# **Experimental Physics**

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- 2. The Role of Instruments
- 3. From Artisans to Scientists
- 4. Reflections on Experience and Theory
- 5. Conclusion
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# Introduction

# Experimental Physics: A Historical Perspective

#### In 1923, Felix Auerbach claimed that:

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- · Experiments create, not just observe.
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#### From Observation to Intervention

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- Is experiment a valid path to knowledge?
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# **Experimental Physics Enters Academia**

#### 18th–19th centuries: Experimentalists faced epistemic tension.

- Is experimental knowledge real science?
- Is manual manipulation compatible with scholarly traditions?

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The Role of Instruments

#### Instruments as Extensions of the Senses

#### New fields like electricity relied on instruments.

- · Vacuum tubes modeled auroras.
- Volta's battery revealed microphysical phenomena.

Devices created phenomena that otherwise could not be observed.

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From Artisans to Scientists

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Late 19th century: experimentalists joined academia.

- "Scholars of the crafts"
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If the world contradicts theory, the world must be wrong.

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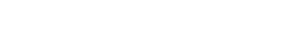
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Conclusion

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References

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Thank you!

Ouestions or comments?