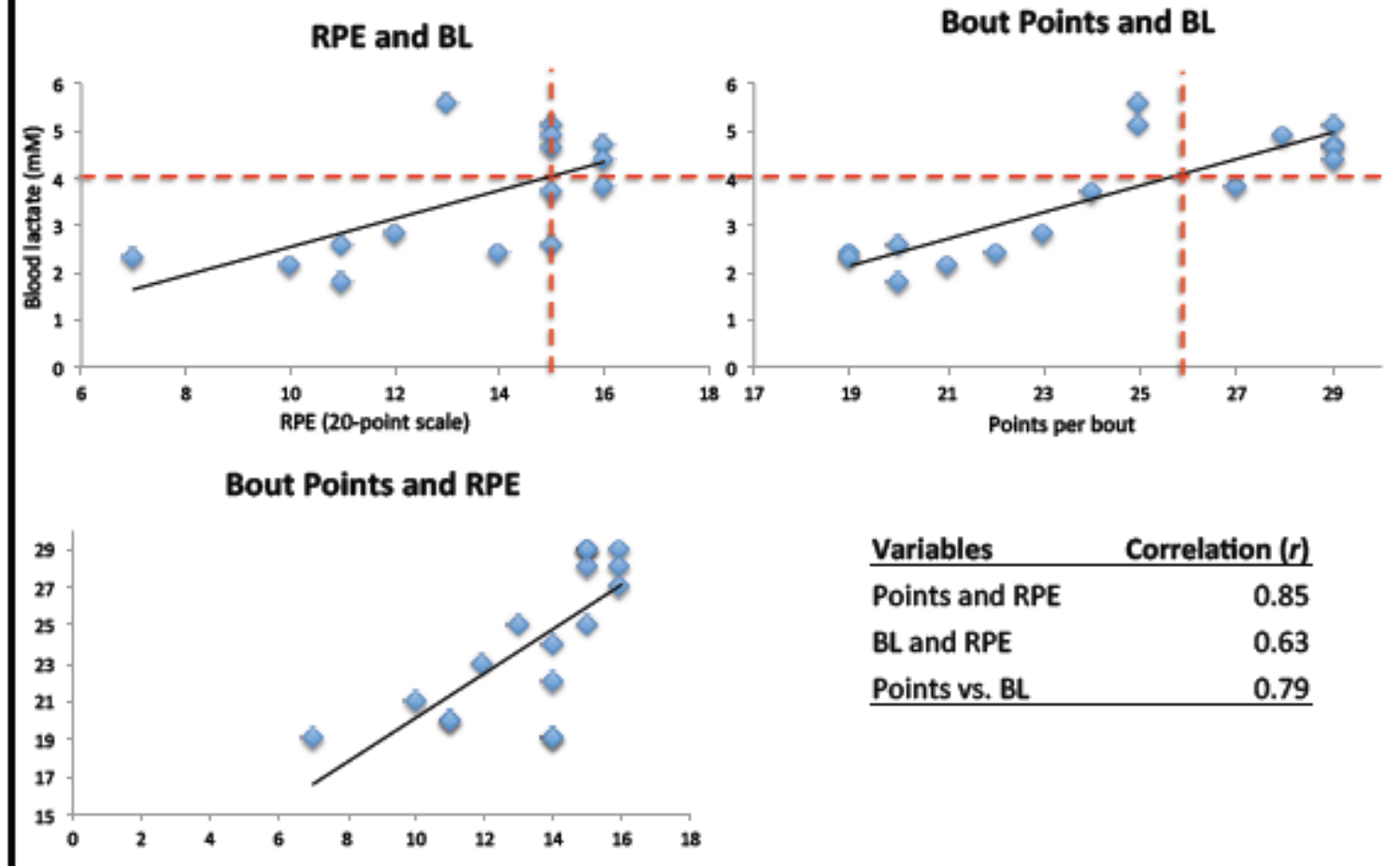
1. Store elastic energy through stretching Achilles tendon with a down directed vertical movement.
2. Release the elastic energy horizontally when moving forward or backwards.
3. If multiple steps forward or backwards, make sure to store energy in each step.
4. To be carefully instructed and trained – often not done in a structured way.

# HOPPA, HOPPA, HOPPA

- Ground contact time (GCT): 150 ms repeated bouncing (Fredrik: 3 bounces per second, 333 mS between bounces)
- Jump ropes
  - At least 120 rotations/min for SSC training [Miyaguchi J Strength Cond Res 28(3):700-5, 2014]. Is this a lot?
  - At least 180 rotation/MIN to mimic Fredrik
  - Until the technic is effortless
- Is it possible to put Novosjolov in lactic acidosis and not yourself?
- Plyometric training aim for one effort (like high jumping). Not applicable for fencing.

## Rated Perceived Exertion (RPE)

# Defining a threshold



- The lactate threshold is crossed at 26 or more touches in a KO bout!
- All 15-11 or closer bouts are finished in lactic acidosis

# WHAT IS THE PHYSIOLOGICAL LOAD?

Mean ( $\pm$ SD) results per bout for 9 male foil fencers from two elite competitions (9 fencers).

|           | Time (min)       | RPE*          | BL<br>(mmol/L) | Mean HR<br>(bpm) | Max HR<br>(bpm) | HR>80%<br>max HR |
|-----------|------------------|---------------|----------------|------------------|-----------------|------------------|
| Pools     | 5.33 $\pm$ 2.15  | 5.7 $\pm$ 1.3 | 3.1 $\pm$ 1.4  | 168 $\pm$ 8      | 192 $\pm$ 7     | 68%              |
| Knock-out | 15.09 $\pm$ 5.24 | 8.5 $\pm$ 1.3 | 3.6 $\pm$ 1.0  | 171 $\pm$ 5      | 195 $\pm$ 7     | 74%              |

- Rated perceived exertion (0-10)
  - Turner et al., Competition intensity and fatigue in elite fencing, J Strength and Conditioning Res. 31(11) 3129-36, 2017.
- 
- **Surprisingly high mean HR. Close bouts expected to be even higher. Cannot be explained by exercise only. Stress needs to be a large contributing factor.**
  - **Mean BL close to BL threshold of >4 mmol/L. Close bouts are clearly within the lactate acidosis range**
  - **40% of KOs at 90-100% of max HR.**
  - **So close bouts are performed with very high HR and high lactate. Much more for epee.**

# TAKE-HOME MESSAGES

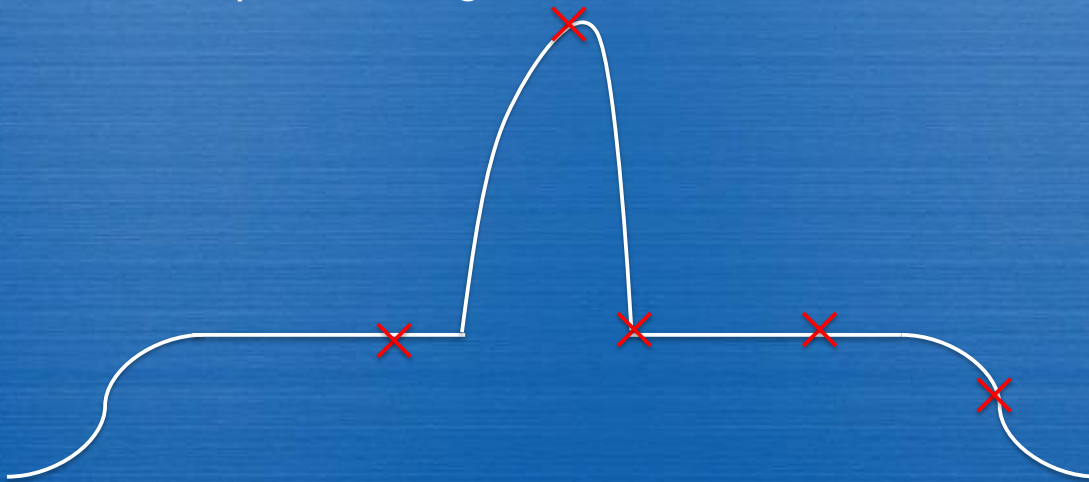
- Fencing competitions relies mainly on the alactic anaerobic energy system
- Close KO bouts (26 or more touches) in foil clear rely on the lactic anaerobic energy system.
- Lactic acidosis is closely connected with general and muscular fatigue and poor decision-making
- Lactic tolerance can and should be trained
- Training does not mimic competitions in terms of intensity (HR, BL and RPE)
- **Should training prepare for competitions??**

STRÄCK, STRÄCK, STRÄCK



# When do you want to score?

Relative speed to target



# ACCELERATION MAY DECEIVE THE EYE

- Max acc, Fencing arm extension 50-60 m/s<sup>2</sup>
- Mean acc, Porsche 911 Turbo S 4.8 m/s<sup>2</sup>
- Mean acc, Formula one car 16.3 m/s<sup>2</sup>
- Max acc, Space shuttle during take off 30.0 m/s<sup>2</sup>

# SCORING CONSIDERATIONS

Relative point speed

$$V_p = V_a + V_f + V_{fo}$$

where

$v_p$  = Relative point velocity (relative point speed): the velocity of your point relative to your opponent's target.

$v_a$  = Arm velocity: the speed contribution of your arm extension to the point speed

$v_f$  = Foot velocity: the speed contribution of your foot work to the point speed

$v_{fo}$  = Opponent's forward velocity: speed of your opponent, primarily foot speed, towards you.

Positive  $v_p$ ,  $v_a$ ,  $v_f$  indicate forward motion, while negative  $v_p$ ,  $v_a$ ,  $v_f$  indicate backward motion. Positive  $v_{fo}$  indicates that the opponent is coming towards you, thus shortening the distance. Negative  $v_{fo}$  indicates a retreat of your opponent.

If the eq. for relative point speed is applied on the *critical gap* for scoring, it will describe the RELATIVE POINT HIT SPEED

# RELATIVE POINT HIT SPEED

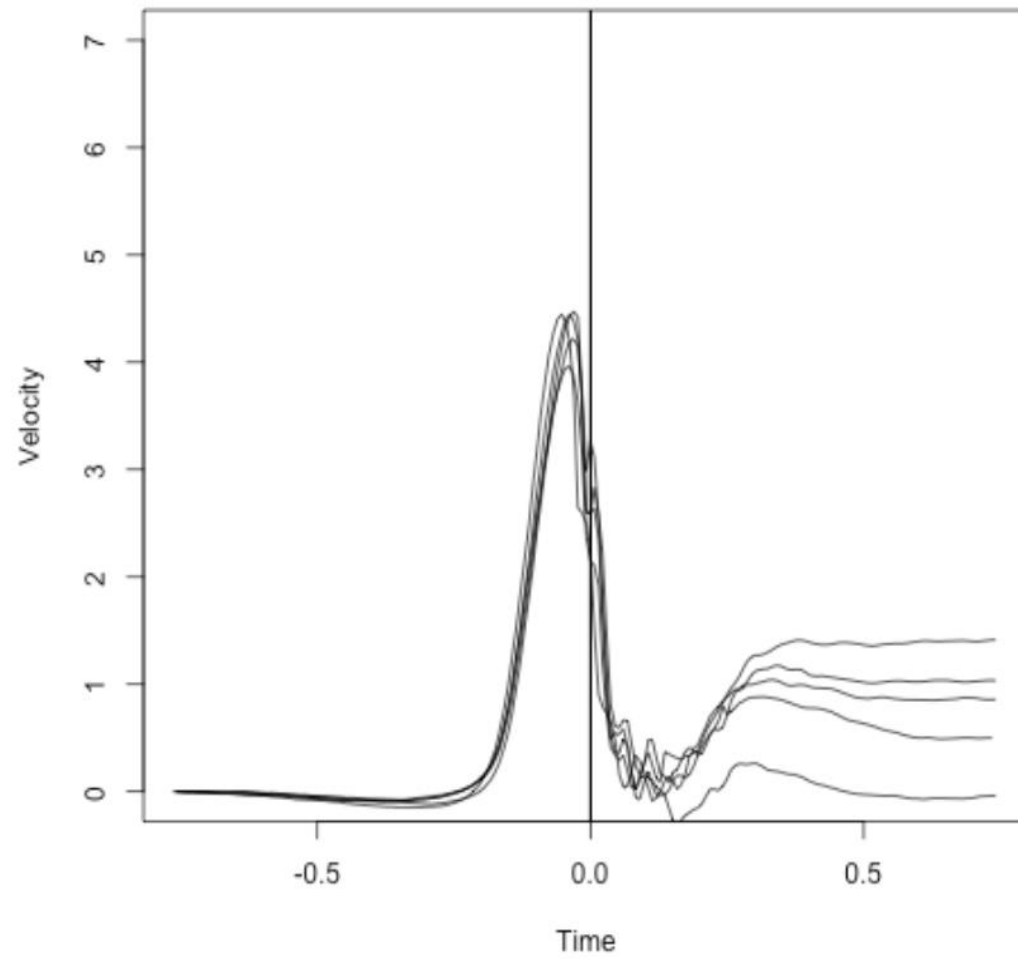
| Relative point hit speed ( $v_p$ ) | $v_{arm}$ | $v_{foot}$ | $v_{op}$ | Sum          |
|------------------------------------|-----------|------------|----------|--------------|
| Super high                         | ++        | +          | +        | 4+           |
| High                               | ++        | 0          | +        | 3+           |
| High                               | ++        | +          | 0        | 3+           |
| Medium                             | ++        | 0          | +        | 3+           |
| Low*                               | 0         | -          | +        | 1+           |
| Low                                | 0         | +          | 0        | 1+           |
| Low                                | 0         | 0          | +        | 1+           |
| Super low                          | 0         | +          | -        | $1+ > x > 0$ |

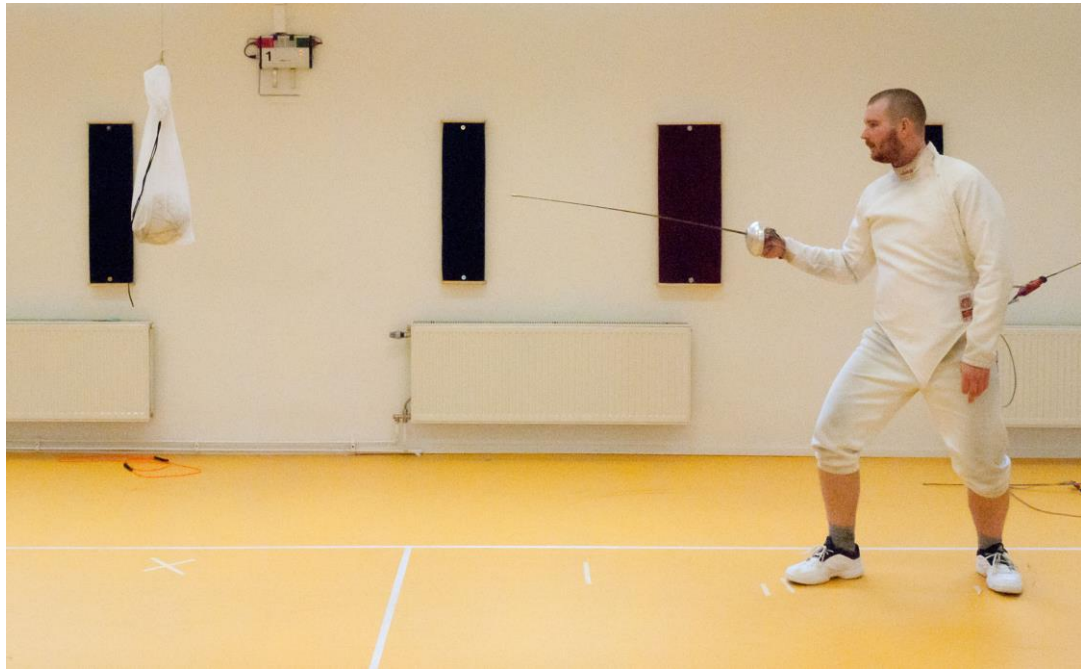
Please note that max arm speed is around 40% higher than the foot speed and is obtained much faster

# POINT HIT SPEED (PHS)

- From last slide follows that the speed of the point at the moment of scoring (PHS) is of primary importance.
- It is the relative PHS (relative to the target on the opponent) that is of interest from obvious reasons. Not the absolute PHS (relative to the ground).
- PHS relative to a stationary target is the sum of foot speed and arm speed and would be maximal if top foot speed would coincide with top arm speed at the moment of scoring.
- PHS drops down significantly when the arm is fully extended, which could be a result of the opponent retreating. This is why CODS are so important; you can get access to the opponent's blade with the opponent's arm fully extended without being hit. Another consequence is that experienced fencers tend to launch attacks from shorter distance to maximize PHS.
- We intent to measure PHS in three situations
  - Isolated arm extension
  - Isolated lunge
  - Combined arm extension + lunge

# ARM EXTENSION PROFILE





# PHS DATA FROM THE PILOT STUDY

- The study included 5 top athletes including junior world championship winner and 2 FIE world cup satellite winners (from Epee 2.5 by JH).
- They were instructed to assume a comfortable position in order to maximize the PHS on a stationary target

| Test                  | Point hit velocity (range) (m/s) | Maximal acceleration (m/s <sup>2</sup> ) |
|-----------------------|----------------------------------|------------------------------------------|
| Lunge                 | 3.4 (3.0-3.7)                    | 25.6                                     |
| Arm extension         | 4.5 (5.3-4.0)                    | 42.9                                     |
| Lunge + arm extension | 5.4 (4.4-6.4)                    | 38.8                                     |

- The maximal arm extension speed in line with boxing data
- The maximal arm extension speed was far superior to lunge speed even though the acceleration path was much shorter resulting in a surprisingly high acceleration. Double over the highest acceleration of a space shuttle.
- Adding a lunge on top of an arm extension did not add much to PHS. Room for improvement?? Could be specifically trained??

# NEW INFORMATION

- Max arm point velocity around 4-5 m/s
- Max lunge point velocity 3-4 m/s
- Max lunge + arm velocity 6-7 m/s (added speed vs arm extension only 0.5-1.5 m/s)
- Max velocity always prior to scoring

| Max velocity (m/s) |                  |       |               |              |                                                       |
|--------------------|------------------|-------|---------------|--------------|-------------------------------------------------------|
|                    | Arm<br>extension | Lunge | Arm+<br>Lunge |              | Added max<br>speed over arm<br>extension      Comment |
| 1                  | 4.1              | 3.0   | 4.6           | Tor 40       | 12%                                                   |
| 2                  | 4.9              | 3.5   | 5.7           | Christian 26 | 16%                                                   |
| 3                  | 5.3              | 3.7   | 6.4           | Karl 25      | 21%      Top performer                                |
| 4                  | 3.4              | 3.1   | 4.9           | Johanna 22   | 44%      Best to combine                              |
| 5                  | 4.8              | 3.7   | 5.6           | Erik 24      | 17%                                                   |

But who won the world championship?

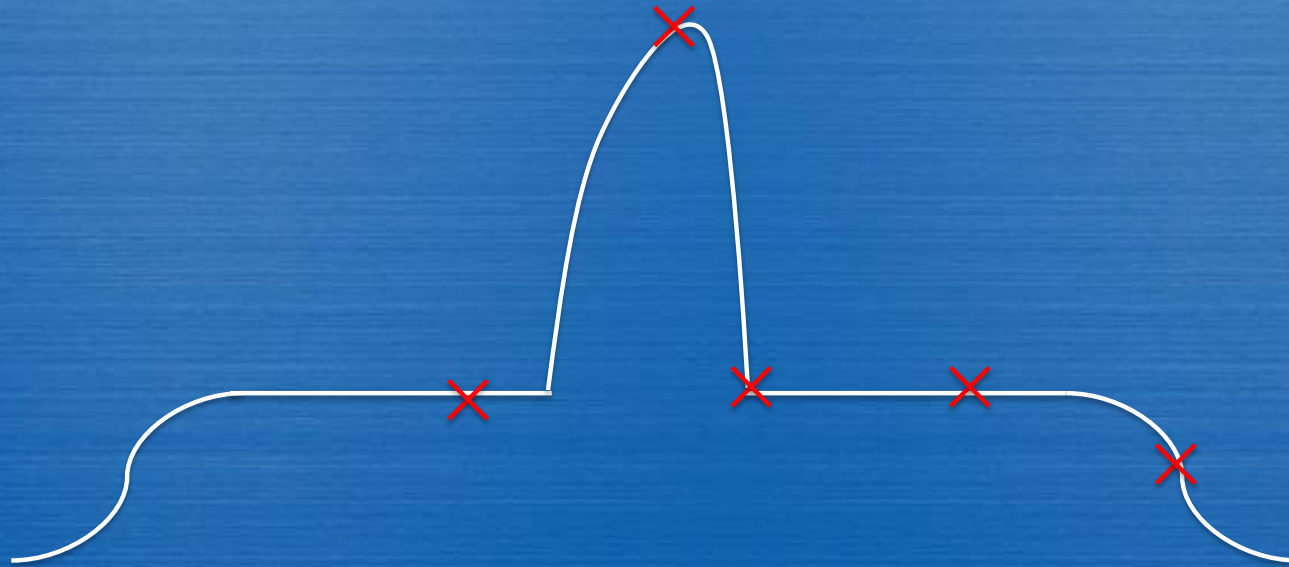
# IS IT POSSIBLE TO PARRY?

- Relative point hit speed of 4+ (10 m/s)?
  - Arm extension during lunge with the opponent moving towards you
- Relative point hit speed of 3+ (7 m/s)?
  - As above but with opponent non-moving
- Relative point hit speed of 1+ (3 m/s)?
  - Same as above but with the arm fully extended
- Relative point hit speed of <1+ (<3 m/s)?
  - Same as above but with the opponent moving away from you.
- How to do train?
- **How can you transfer the 3+ scoring attempt of OP to 0.5+? (easy to parry!!)**



# When do you want to score?

Relative speed to target



# SCORE WITH AN EXTENDING ARM

- Maximize the point hit speed
- Assumes short distance or arm extension is initiated late in the attack
- Traversing the “critical gap” in shortest time
- Please note the standard fencing advice: “Arm first”. This advice will decrease the PHS

# SCORING ALTERNATIVES

- 1-tempo movements
- Compounded movements (2-tempo or more, assumes "right" reaction from OP))
- 1.5-tempo movements (starts in one line, scores in another without waiting for the reaction of the opponent)

# FILM JØRGENSEN



Arm extension last

Leading at 14 – increase tempo

Push OP back without giving the blade – OP cannot afford a double  
15 seconds action

# WHAT IS THE GENERAL FENCING PARADIGM?

- To score without being hit. Often with arm first
- But what component is more emphasized in Europe?



# FENCING MYSTERIES ACCORDING TO JH

- Very clear competition-training gap
  - Less intensive
  - Instructions of body movements in training differ from performance in competition
  - Lessons (training) vs competition (please consider the 10 characteristics of competitive fencing)
    - Undressed fencer
    - Long distance (keep distance)
    - Early slow arm extensions
    - Arm extensions coupled with feet movements
    - Scoring with fully extended arm (low point hit speed, PHS) – Arm first advise
    - More complex movements
    - No bouncing – wrong beginners continue fencing
- Footwork often more like warm-up than speed improvement
- No focus on arm speed and high PHS. Compare with boxing.

# SO IF WE REALLY WANT TO TRAIN FENCERS FOR COMPETITION, WHAT WOULD THIS MEAN?

- Mimic competition in training
  - Change of direction speed (CODS)
  - Repeated lunge ability (RLA)
  - Intensify training to reach both high HR and lactic acidosis and **can be measured**
  - Bouncing is energy conserving and should be trained
    - Jump ropes correlate highly with SSC, double-under better than single-under (Miyaguchi et al., J Strength Cond Res, 28(3):700-5, 2014). At least 120 rotations/minute
  - Both RLA and CODS are closely correlated with standing broad jump (SBJ). So SBJ should be trained as well (hands on the hips). Counter movement jumps (CMJ) are also correlated and could be trained (however less correlated than SBJ).

# WHY HANDS ON THE HIPS FOR CODS AND RLA

- CMJ and SBJ is measured with hands on the hips.
- Using arms in on guard position with weapon would increase speed a whole lot.
- But the weapon should be used as response to opponent's action and not as a speed increaser.
- It would not be representative to compare which fencer was most successful increasing the speed with arm movements but we are interested in measuring the isolated speed that the legs can produce.
- It is therefore of fencing interest to separate legs and arm since the legs should produce the general speed and the arm movements with the weapon should make trouble for the opponent. **Decouple arm and leg!**

# POSSIBLE ADJUSTMENTS ACCORDING TO JH

- Welcome to fencing - start bouncing
- All trainings start with jump ropes
- All trainings end with speed improving footwork – hands on the hips to break hand-foot coupling
  - 3 m shuttles
  - One round is once back and forth (2 laps), one set is 10 rounds (around 30 seconds work)
  - 6 sets are performed with 15 seconds rest between, half of them with a lunge (6 sets are called a period)
  - Once the fencers become more accustomed, the objective is to perform 3 periods with 1 minute rest between. Total duration less than 15 minutes. Total of 360 laps. Please note that the 3rd period is the most important since you really want to put your OP in lactic acidosis to win the bout.
  - Time for each set should be measured and should not decrease over time. Keep the speed up also in period 3.
- Lessons mimic competition in terms of the 10 attributes with special attention that the fencing master really tries to hit.
- Try to increase the intensity with less rest periods. Fence 15 touches and not 5.
- For the 20 year old, they are the only ones that reasonable can understand why they win or lose and need to take responsibility of their own training and matches. (What do you want to train today? Why?). With the objective to have world class special features (särart) coupled with wide enough technical level of “Gott och blandat”.

# ASSUMPTIONS FOR OLYMPIC TOUCHES

- All good fencers have one or more AoE (area of excellence) (often one)
- Under extreme pressure and nervousness AND if denied the correct hidden prerequisites for the AoE then nearly all fencers are prone to execute their AoE out of context.
- This makes fencers more predictable in the Olympic touch situation
- High blood lactate causes poor decision-making ability
  - May cause the feeling – I have to do something otherwise I lose – through away a random attack
  - Execute their AoE out of context.
  - React on faints
  - Allow OP's AoE
- Eric Sollee called this “soul crushing”
- Please observe that “Olympic touch” situation occurs whenever both fencers desperately want and need next touch.

# JH OBJECTIVES FOR OLYMPIC TOUCHES

"You first take your opponent's soul [in your hands] and then you crush it."

Eric Sollee, Cambridge 1973

- Referring to that most persons are prone to mental break-down if exposed to extreme pressure in an Olympic touch situation.
- So:
  1. Get opponent (OP) into lactic acidosis
  2. Get **OP to give you the hidden prerequisites (HP) to execute your own AoE** through strategic maneuvers that is outside of this presentation.
  3. Get OP to perform his **AoE without the correct HPs** (out of context)
  4. Do something **smart yourself**. I can only recall that I needed to do this once. Alexander Pusch in the semifinal in Heidenheim 1980.

Note: During 4 years of international competitions, JH only lost one 4-4 or 9-9 situation. Perhaps a clearer strategy for Olympic touches??

POPA 1980 – AOE OUT OF CONTEXT.  
SECOND AGAINST A NON-EXISTING BLADE AT SHORT DISTANCE



# WINNING OLYMPICS – AOE OUT OF CONTEXT SOUL CRUSHING OR OUTSMARTING



## LYCKA TILL (GOOD LUCK)



# POSSIBLE EXTRA SLIDES

- Strategic discussion

## TO DISCUSS

- Assume that you are at a competition with your kid sister, (or your daughter, your younger teammate – a fencer who doesn't know as much as you do, but who will listen to your advice). She has done a little better than expected and advanced a bit further in the competition than expected. She is about to fence somebody at least one class better than she.
- OP's favorite movement is repeated, continuous sixth – second. If OP manages to find the blade, she launches a very rapid and dangerous attack that is very difficult to stop.
- You situate yourself by the piste to see the match properly and to pay your little sister some respect simply with your presence. But as you help her hook up to the electrical apparatus, she turns directly to you and asks you with terror in her voice:
- “What do I do?”

# THE QUESTION

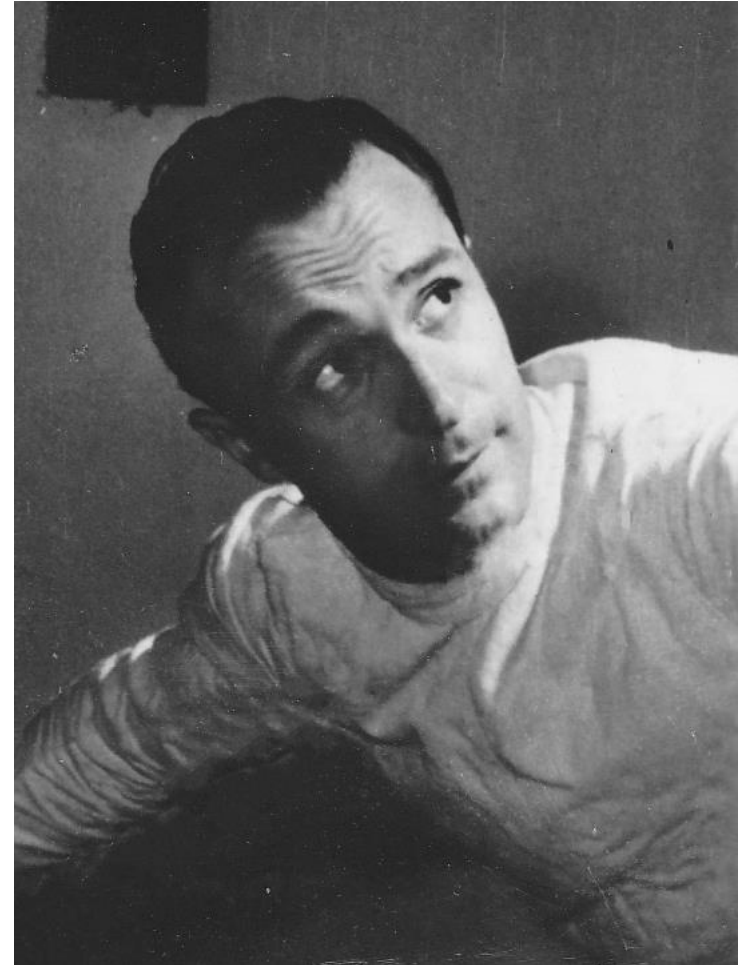
- OP is better and more experienced.
- OP's favorite movement is repeated, continuous sixth – second. If OP manages to find the blade, she launches a very rapid and dangerous attack that is very difficult to stop.
- What is your best advise??

# FENCING TODAY (AND YESTERDAY) IS DEFINED IN PRIMARILY WITH A TERMINOLOGY COVERING TECHNIQUE.

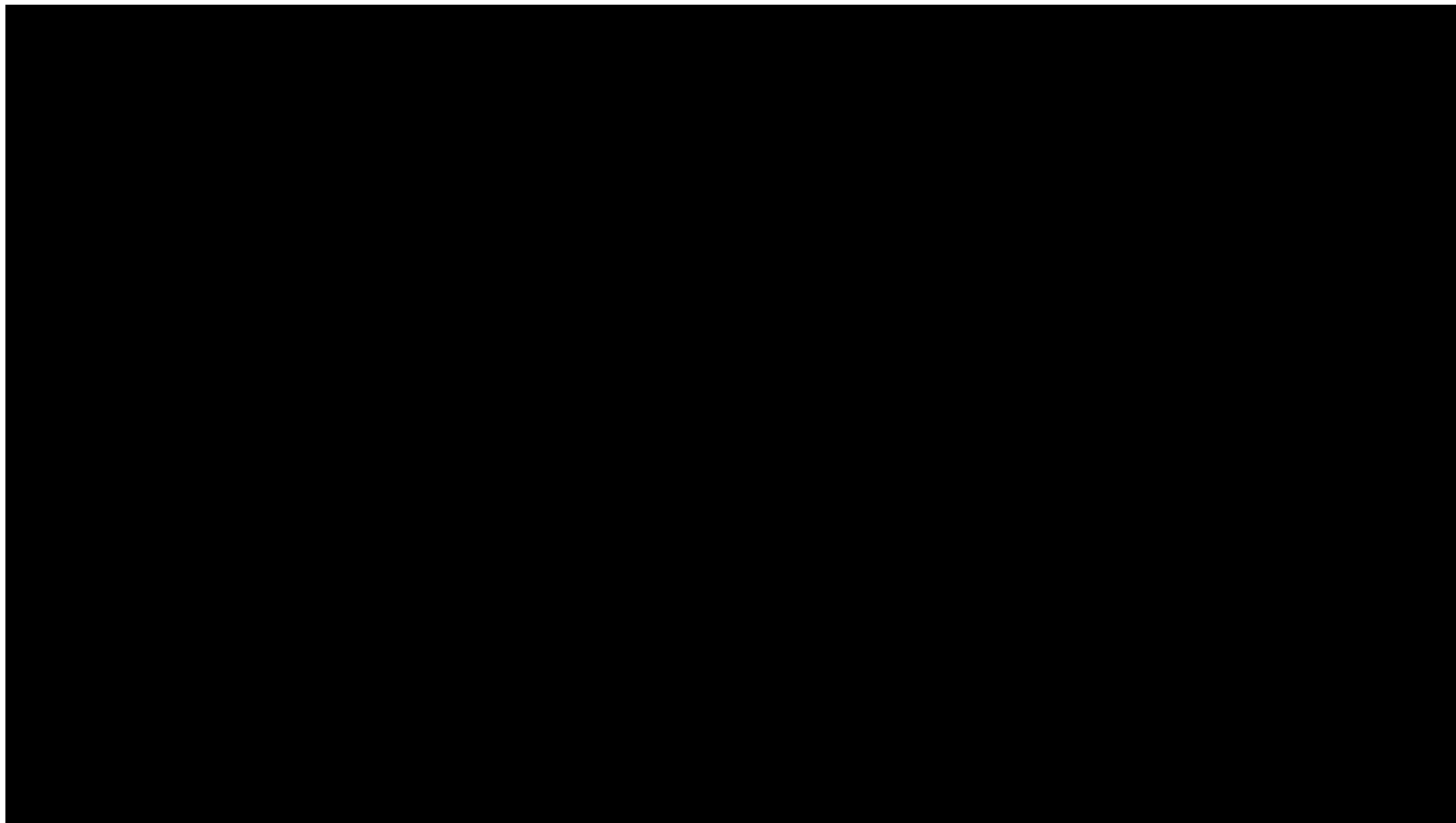
- Fencing contains a large terminology covering technique.
- Tactic considerations (strategic considerations for a particular opponent) are mostly discussed in terms of the terminology covering technique.
- Strategic considerations (general considerations valid for all opponents) are mostly discussed in terms of the terminology covering technique.
- Underlying fencing paradigm is seldom or never discussed.

# EDOARDO MANGIAROTTI

- 1919-2012
- 39 medals in world championship and Olympics
- Greatest fencer of all time
- Italy and France dominated and continues blade-to-blade contact was the norm.
- To not allow the blade-to-blade contact was seen as unthinkable and against the spirit of the sport.



# EDOARDO MANGIAROTTI - SISIKIN 1960



# TAKE-HOMES MESSAGE

- What was the fencing distance?
- Symmetric fencing
- Asymmetric fencing
  - Positive asymmetric fencing
  - Negative asymmetric fencing
- Soviet Union pioneered positive asymmetric fencing aiming for the “one blade contact” fencing
- Proved difficult to beat Soviet fencing from a negative asymmetric position
- How to beat?

# HP'S OF SOVIET FENCING

- Principal HP: Establish blade contact somehow, like OP trying to disengage
- Facilitating HPs:
  - Room for compounded attack to pick up speed (OP has to deal with a full speed attack) ?  
normal or long fencing distance
  - Fixed back-foot or slow retreat (again for room for the attack)

# TAKE AWAY ALL HP

- No blade ever (Fast arm extension needed)
- Short distance → no room for Soviet attack (Fast arm extension and fast retreat needed. Bouncing)
- Forward when the attack comes
- (Steer OP into your own AoE)