



# The PPA in assessment

Vasi van Deventer

Unisa / Thomas International

[vdevesh@unisa.ac.za](mailto:vdevesh@unisa.ac.za)



# Outline

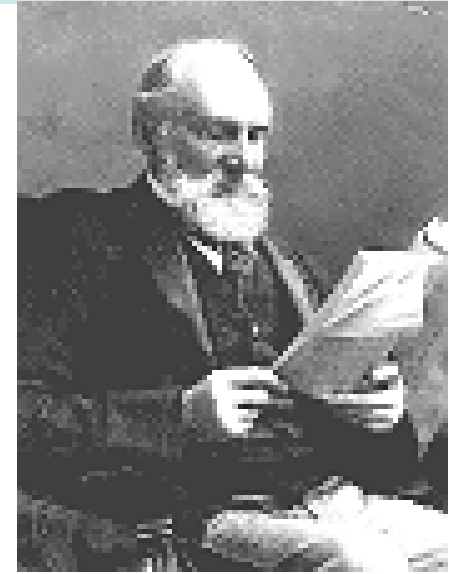
- The invariant object
- The invariant object in assessment
- The PPA in assessment
- The PPA in context



# The invariant object



# The 20<sup>th</sup> century legacy



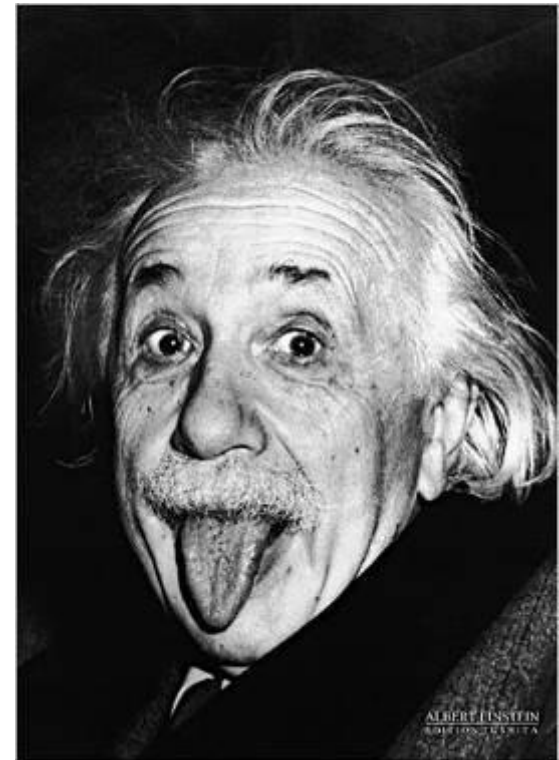
In 1900 Lord Kelvin said:

There is nothing new to be discovered in physics now - All that remains is more and more precise measurement  
*(Kelvin's address to the British Association for the Advancement of Science)*



# The 20<sup>th</sup> century legacy

But Kelvin did not know about  
this guy!!

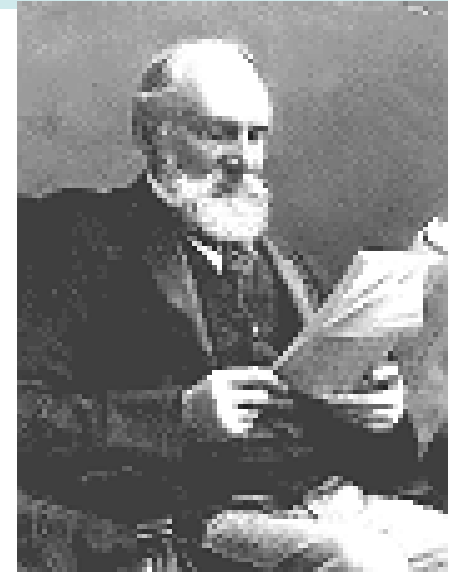




## By the way ...

Lord Kelvin also said:

Heavier-than-air flying machines are impossible. I have not the smallest molecule of faith in aerial navigation other than ballooning...I would not care to be a member of the Aeronautical Society.  
(Australian Institute of Physics)



So Kelvin could never imagine





# The 20<sup>th</sup> century legacy

20<sup>th</sup> century physics gave us:

- Relativity theory
- Quantum theory

Significant influence on:

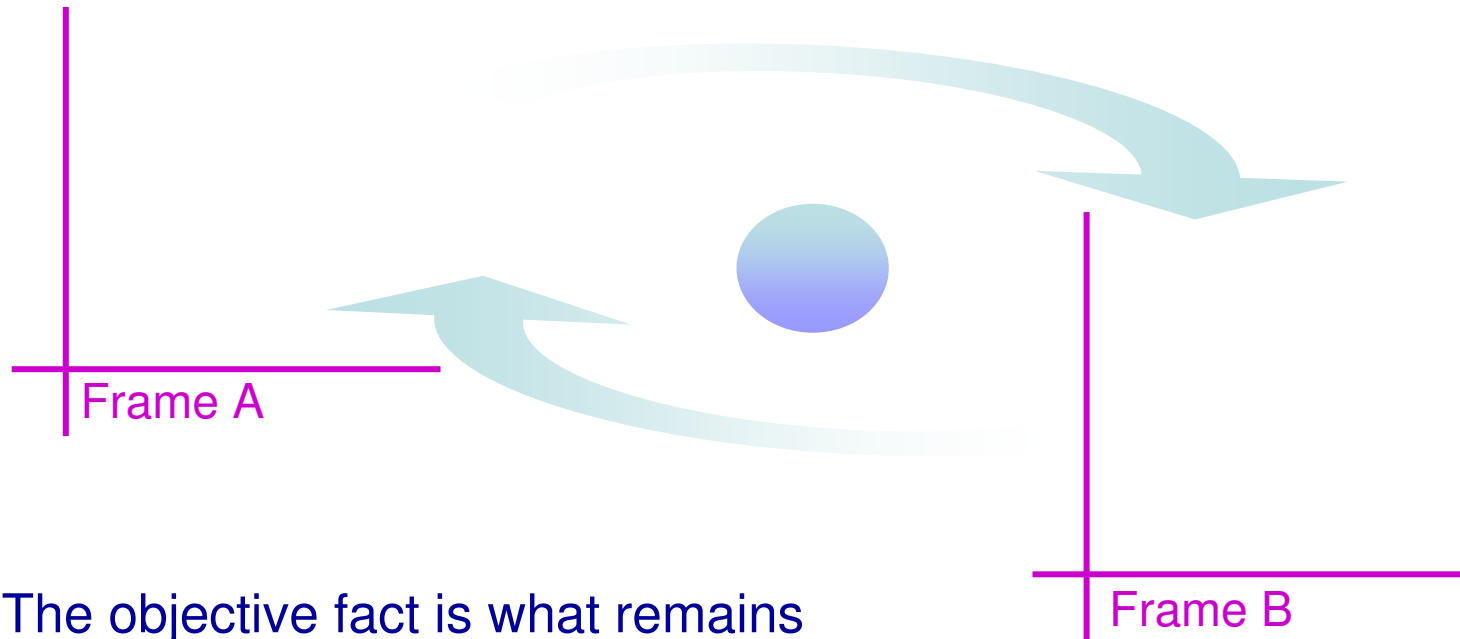
- Philosophy
- Philosophy of science



# What we learned ...

There is no ultimately objective fact ...

... only different frames of reference

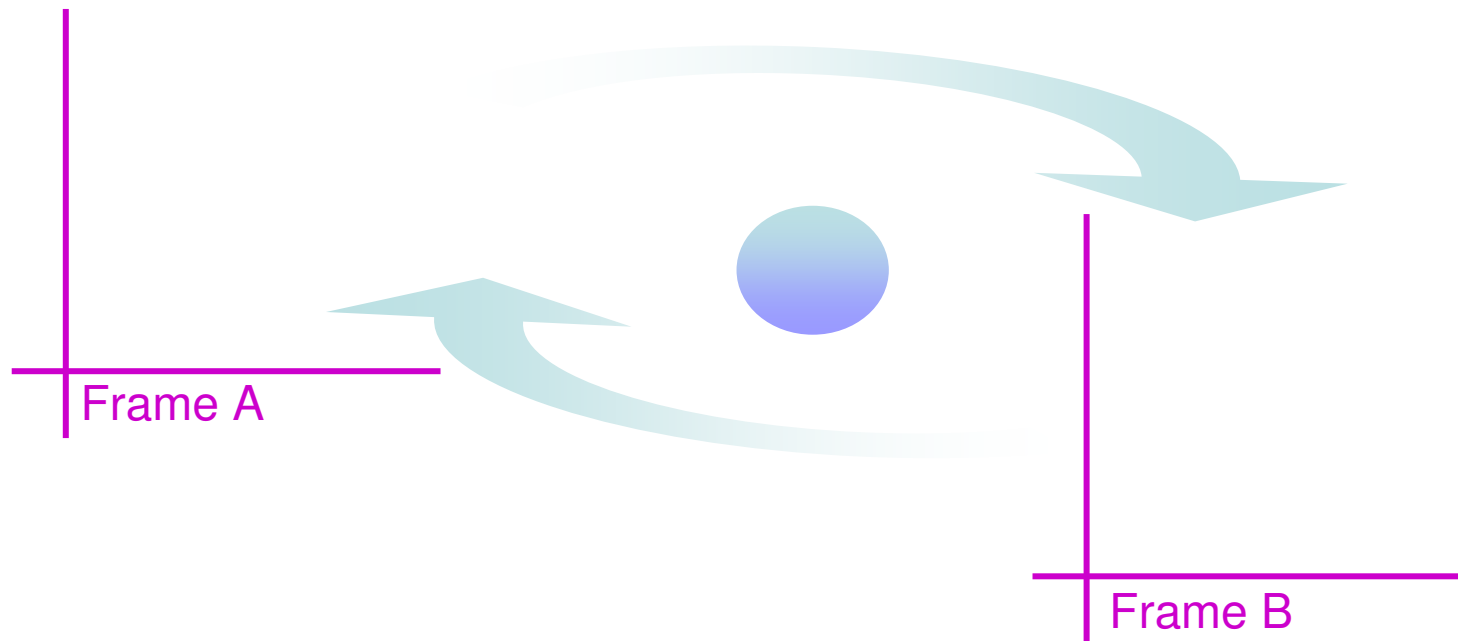


The objective fact is what remains invariant in the transformation between frames A and B



# What we learned ...

Realist versus constructionist position ...



Realist: The frames represents reality

Constructionist: The frames represents constructions



# The invariant object

i n a s s e s s m e n t



# What it means for assessment ...

There is no ultimately objective statement about personality ...  
... only points of view from different tests



The *personality characteristic* is what remains invariant in the transformation between tests A and B



# So what is the problem?

The problem is that these representations ...

... are supposed to be  $1 \Rightarrow 1$



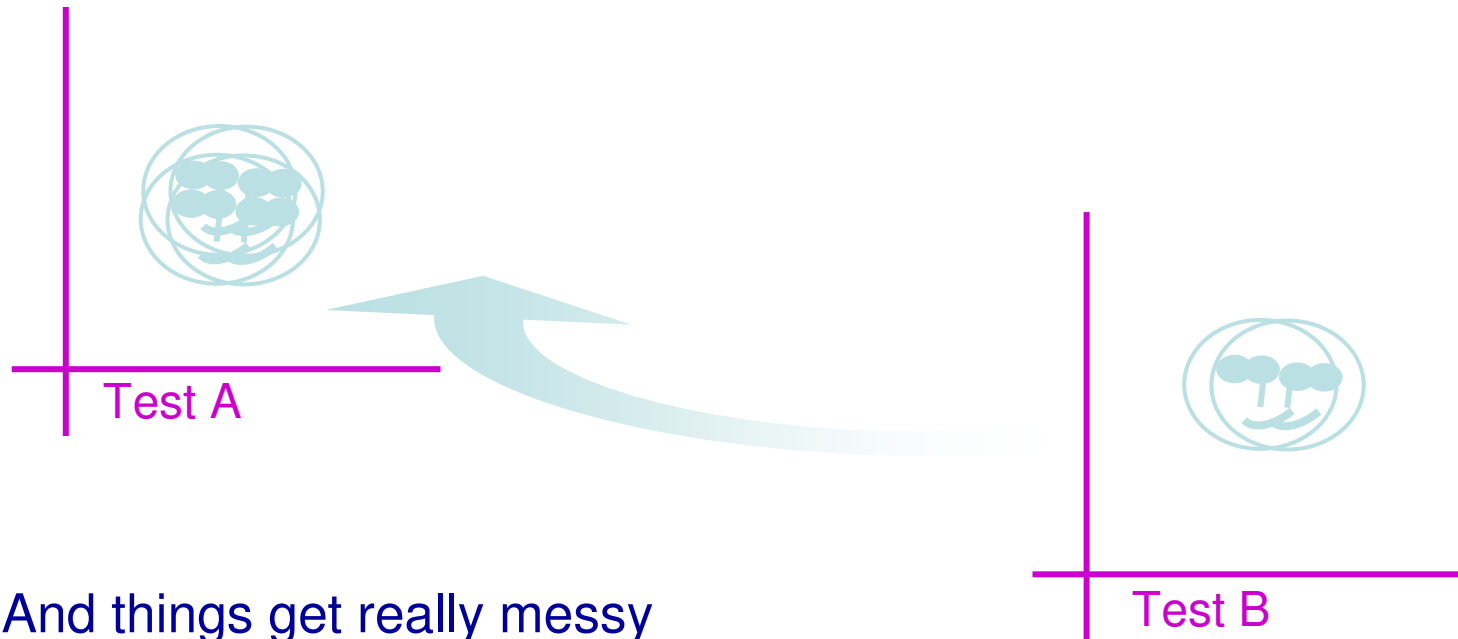
But in reality they are always a bit fuzzy



# So the symmetry goes wrong

When we try to go back from B to A

... the  $1 \Rightarrow 1$  goes really haywire



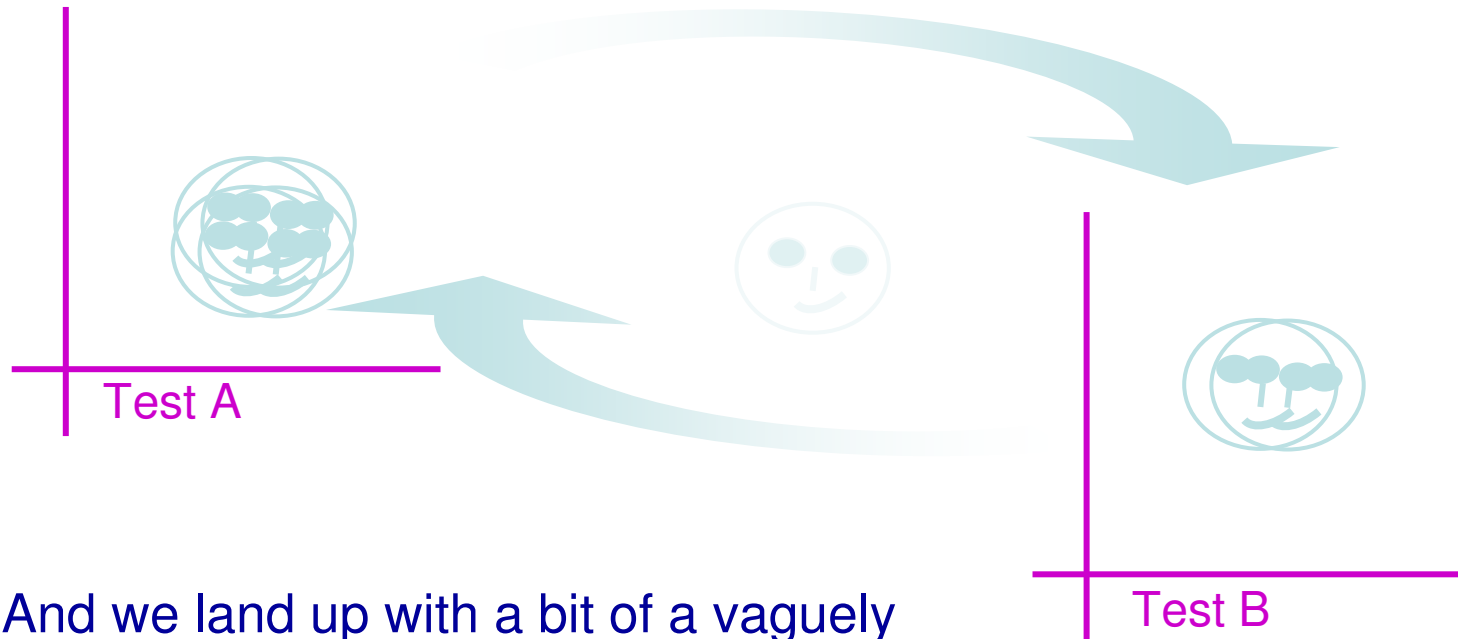
And things get really messy



# And the invariant goes vague

So the transformations between A and B

... there always is a bit of guesswork

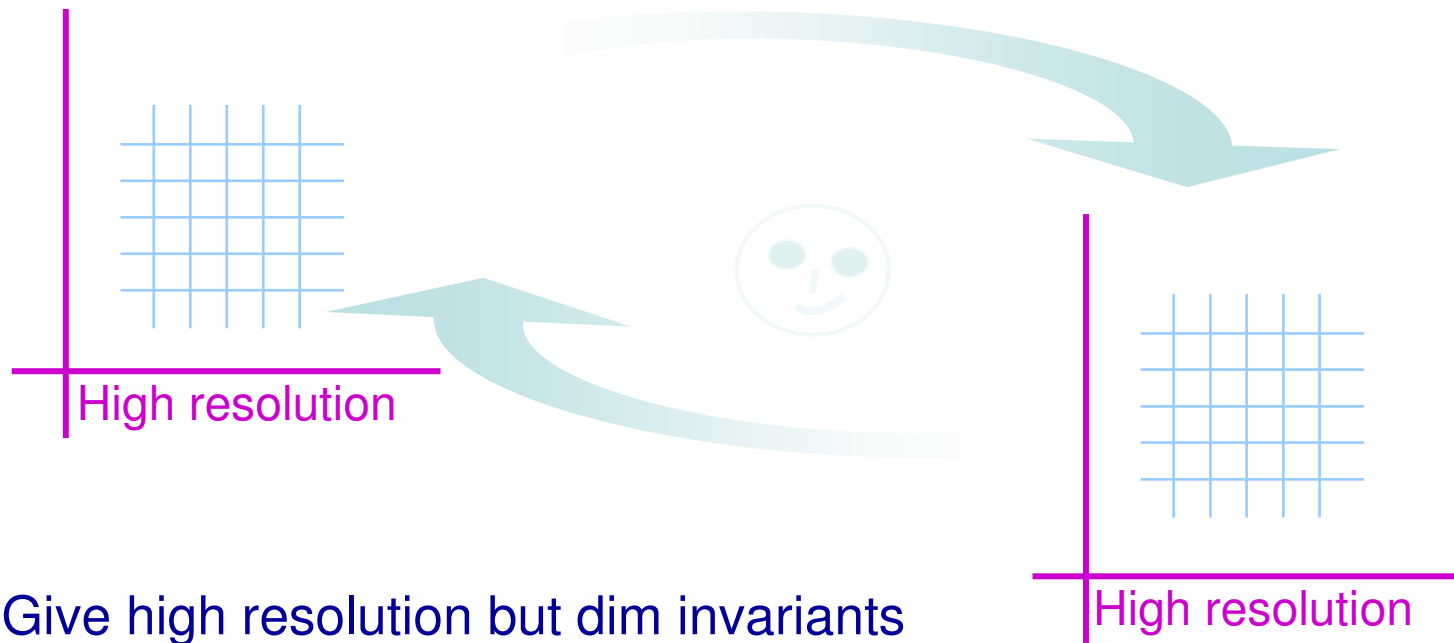


And we land up with a bit of a vaguely defined somewhat hard to see invariant



# The effect of resolution

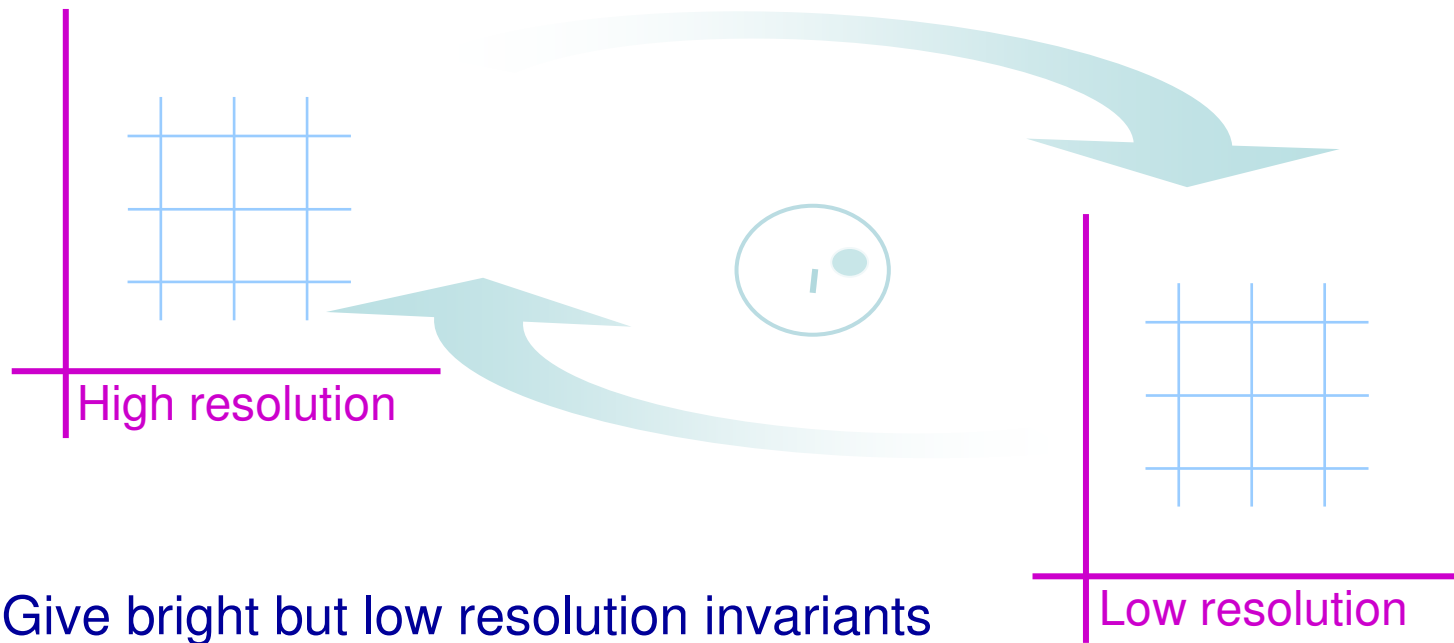
Transformations between high resolution tests ...





# The effect of resolution

Transformations between low resolution tests ...



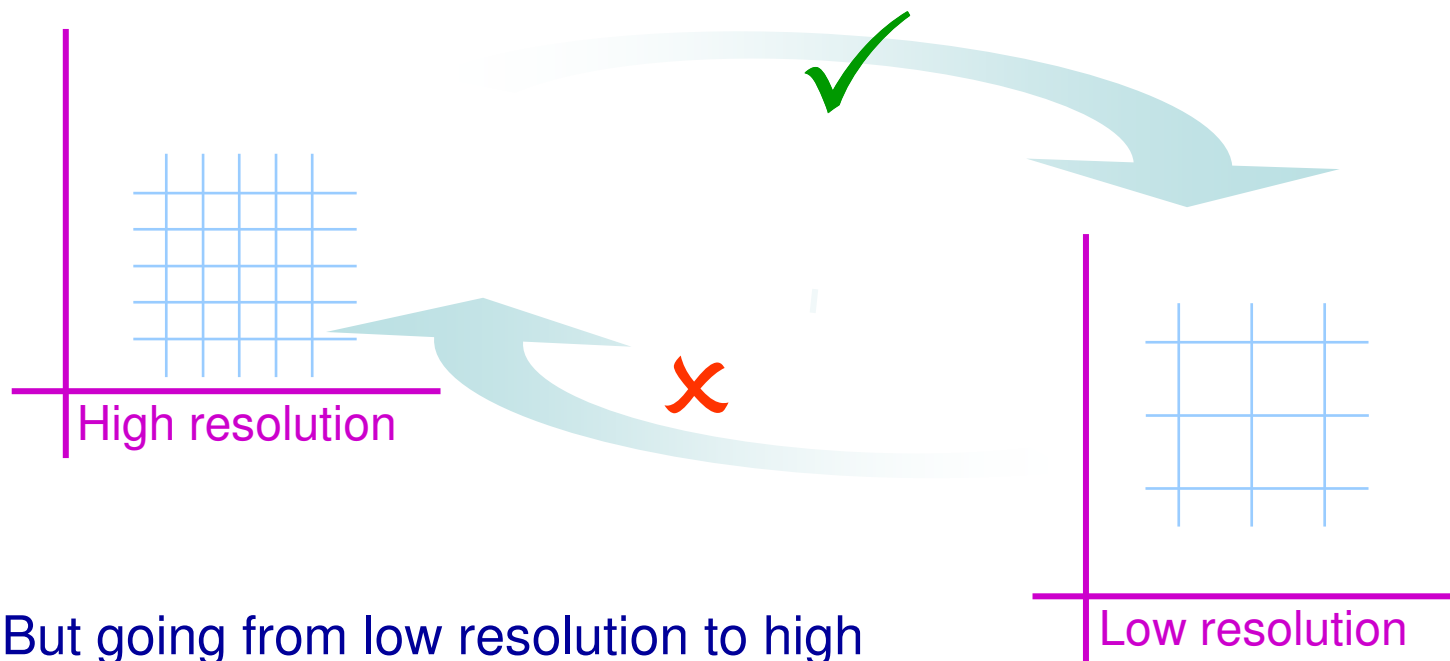
Give bright but low resolution invariants



# The effect of resolution

Going from high resolution to a low resolution ...

... is OK



But going from low resolution to high resolution may cause problems



# The issue of usability

You cannot use a frame of reference that ...

... provides an incorrect picture



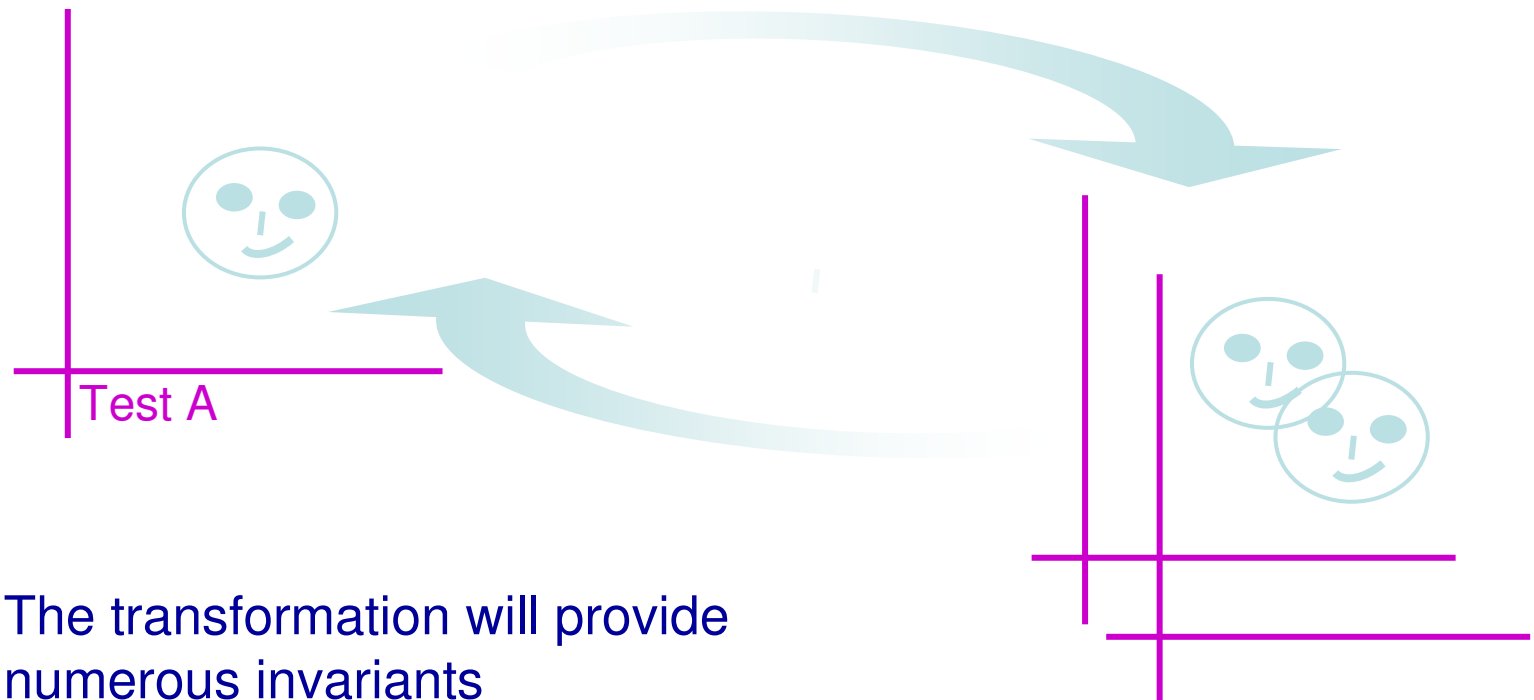
The transformation will not provide an invariant



# The issue of usability

You cannot use a frame of reference that ...

... is unstable



The transformation will provide numerous invariants

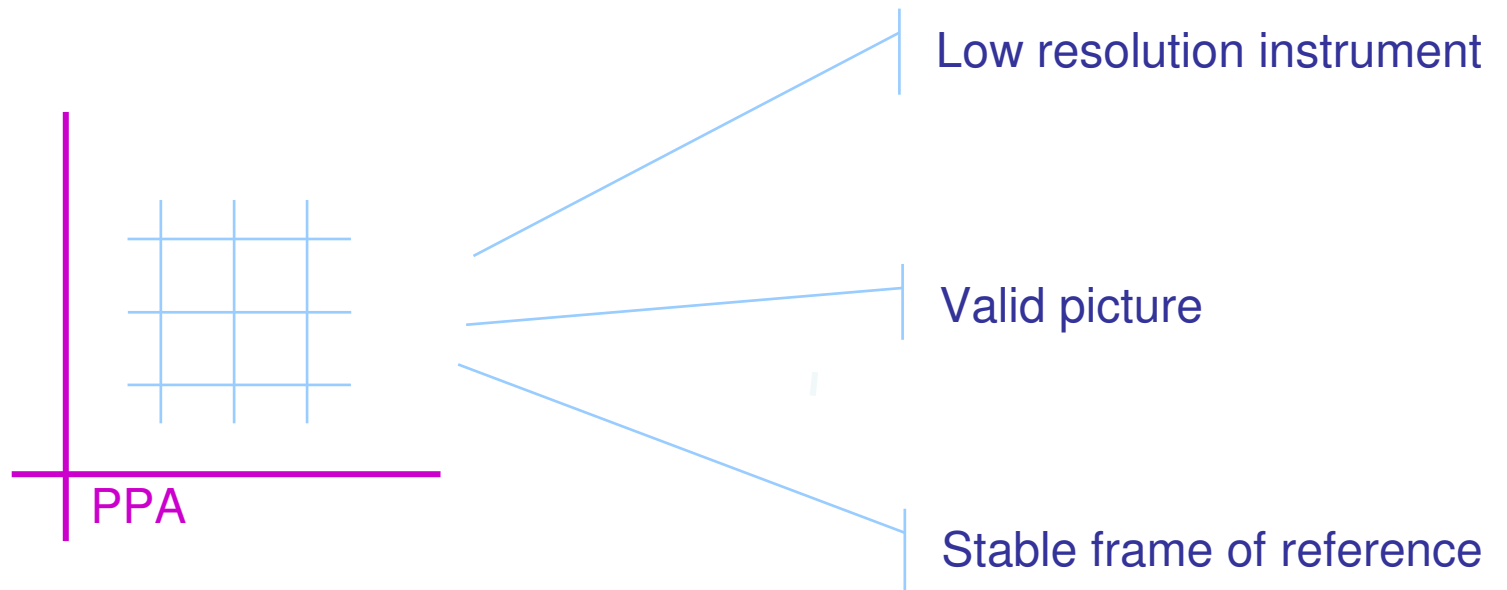


# The PPA

i n a s s e s s m e n t

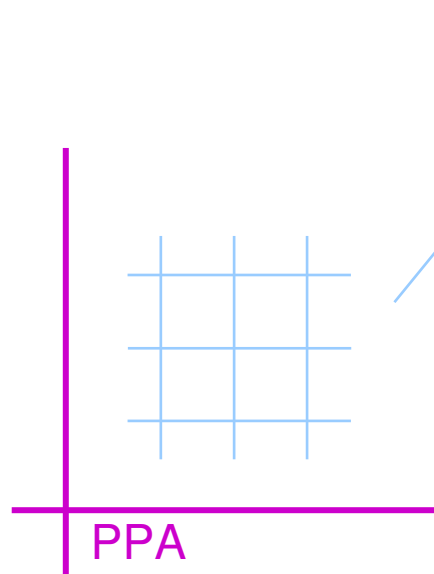


# The PPA





# The PPA



Low resolution instrument

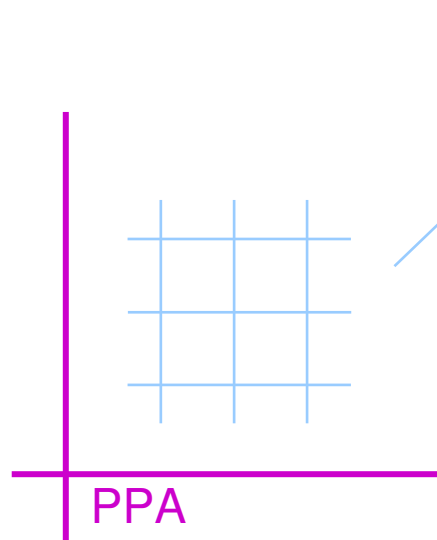
Agency of the entity:  
Acting upon versus Reacting to

Environmental orientation:  
Object versus Relational

Orthogonal positioning of dimensions:  
Four behavioural factors: D I S C



# The PPA



Validity of picture

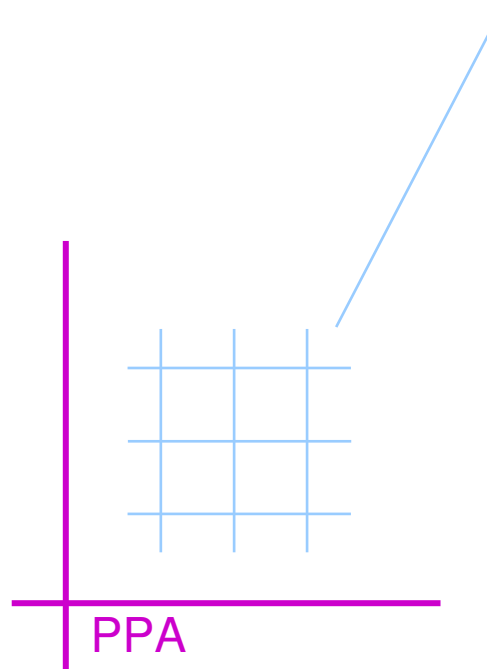
Criterion related:

Initial profile with subsequent line manager rated behavioral comparison: 0.85

Initial profile with 'hard' performance criteria: 0.40 (sw multiple regression)



# The PPA



Validity of picture

Construct (OPQ, 16PF)

Dominance: Dominance consistent with Thomas descriptors

Influence: Extraversion end of the extraversion-introversion dimension

Steadiness: Reflects qualities of submission

Compliance: Under-defined

Construct (Big5)

D: Assertive, not shy and bashful, socially active

I: Socially active, talkative, not shy and bashful, not unsociable

S & C Shy and bashful, unsociable, not talkative, not socially active, not assertive



# The PPA

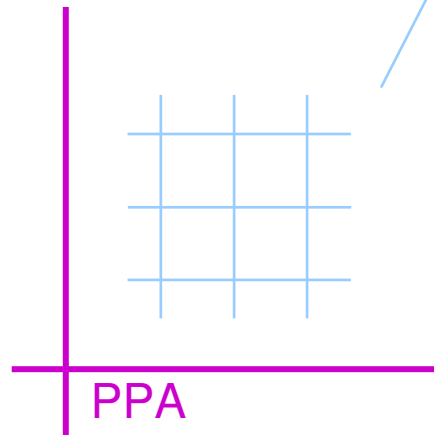


Validity of picture

- Low resolution indicator of behaviour
- No psychodynamic / clinical information



# The PPA



## Stability of frame of reference

<b>Internal</b>	<b>D</b>	<b>I</b>	<b>S</b>	<b>C</b>
Paper&Pencil	<b>.86</b>	<b>.89</b>	<b>.80</b>	<b>.81</b>
	<b>.78</b>	<b>.71</b>	<b>.74</b>	<b>.62</b>
Computer delivered	<b>.77</b>	<b>.67</b>	<b>.70</b>	<b>.58</b>

<b>Split-half</b>	<b>.93</b>	<b>.78</b>	<b>.84</b>	<b>.72</b>
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<b>Test-retest</b>	<b>.84</b>	<b>.70</b>	<b>.77</b>	<b>.87</b>
	<b>.78</b>	<b>.64</b>	<b>.64</b>	<b>.52</b>



# The PPA in context



# The PPA in context

Human performance

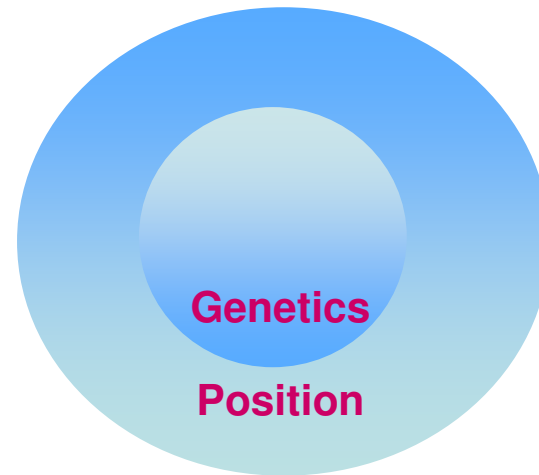


# The PPA in context



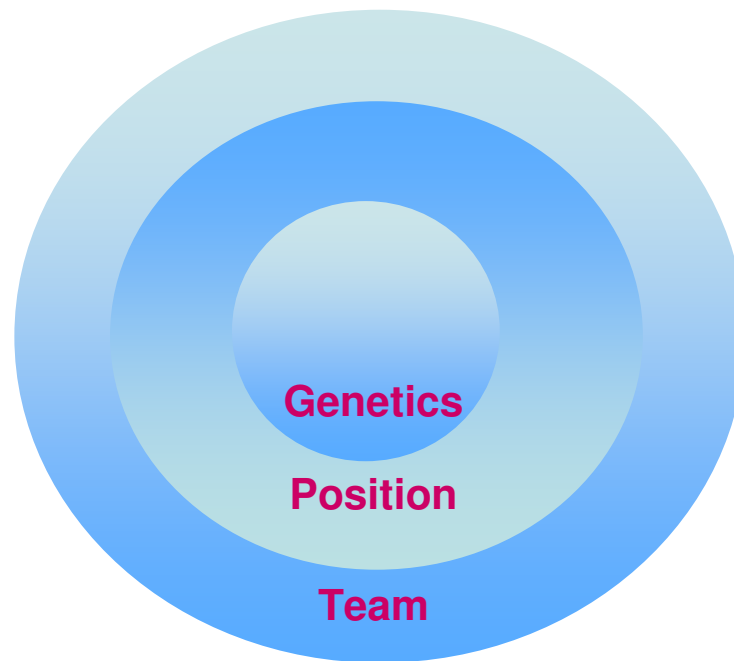


# The PPA in context



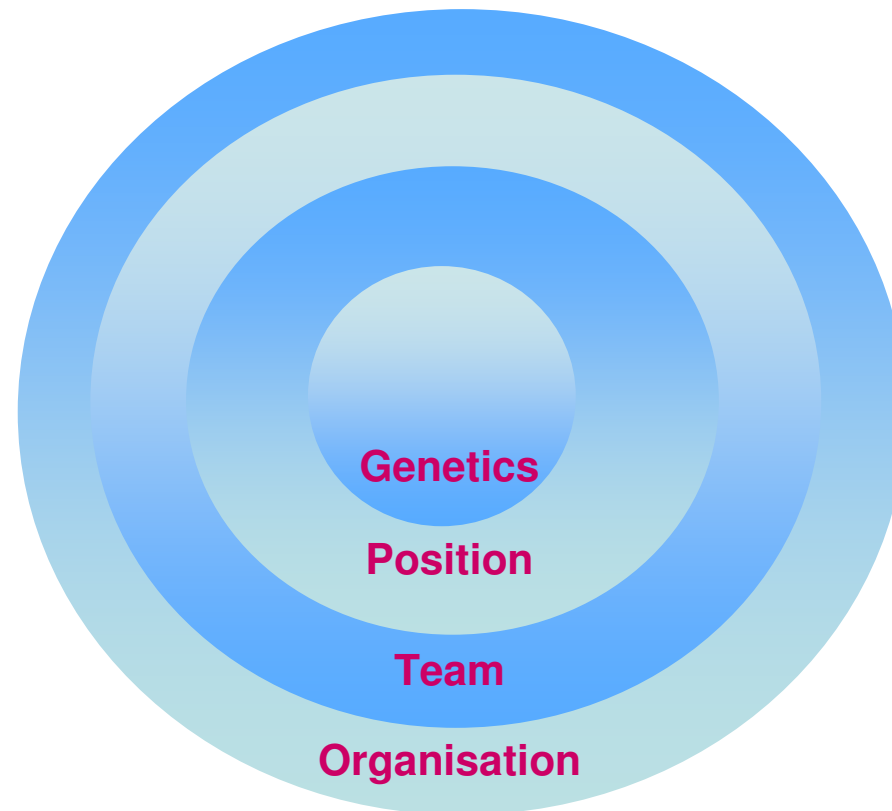


# The PPA in context



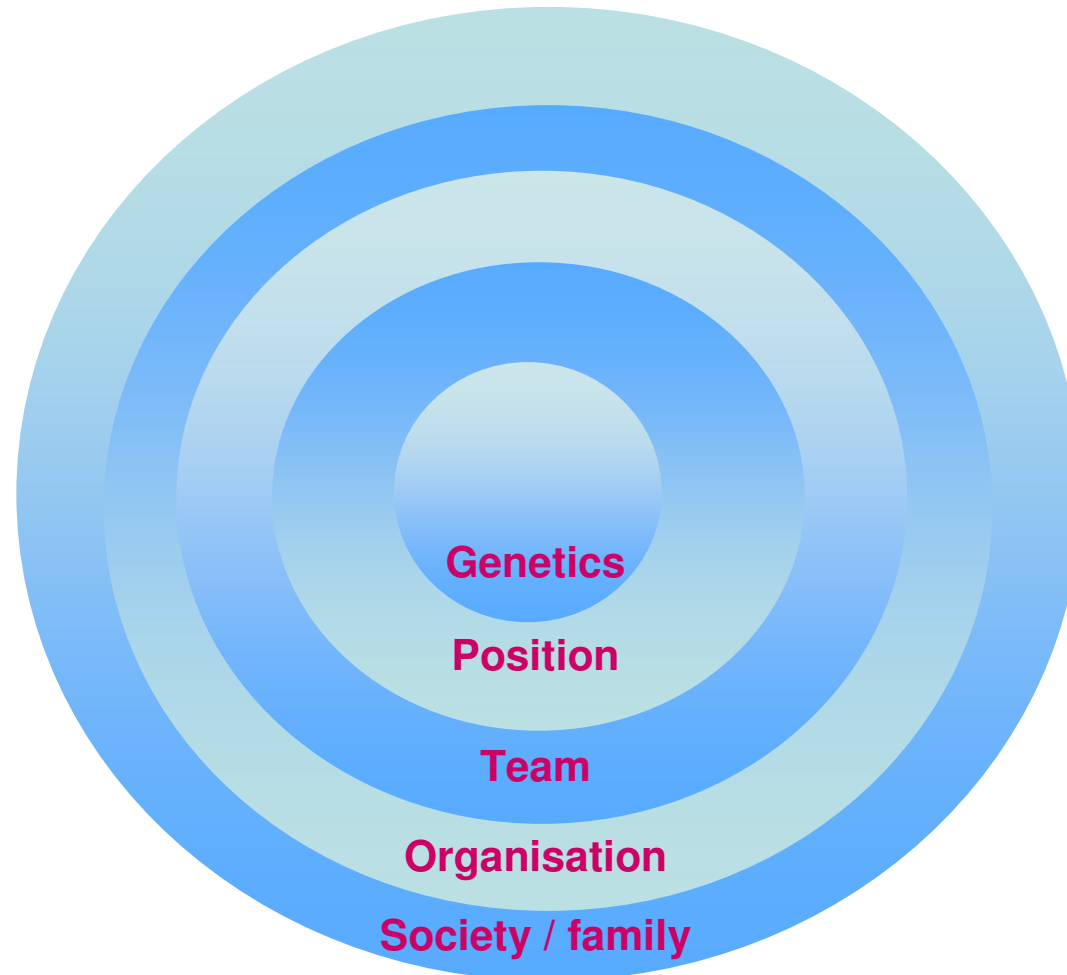


# The PPA in context



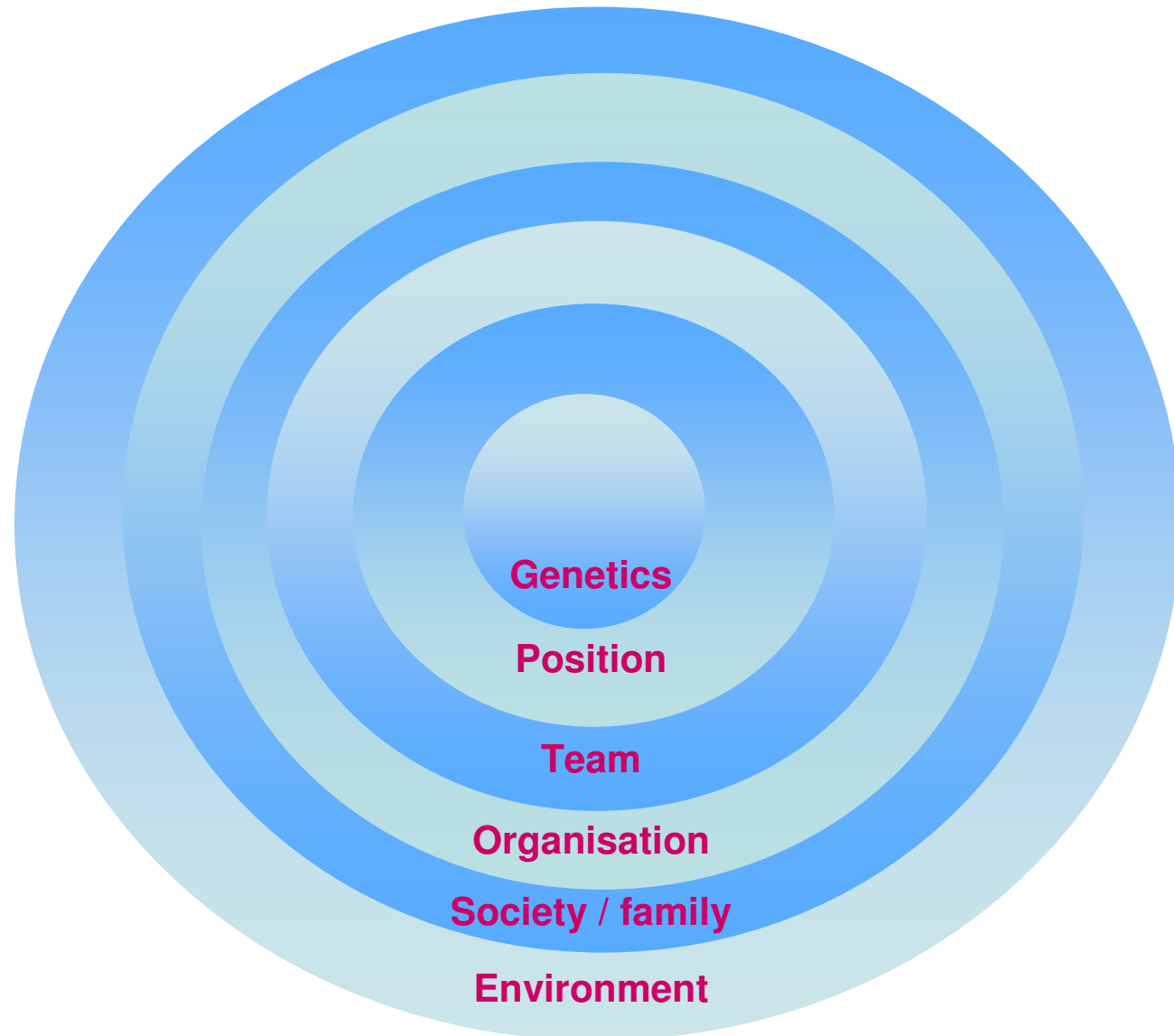


# The PPA in context



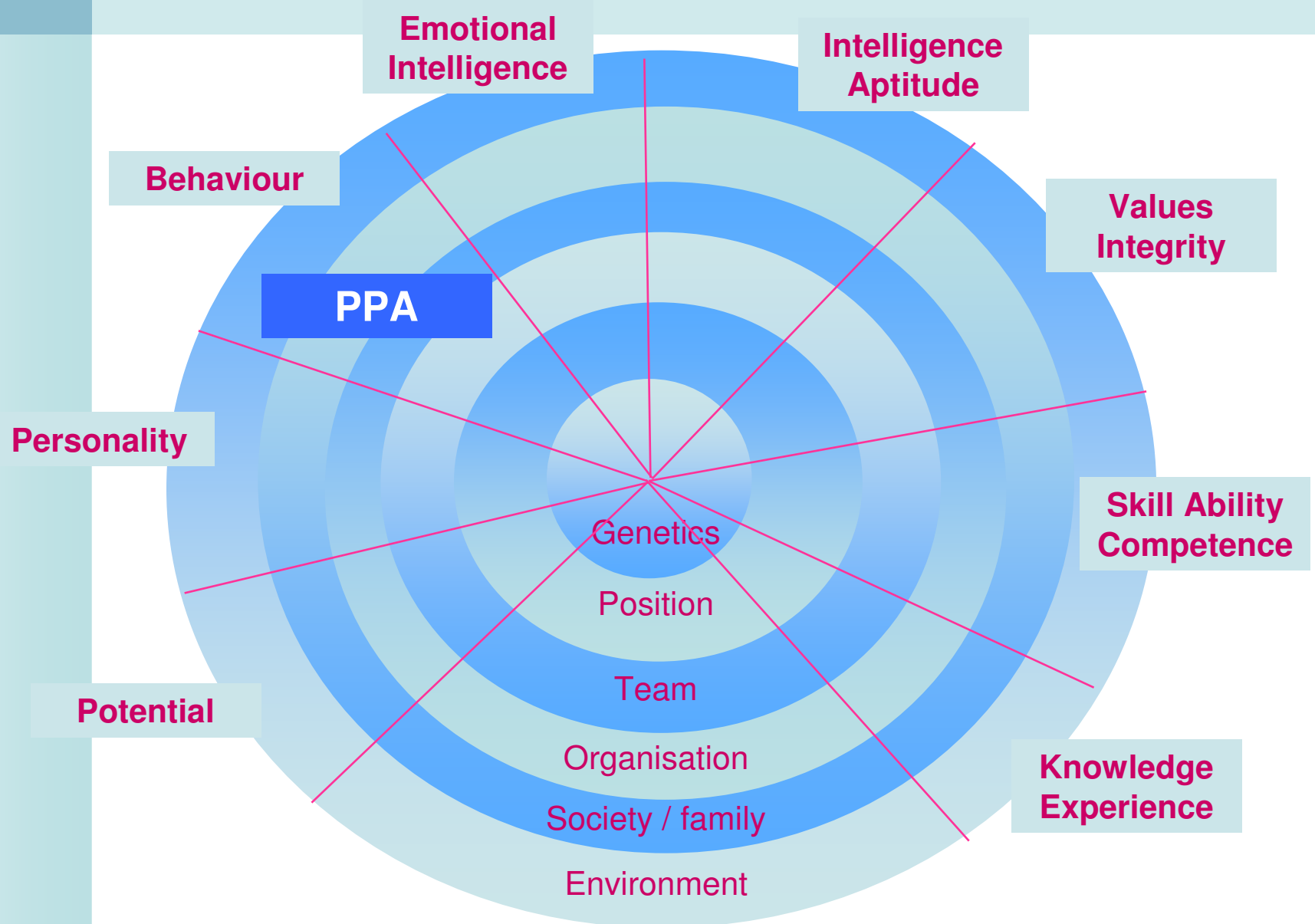


# The PPA in context



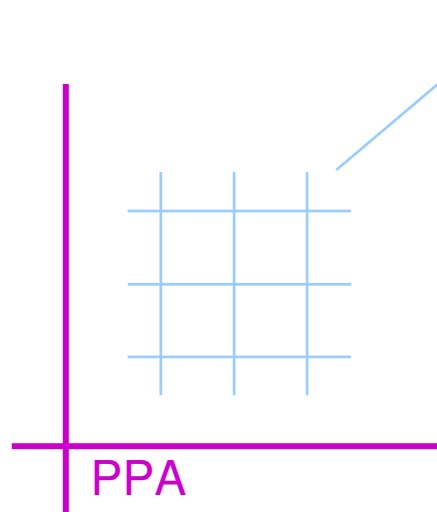


# The PPA in context





# The role of the PPA



The role of the PPA

Broad framework for describing behaviour

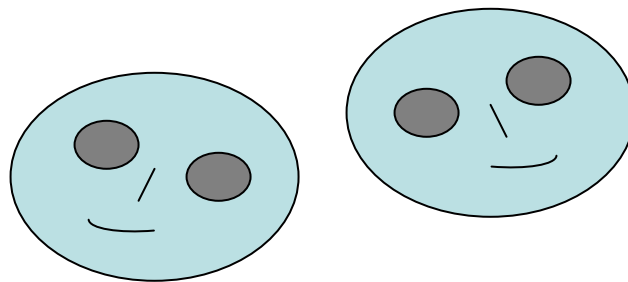
High resolution transformation to this framework:

- To confirm behaviour
- To show discrepancies



# That's all folks!!

Thanks for your attention



Vasi van Deventer - [vdevesh@unisa.ac.za](mailto:vdevesh@unisa.ac.za)