
Choosing and using

Stabilisation

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Introduction

- ◆ Stabiliser Function
 - ❖ Basics revisited
- ◆ Systems
 - ❖ Types, materials, accessories
- ◆ Choosing systems
 - ❖ What matters?
 - ❖ Finding a system

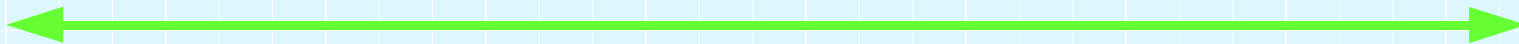
Stabiliser function

- ◆ Three things that stabiliser systems do
 - ◆ Control Displacement
 - ❖ Adding Mass
 - ◆ Control Rotation
 - ❖ Changing Balance and controlling 'torque'
 - ◆ Control Vibration
 - ❖ Damping

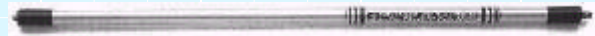
Mass and weight - How

Light

Heavy



Simple Carbon rods



Light Alloy rods

Long rod/light weight combinations



Multirods

Powder or foam fill rods

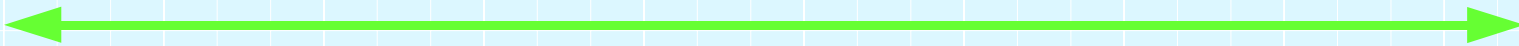
Hydraulic damping

Short rod/heavy weight combinations

Mass and weight - Why?

Light

Heavy



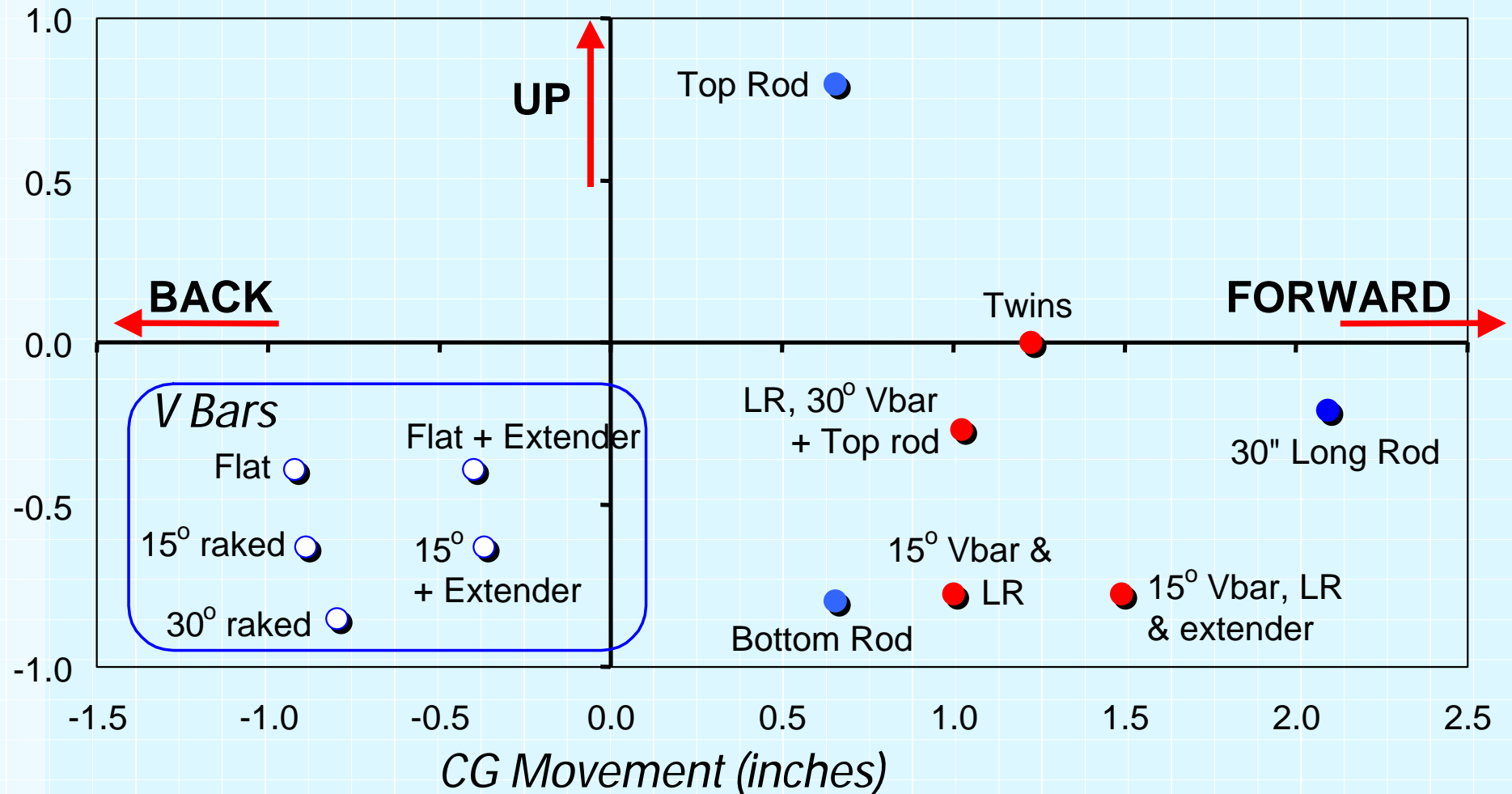
Controllability

Stability on aim

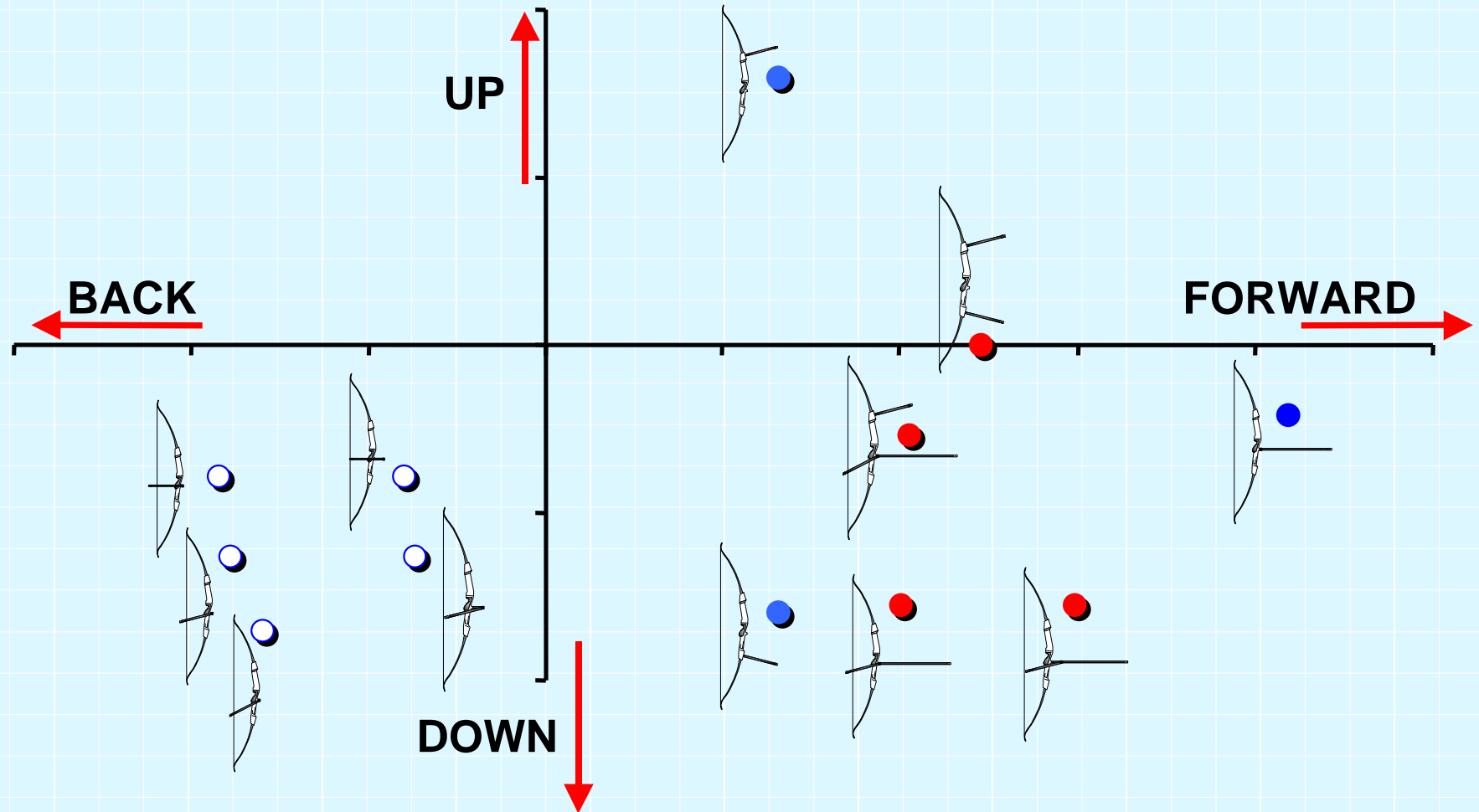
Fatigue

Smoother shot

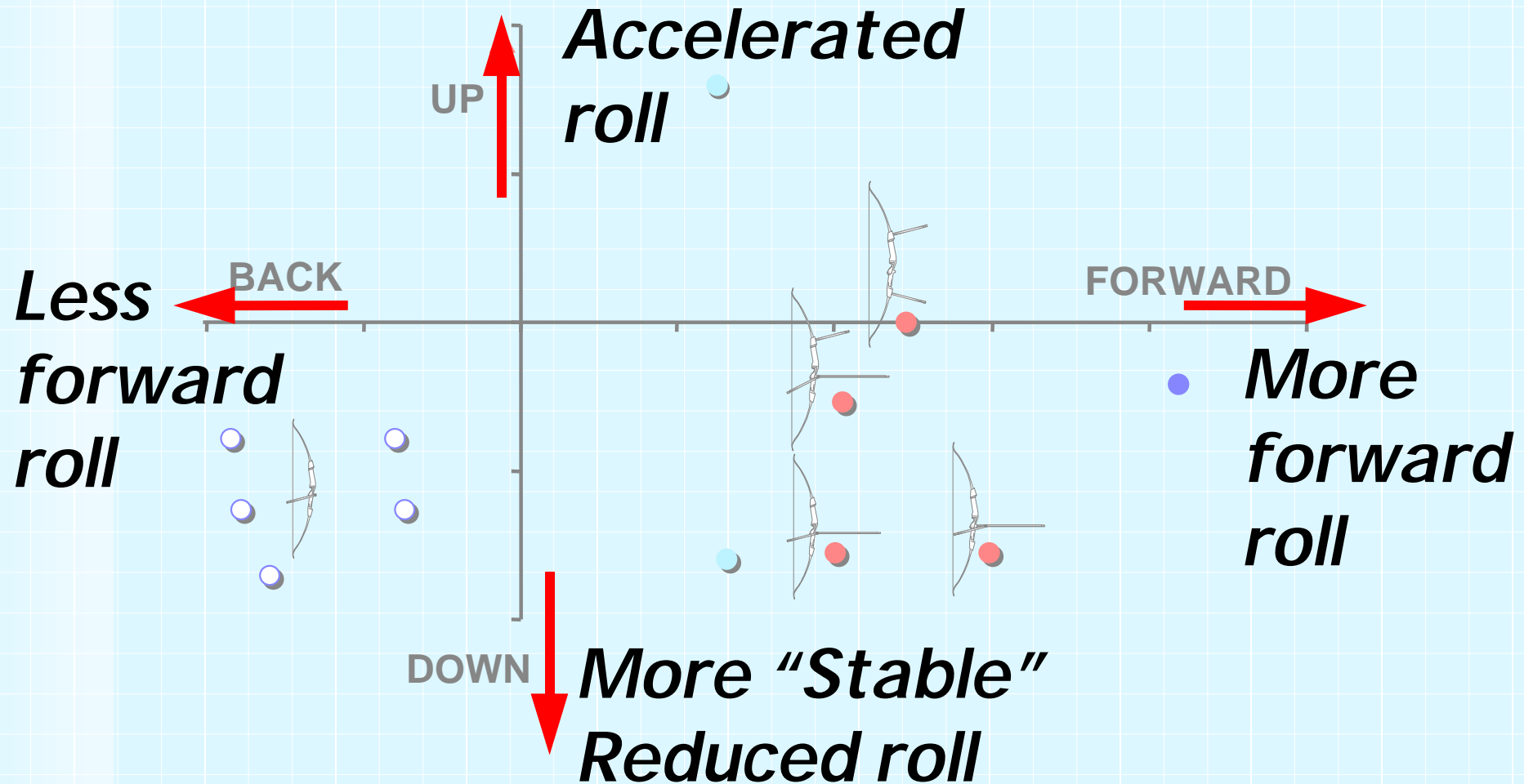
Changing Balance - How



Changing balance - How?



Changing balance - Why?



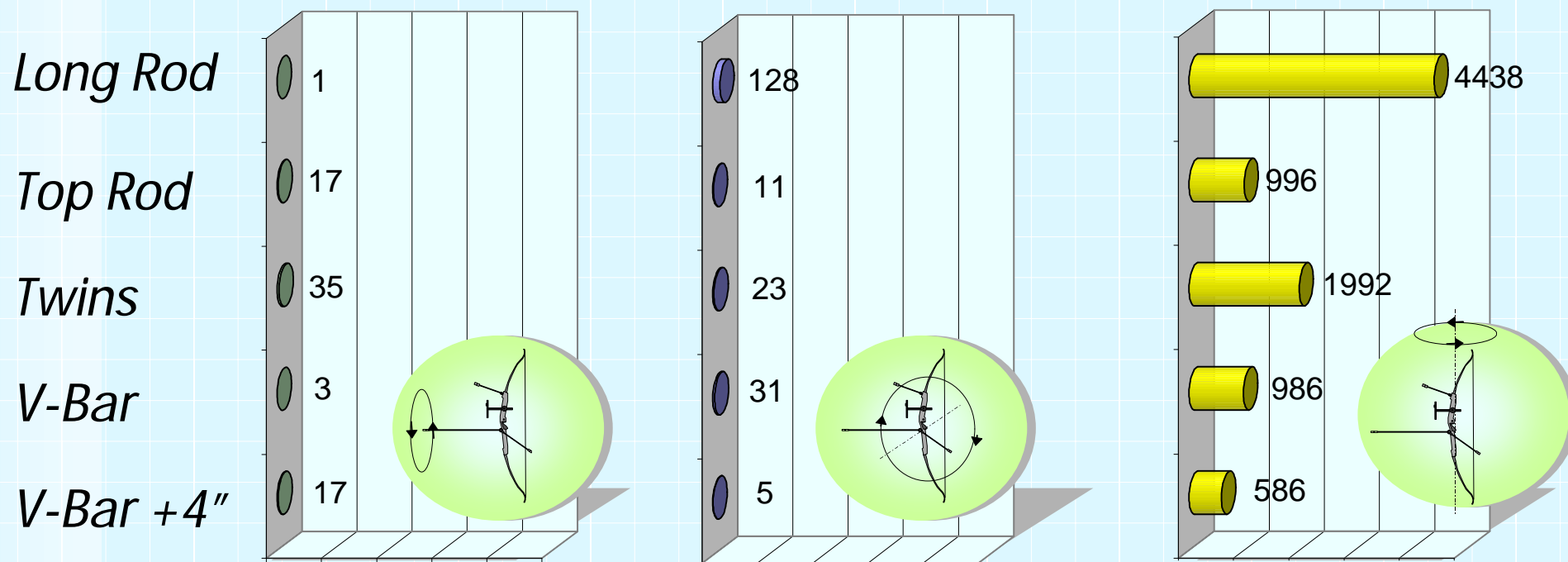
Weights and Distances - 'Moment'

◆ 'Moment' = Mass x Distance

Half the Weight at Twice the Distance

leaves Balance unchanged

Effect on rotation



% Change from bare riser

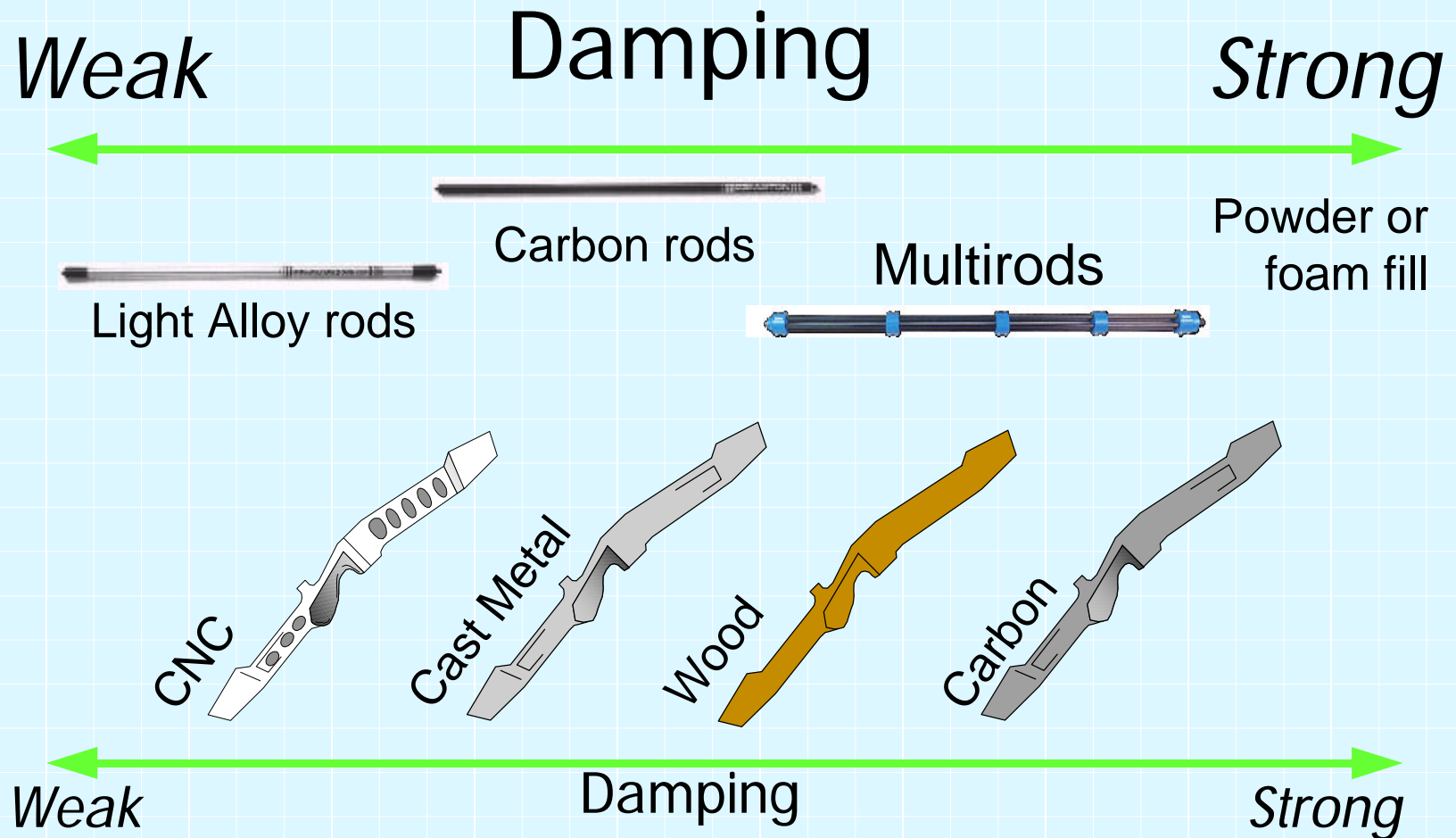
30" Long Rod, 10" short rods, 3oz each

Controlling Torque (rotation)

A QUARTER of the weight at TWICE the distance has the same effect on rotation

- ◆ Use small weights on long rods!
- ◆ Rods, weights and risers
- ◆ The largest stabiliser in the system is the riser itself

Vibration control




Vibration control: Accessories

Weak **Damping** *Strong*




Near Nodes TFCs Away from Nodes




Doinkers



Limb Savers



Hydraulic damping



Limited directionality

Tuned damping

Movement	Frequency	Rubber tension	Rod length
Aiming 'wobble'	Low	Low, Soft	Medium- Long
Limb vibration	Medium	Medium	Short- Medium
Post-shot vibration	Medium - High	Medium- Tight	Short- Medium

Measuring the effect

- ◆ Objective tests

 - ❖ Score

 - ❖ Group size

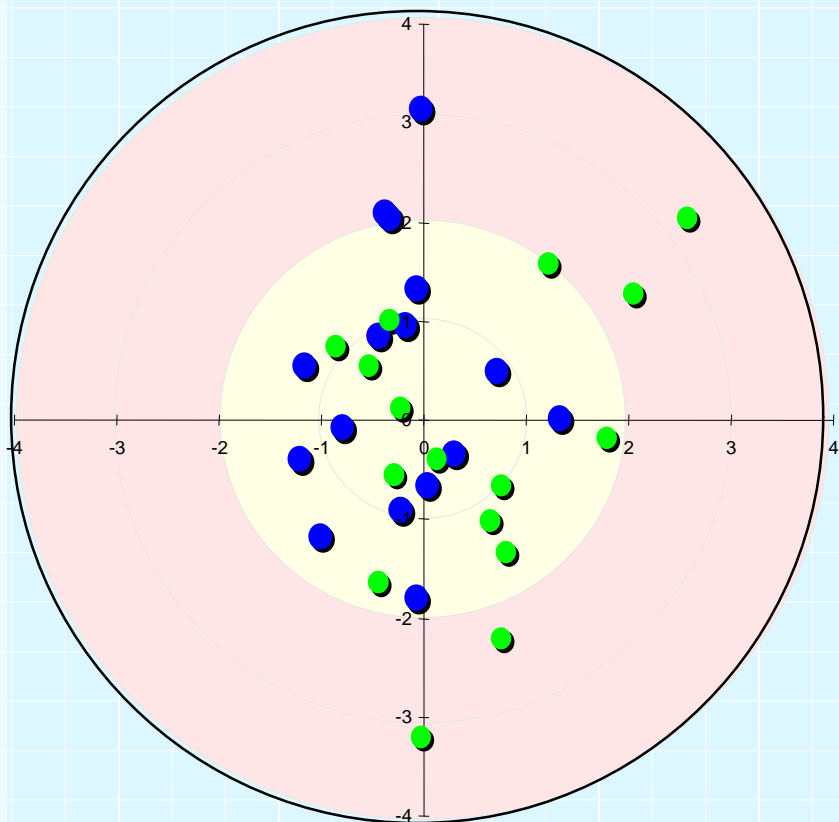
- ◆ Subjective tests

 - ❖ Feel

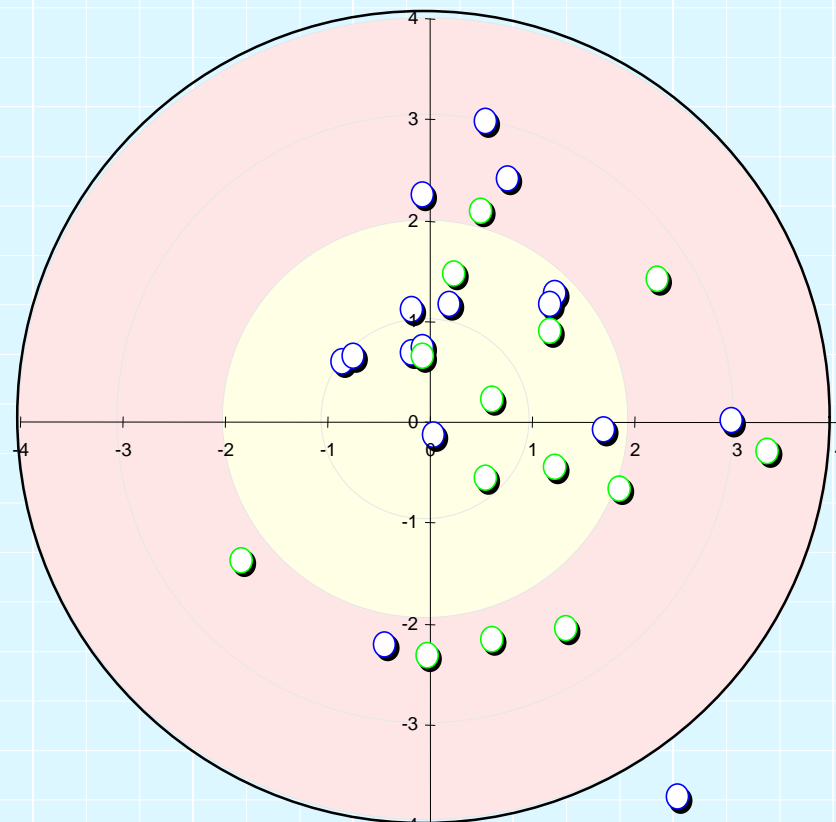
 - ❖ Observation

Group testing stabilisation

With stabiliser



Without stabiliser



Subjective testing

FEEL FACTOR	1	2	3	4	5
Overall Feel					
TOTAL SCORE					

Summary

- ◆ Different people want different things
- ◆ Lots of stabiliser options
- ◆ Theory and mechanics guide selection
 - ❖ Decide on WEIGHT
 - ❖ ... then BALANCE
 - ❖ and select DAMPING
- ◆ Systematic “subjective” assessment is possible