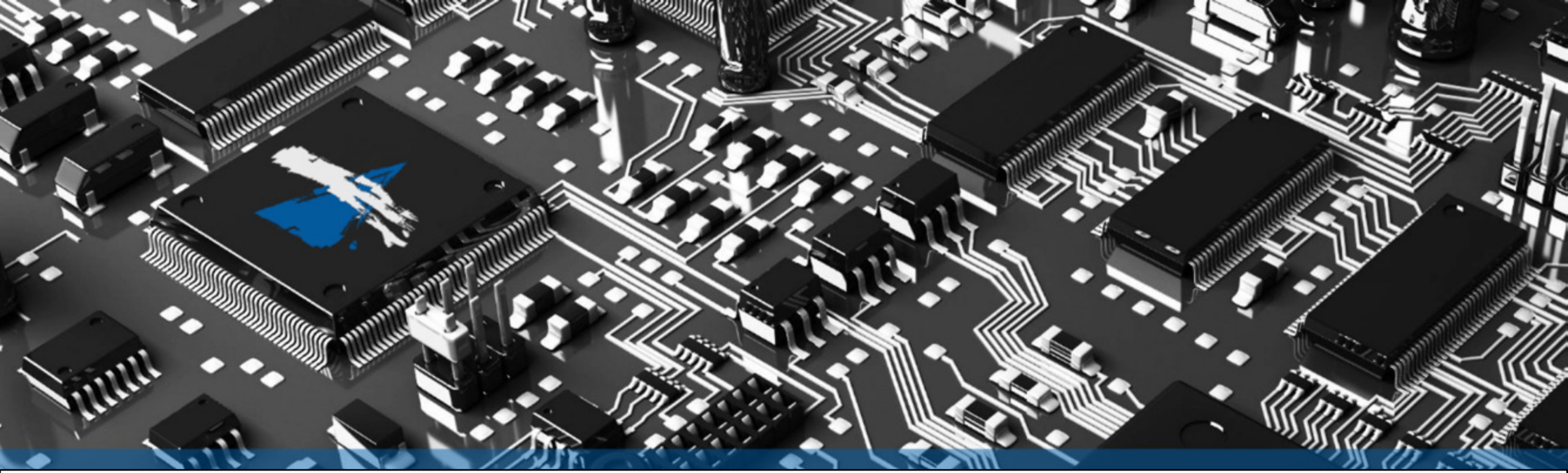

AERSTONELABS

Data Gravity in the Digital Age

Jason Winder

QUESTIONS AND IDEAS

- What is data? Is it real?
- If data isn't magic, does it obey natural laws?
- How does data behave in an open system?
- Other thoughts:
  - Data isn't valuable unless it's used
  - The value of data changes over time
  - Data has mutable physical properties

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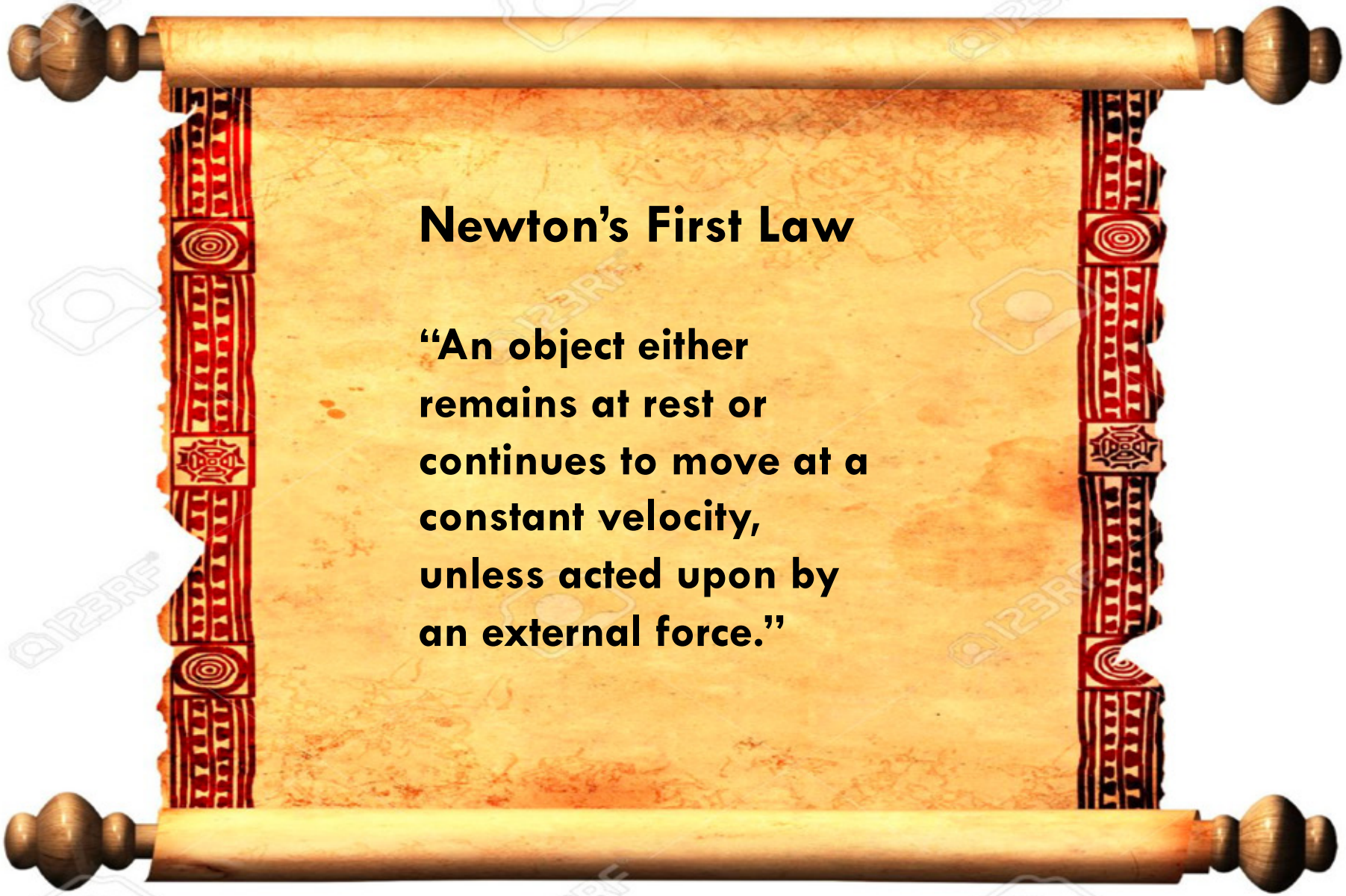

Newton's First Law

"An object either remains at rest or continues to move at a constant velocity, unless acted upon by an external force."

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1ST LAW OF DATA PHYSICS

"The best data tends to remain at rest unless acted on by an outside force"

- Data tends to gather in deep "data gravity wells"
- The least useful data tends to go in motion
- It takes an outside force to move useful data where it's needed
- Moving data where it's needed is *not* cheap

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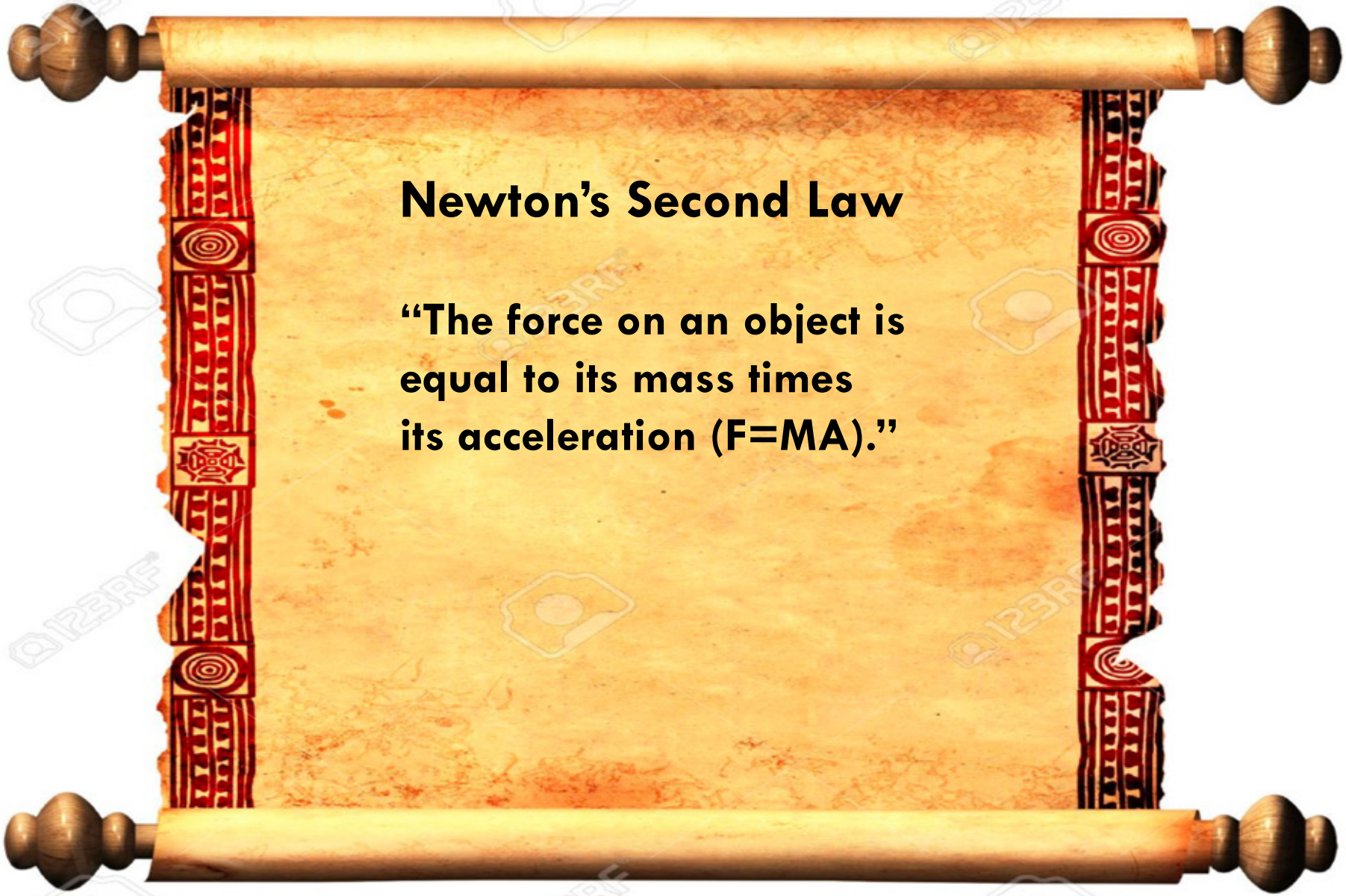
Newton's Second Law
"The force on an object is equal to its mass times its acceleration (F=MA)."

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2ND LAW OF DATA PHYSICS

"Data impact is defined by context and metadata"

- **Content and Context** are the mass
  - So many content management systems!
  - The temptation of Shannon's Law
  - OODA loops: Data → Info → Knowledge → Action
- **Metadata** is the accelerant
  - The Manual Tagging Age has ended
  - Unsearchable content is useless (and unprotectable!)

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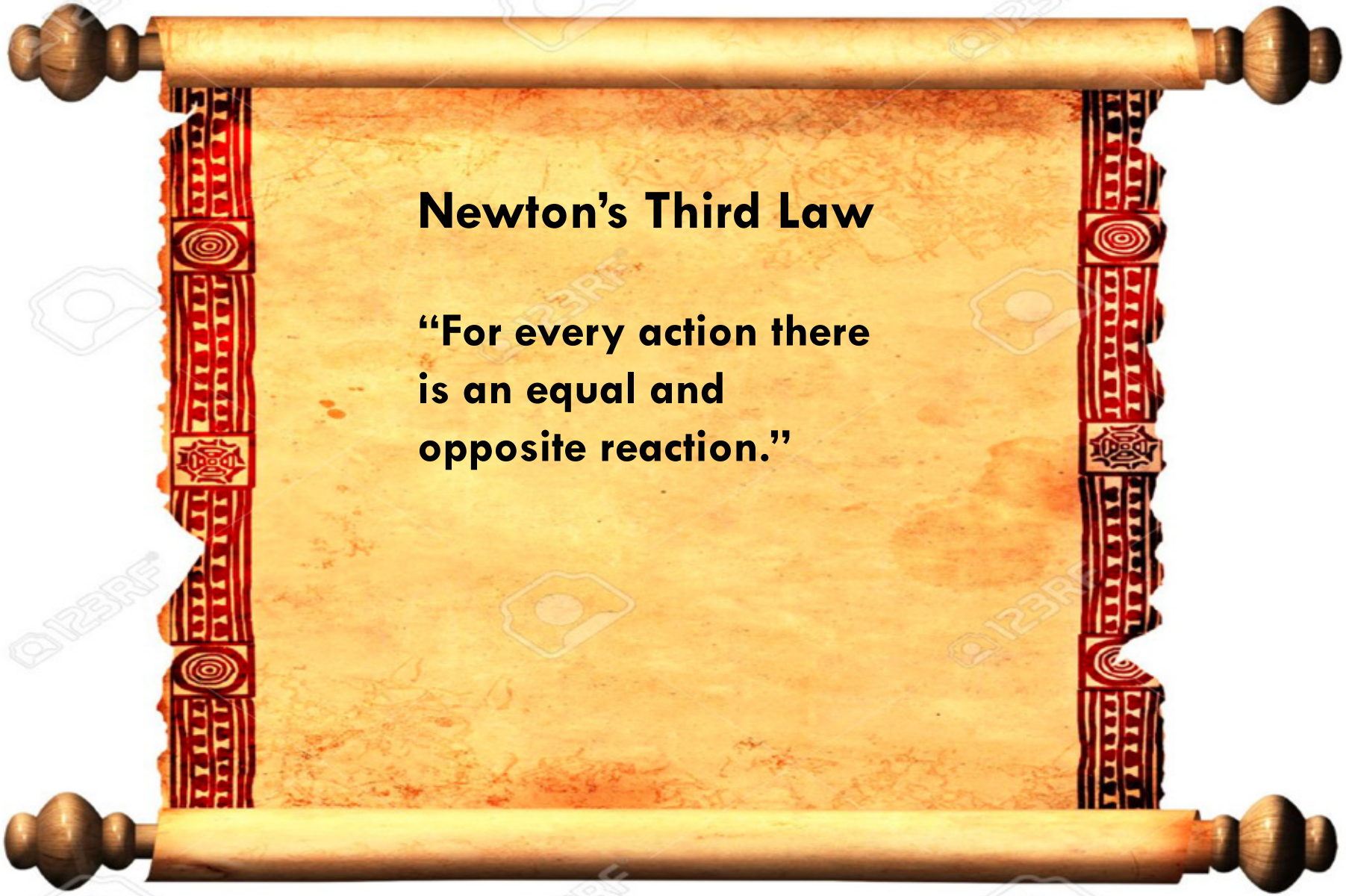
Newton's Third Law
"For every action there is an equal and opposite reaction."

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3RD LAW OF DATA PHYSICS

"Good data management creates an equal and opposite security challenge"

- Data lakes are very high-value targets
- Data in motion is difficult to stop
- The battle between confidentiality and availability
- The risk of data aggregation
- Metadata? YES – metadata!

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SIFT

Take Control Of Your Cloud Data

MIGRATE
Publish Files Based
On Keyword Content

MANAGE
Make All Files
Tagged & Searchable

MONITOR
Identify and Recover
From Data Spills

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