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by Emalie Halifax

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Was the Longbow the Decisive Weapon at the Battle of Agincourt?

A Presentation by Emalie Halifax



Technical Authoring ACDA 5024

A Summary of the Battle

When: 25th October 1415

Where: Agincourt, France

Ground Conditions: Freshly Ploughed, Wet

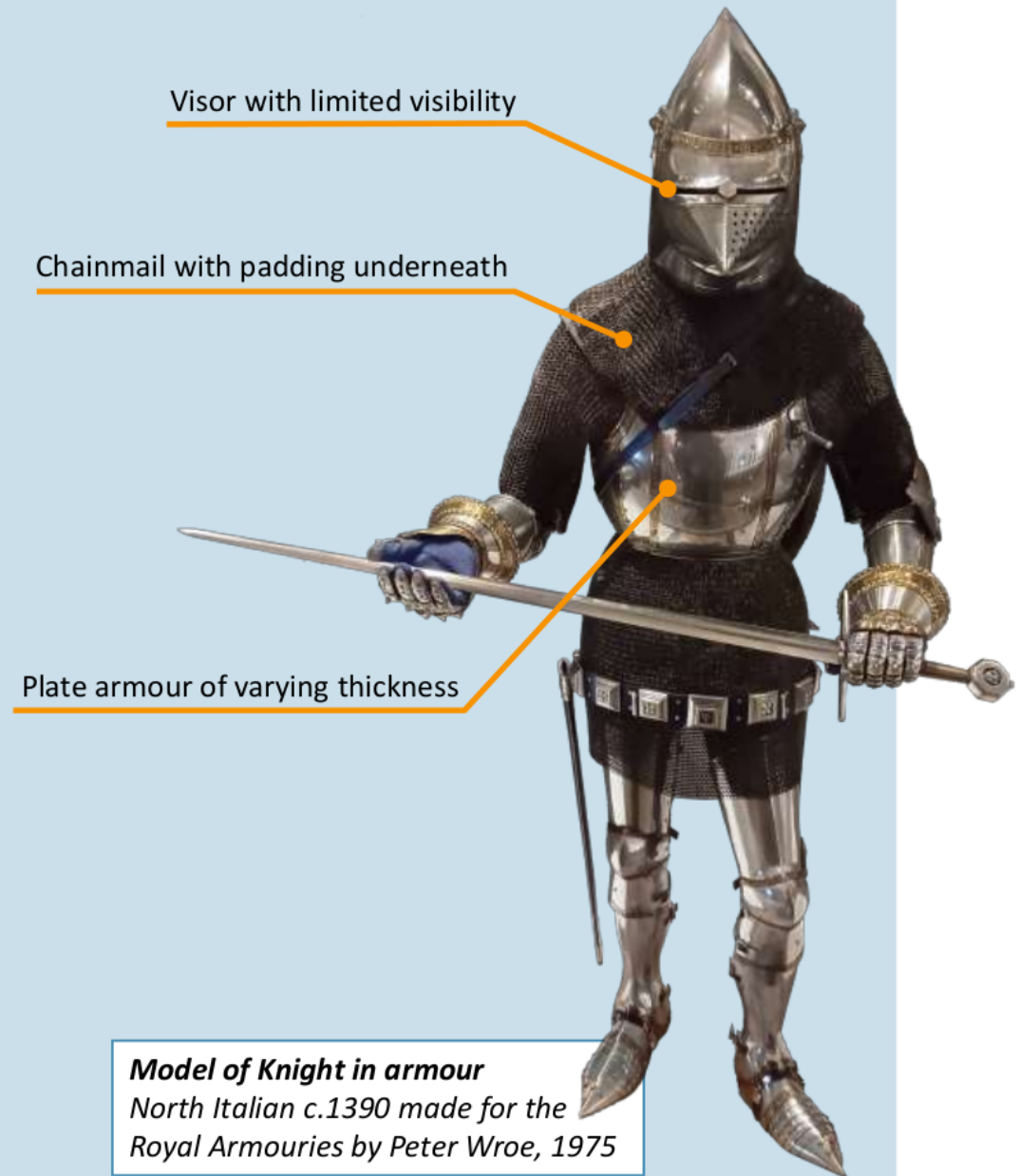
English Force Breakdown: 5,000 Archer
900 Men at Arms

French Force Breakdown: Outnumbering the
English 5-1
1,200 Cavalry
30,000 Men at Arms



Men at Arms Armour

- ▶ Late 14th Century enabled the production of large steel plates possible, creating a fundamental shift in armour design – Plate Armour.
- ▶ The effectiveness of plate armour was determined by its thickness and its shape.
- ▶ The most important part element of plate armour's defensive capability was its ability to cause deflection.

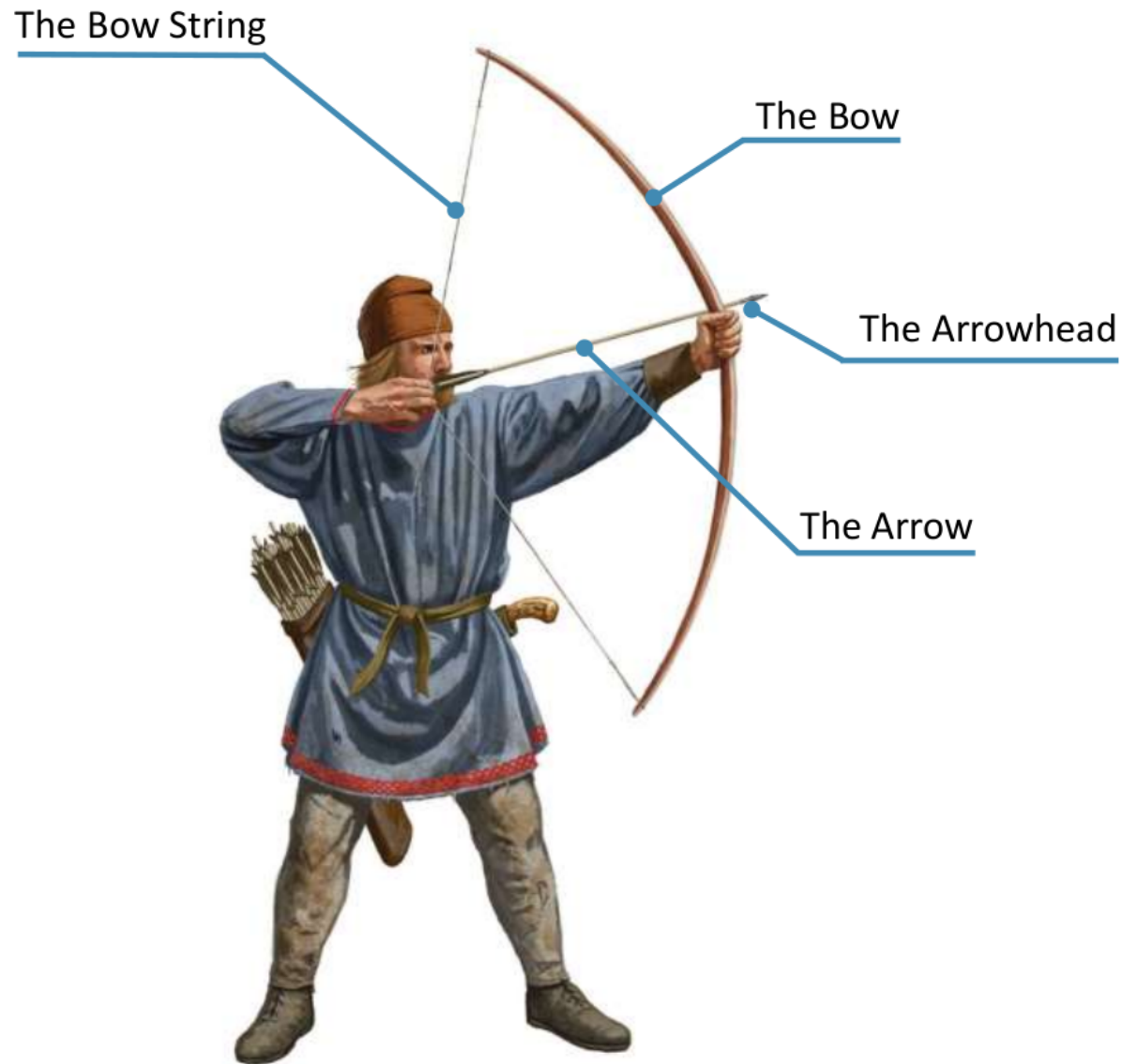


Horse Armour

- ▶ By the end of the 15th Century Plate armour began to be available to horses, prior to this horse armour consisted of padded textile, leather and chainmail.
- ▶ It was costly to armour a horse so there would be some variation in the amount and quality worn.
- ▶ In 1415 horse armour was limited to vulnerable areas of the horse:
 - Head
 - Neck
 - Chest



The Longbow



A Medieval Longbow's Features:

- ▶ Ideally made of Yew Wood, however, they were made of a diverse assortment of timbers.
- ▶ 90 – 150 lbs Draw Weight – The amount of force required to pull the bow string to full draw.
- ▶ A Potential range of up to 240 yards.



The Bodkin Arrowheads



- ▶ The bodkin needle point arrow was designed to penetrate defensive chainmail.
- ▶ The short bodkin arrow was designed to take on plate armour.
- ▶ Arrowheads could be made of different material with some evidence of hardened tips.



An Arrow in Flight

Potential Energy is stored in the Bow



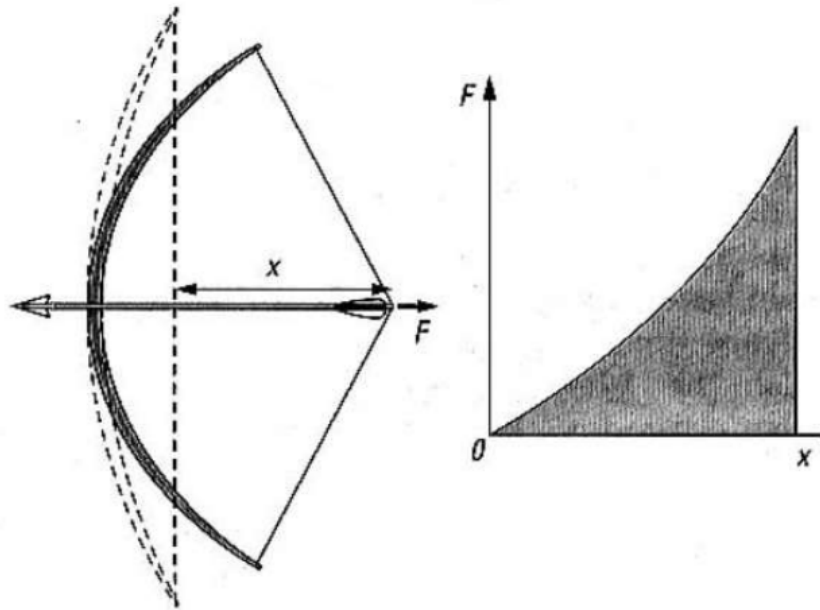
Potential Energy is converted into Kinetic Energy while in flight

The projectile's motion is impacted by external factors

The Kinetic Energy is transferred into the target



Potential Energy in the Bow



$$E_p = \frac{eFx}{2}$$

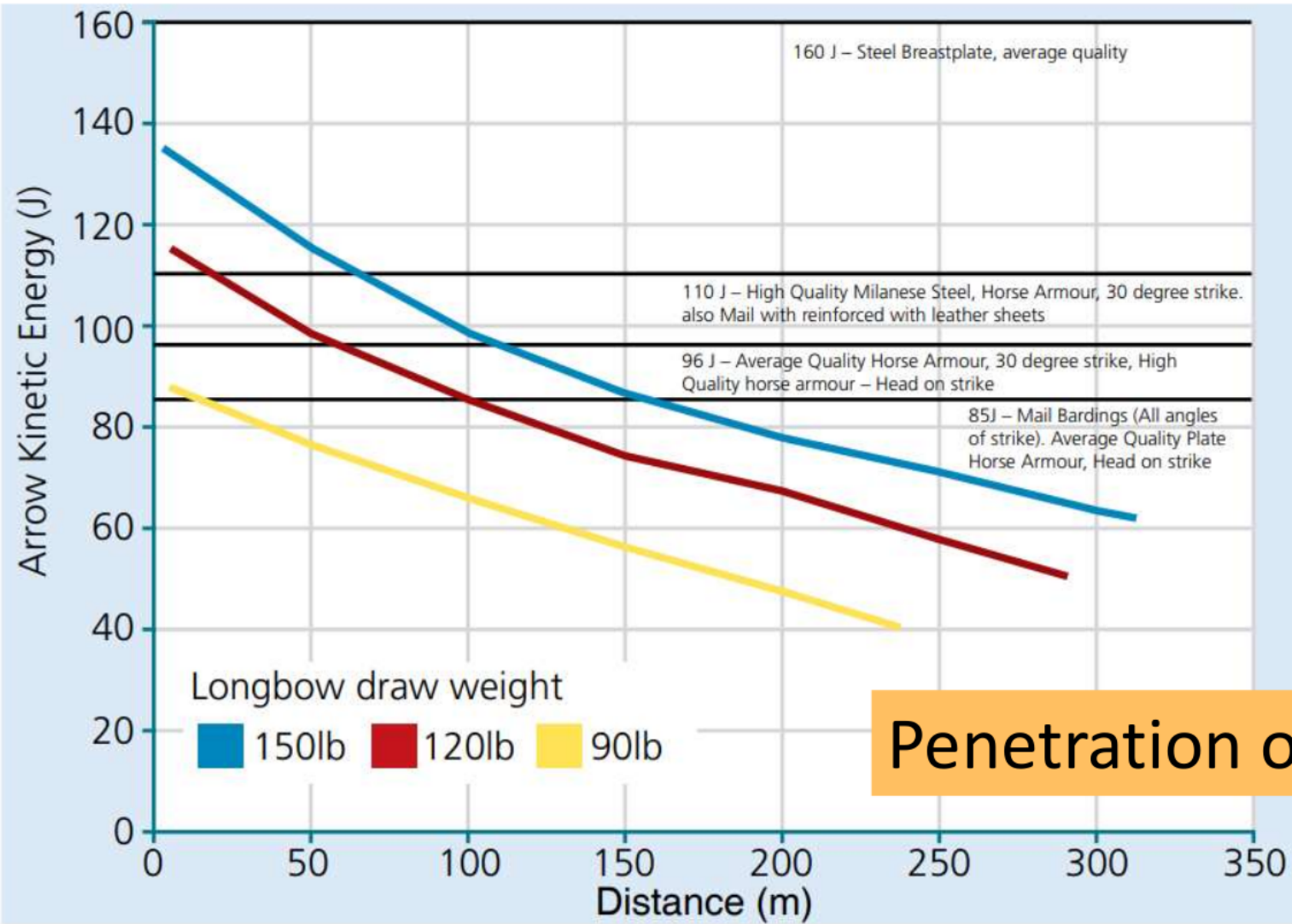
Where:

e = The bow efficiency

F = Force required to draw the bow

x = Draw distance





Penetration of Armour at Range





Penetration in Practice

Experiment conducted by:

- **Tod Todeschini**
 - Weaponsmith
- **Dr Tobias Capwell**
 - Medieval and Renaissance arms and armour historian

Using recreated Armour based on the collection in Churburg Castle, and arrows produced using historical methods.

Previous experiments include:

- Breast Plate Penetration
- Material Testing
- Bow weights



Penetration of Armour at Range



Bodkin arrow fired to a face on soldier using 150lb longbow from approximately 15m



Bodkin arrow fired to at a soldier facing three quarter view using 150lb longbow from approximately 15m



Penetration of Armour at Range

Bodkin arrow fired to a face on soldier with head down using 150lb longbow from approximately 15m



Bodkin arrow fired to at a soldier facing three quarter view using 150lb longbow from approximately 15m



Penetration of Armour at Range – Hardened Arrows



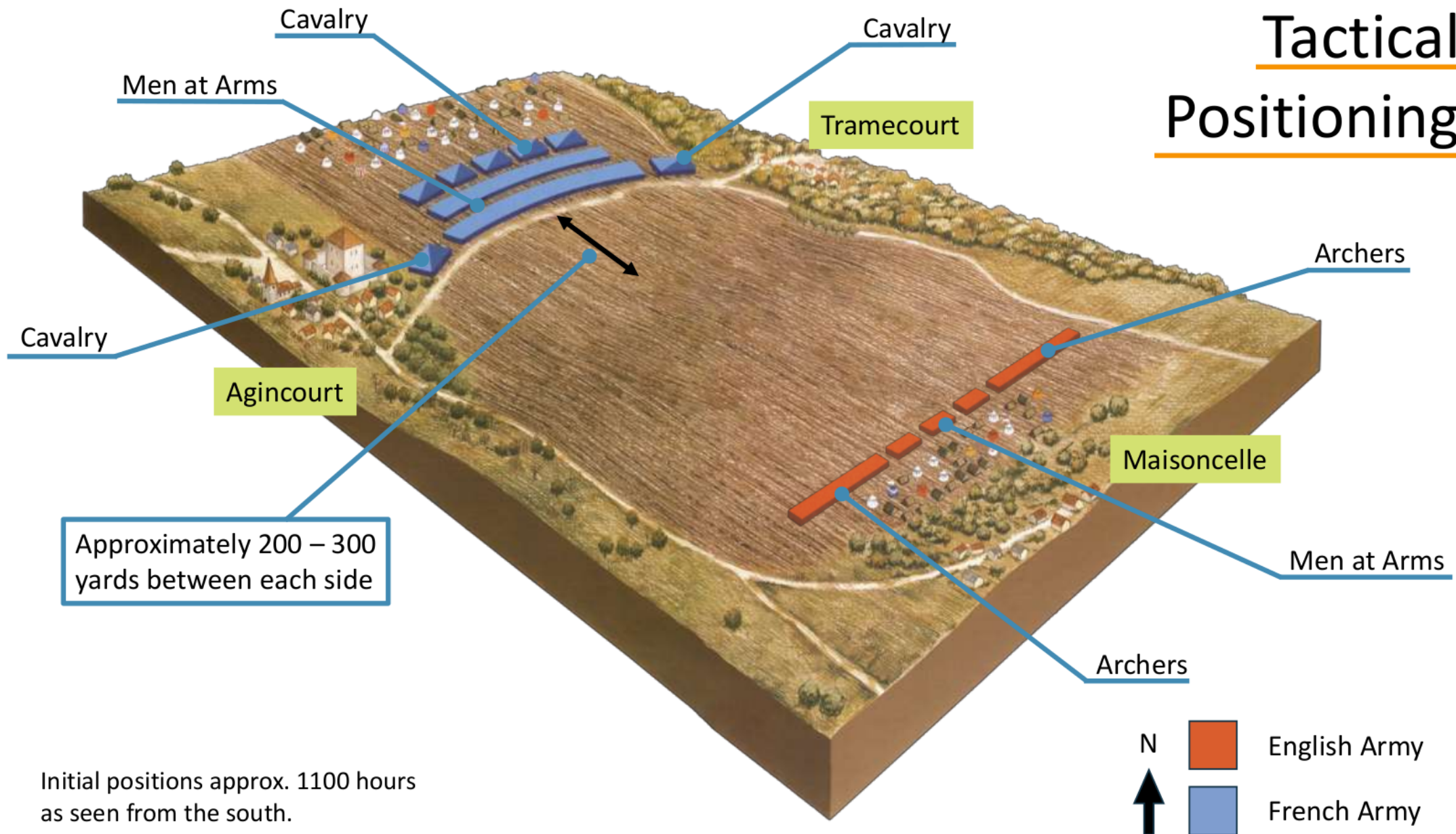
Bodkin arrow fired to at a soldier facing three quarter view using 150lb longbow from approximately 15m



Bodkin arrow fired to at a soldier facing three quarter view using 150lb longbow from approximately 15m



Tactical Positioning



Initial positions approx. 1100 hours
as seen from the south.



Tactical Positioning

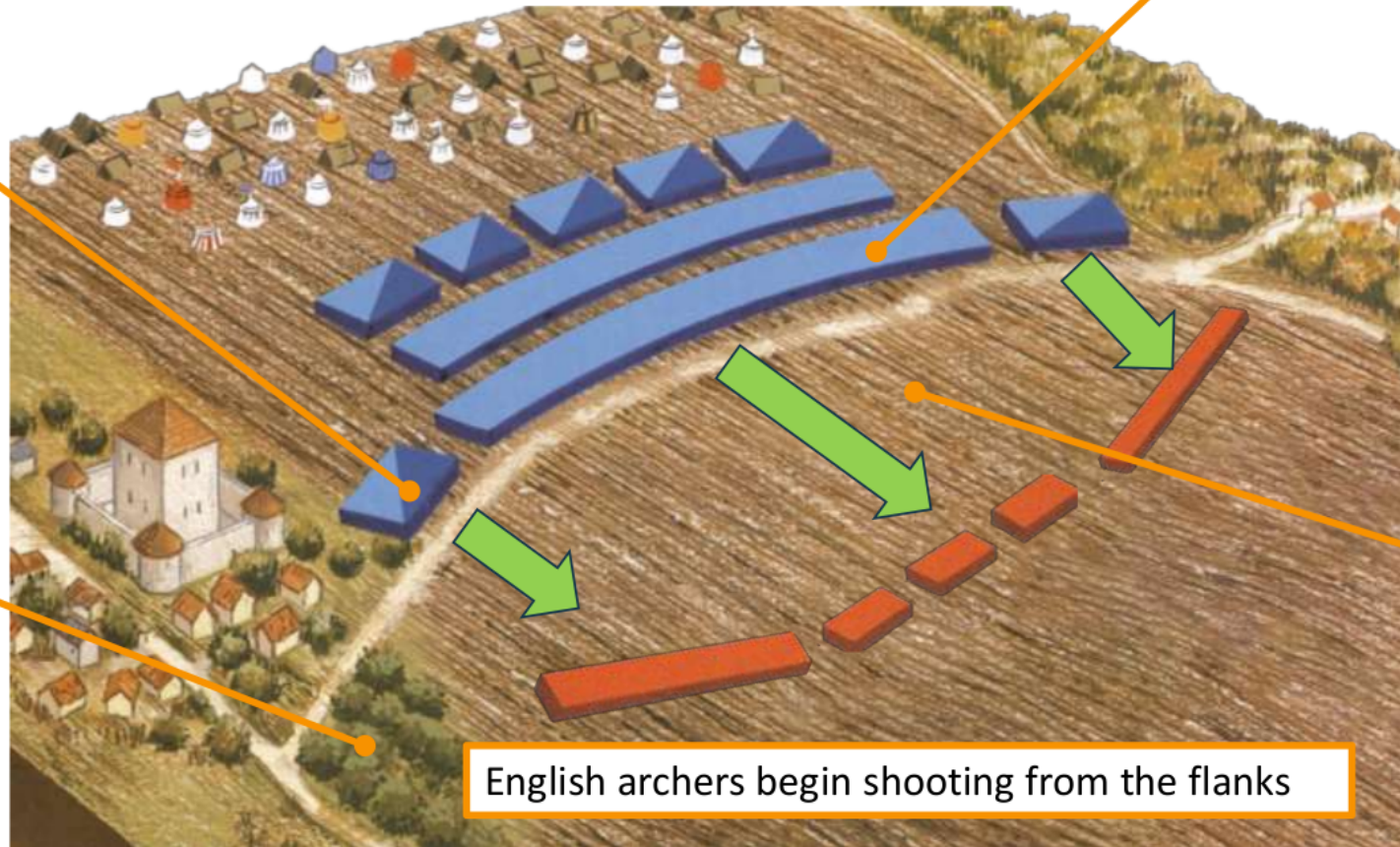
Undermanned
French Cavalry
advances then
gets repulsed

The woodland
prevents the
retreating
Cavalry avoiding
main force

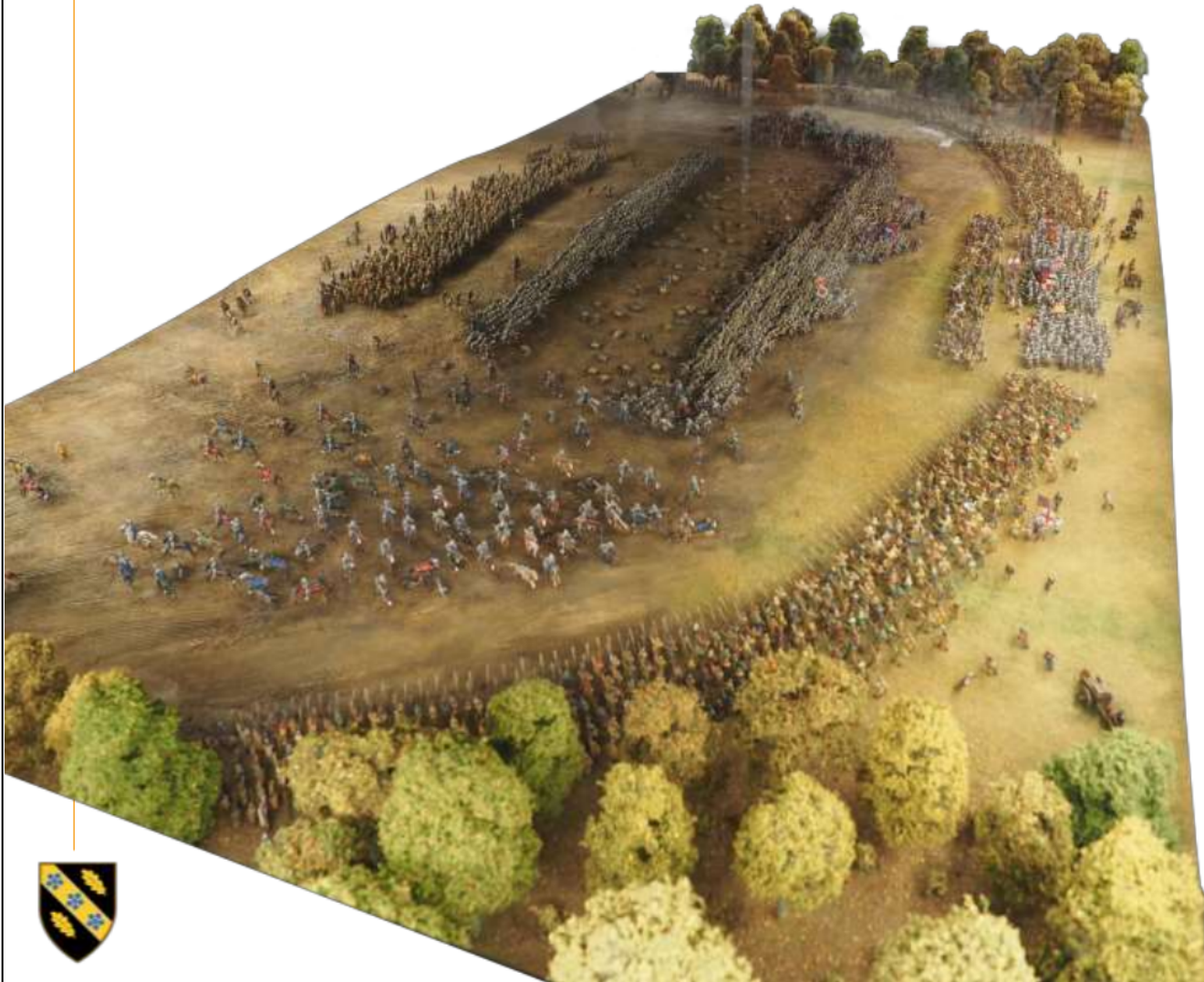
Three waves of unmounted
Men-at-Arms advance towards
volleys of arrows

The terrain is now
heavily churned up
from retreating horses

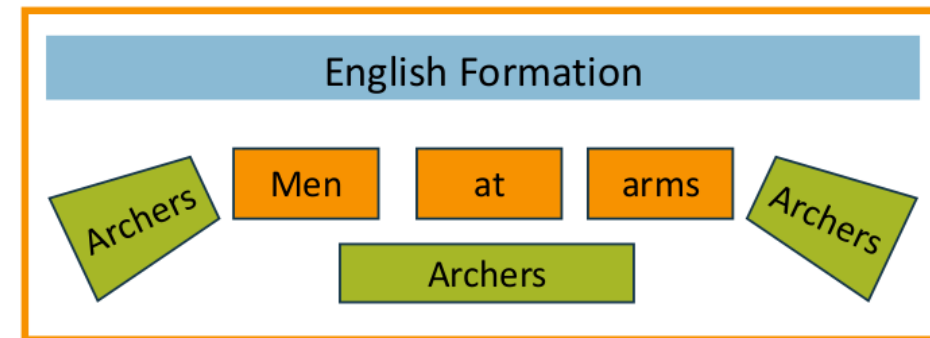
English archers begin shooting from the flanks



English Positioning



- ▶ Utilising the surrounding woodland, the English archers are positioned semi-circular around the French.
- ▶ The use of stakes provided a defensive barrier against the oncoming French Cavalry.
- ▶ The French Men-at-arms are funnelled towards the centre by the retreating Cavalry and English Archers.



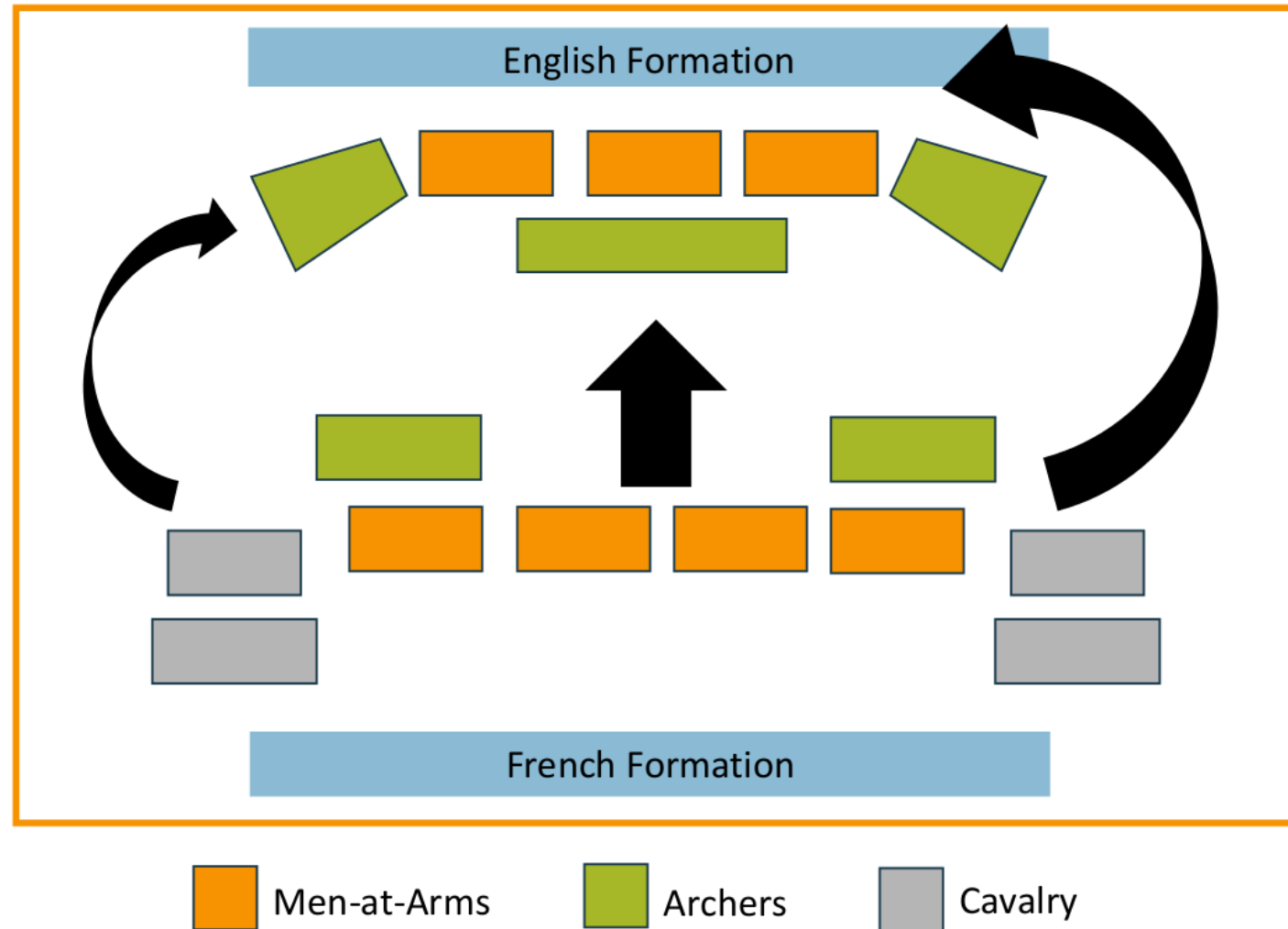
French Tactics and Organisation

▶ The French during the battle:

- Were Overconfident
- Had a lack of discipline
- Had a lack of a single leader

▶ Original Battle Plan drawn up by Marshal Boucicault was designed for a smaller army.

▶ Undisciplined men wandered off during the initial long wait resulting in less men available for the first French advance.



The Melee



- ▶ The English archers join the hand-to-hand combat after unleashing all their arrows.
- ▶ Up against the French Men-at-arms lances and swords.
- ▶ The archers lighter more mobile armour enabled them to navigate the wet terrain easier.



Summary

- ▶ The Longbow was a formidable weapon of its time, especially in the quantity the English Force had at Agincourt.
- ▶ However, it's penetration capability could not consistently defeat the advancement of plate armour at the time.
- ▶ The impact of the poor French command and their tactics deployed needs to be further studied to understand their impact on the battle.





Thank You



GRADEMARK REPORT

FINAL GRADE

43/50

GENERAL COMMENTS

Definitely a new experience but managed nerves well. Spoke confidently without notes, using good visual imagery to present case. This is a very good skill to develop and Emalie excelled. Well structured slides with appropriate split between words and pictures. I enjoyed to visual builds. Referred to equations of state and explained PE to KE really well. Was one of very few to have a bash at the physics and to use embedded videos, which really brought the story home. The historian would not be able deny such powerful evidence. Extensive literature review, which covered historical context and experimentation on armours. I did not know about Boucicault! Excellent knowledge of tactics and technology. Explained material properties well and the validity of open source referencing. Best explanation of arrays and target engagement. Kept to time with good pace of delivery, sometimes a bit rushed due to nerves. Penetration mechanics, not penetration power.

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