

# 1896 - 1925

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## The History of Phage Research

### The First Documentation of Lytic Activity

1896 – Ernest Hankin

- English bacteriologist working in India studying Cholera and other diseases.
- Published paper describing a marked antiseptic action against *Vibrio cholera* in the waters of rivers in India.
- Arguably the first documentation of lytic phage activity.



### The First Documentation of Phages

1915 – Frederick Twort

- English bacteriologist who discovered bacteriolytic agents, but did not identify these agents as phages, and instead thought they were enzymatic.  
*“May it be a cultivable enzyme?” – Frederick Twort*
- Published his discovery in *The Lancet* then joined the Army Medical Corps.
- Abandoned his pursuit of phages, and his work was largely ignored or forgotten.

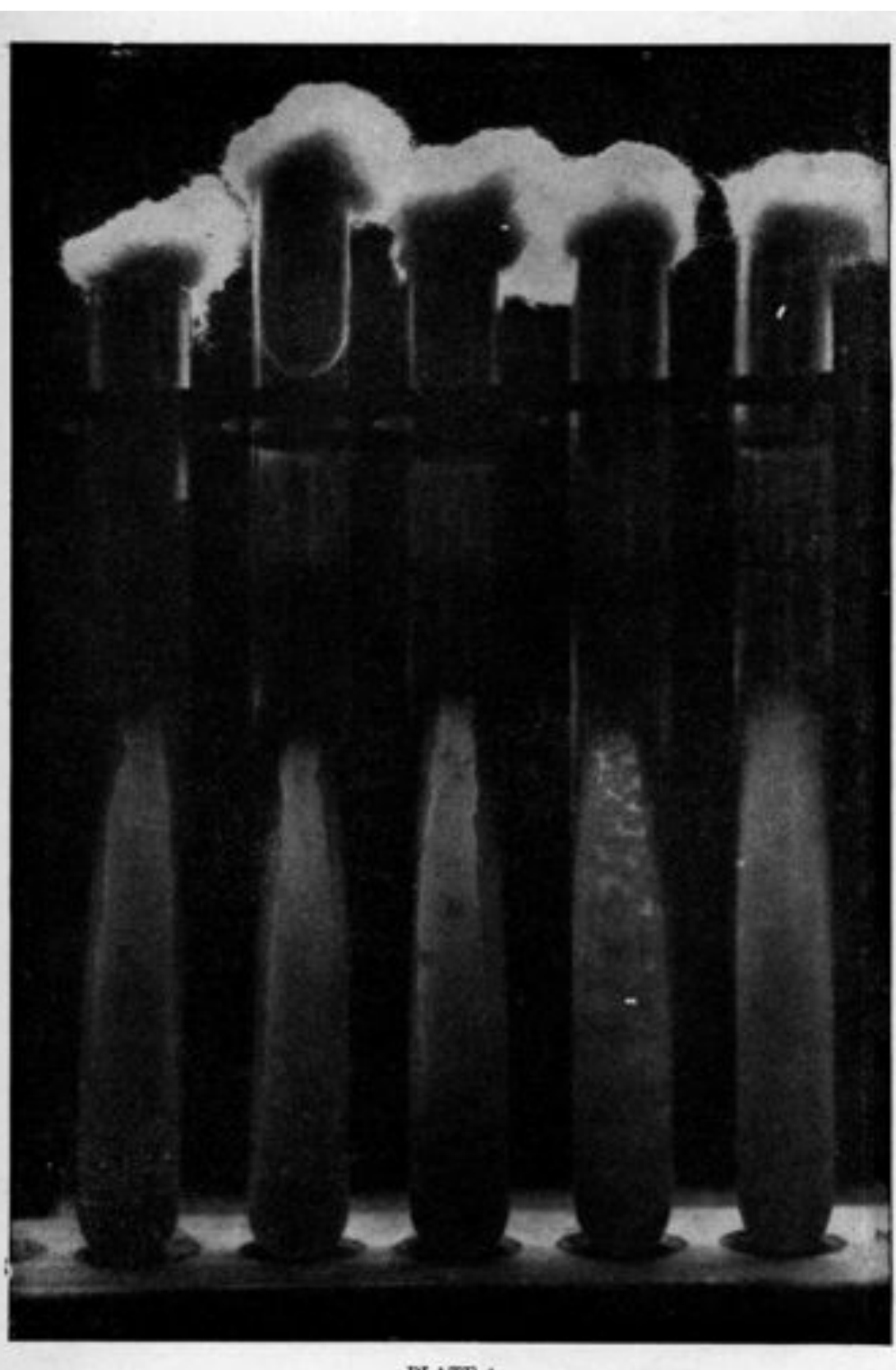
### The First Discoverer (or Co-?) of Phage

1917 – Felix d’Herelle

- French-Canadian citizen – Independent of Twort, he discovered “an invisible antagonistic microbe of the dysentery bacillus”.
- On Sept. 3<sup>rd</sup> 1917 published his landmark paper “The Bacteriophage”.

*“Bacteria are susceptible to infection and are hosts to ultramicroscopic, filter-passing agents, named Bacteriophages – eaters of bacteria”.*

– Felix d’Herelle



#### The Fundamental Experiment

- A fecal sample was taken daily from an adult patient suffering dysentery.
- Feces were inoculated into broth, cultivated, and filtered through a Chamberland filter.
- Successive passages of the filtrate were inoculated to a culture of *Shiga bacilli*
- Instead of losing potency, it increased in lytic capacity.

### The Birth of Phage Therapy

1919 – Felix d’Herelle

- Isolated plaques from chicken feces, then successfully treated a plaque of chicken typhus
- After this successful experiment, tested the first ever application of phages on a human patient in 1919. The patient was healed of dysentery using phage plaques and Phage Therapy was born.