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Semmelweis & Childbed Fever

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PHL 320
Critical Thinking
Distance Delivery

Critical Thinking

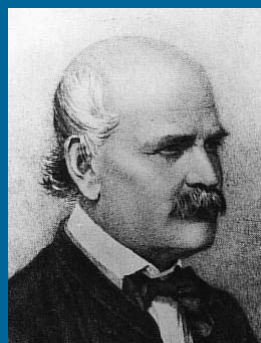
Childbed Fever

- Identified by the Greeks
- Puerperal fever
 - *puer* – child
 - *parere* – to bring forth
- Ignorance of the etiology
 - Ignorance of the causal origins
 - Ignorance of the causal progression
- t₁. Lochial discharge theory
- t₂. Lactescent fluid theory
- t₃. Miasma
- Modern hospitals
- Obstetrics

Critical Thinking

Ignác Fülöp Semmelweis

- 1818-65
- Law, then medicine at University of Pest and University of Vienna
- Graduated 1844 and named assistant in maternity division.
- After his discovery
- His death



Critical Thinking

Vienna General Hospital

- Youth and scientific discovery
- Entrenched older generation
- Three younger mentors
 - Karl von Rokitansky
 - Josef Skoda
 - Ferdinand von Herba

Critical Thinking

What Was Known

- e₁. Two maternity division – as much as 10 as many deaths in the First Division.
- e₂. Obstetricians and students in the First, midwives in the Second.
- e₃. No seasonal or weather related patterns.
- e₄. Correlation between trauma to cervix and uterus and childbed fever.
- e₅. Closing the ward would result in drop in mortality after reopening.
- e₆. Babies of infected mother often developed childbed fever.

Critical Thinking

Differences in the Wards

- Hempel and mini-experiments
- “like a drowning man clutching at a straw”
- t₄. Birth position
- e₇. Change in birthing position made no difference.
- t₅. Rough handling
- e₈. Change in number of examinations made short term difference, but not long term.
- t₆. Deathbed priest
- e₉. Change in entrance made no difference

Critical Thinking

“Fortuitous” New Data

- Semmelweis’s vacation
- Kolletscha’s accident and death
- Reading the pathology report
- Quote from Semmelweis
- New data
- e₁₀. Death and pathology report
- New theory
- t₀. Cadaver particles hypothesis

Self, World, & God

The Big “Experiment”

- Clinician/researcher
- “Ideal” experiment
- Animal experiment
- Semmelweis’s clinical order
- e₁₁. Disinfection in chlorinated lime
- e₁₂. Death rate drops to less than
Second Division

Self, World, & God

Semmelweis's Evidence

e_1
.
.
 e_{12}
===
 t_0

- Rivals
- Rank order
- Clearly the best explanation

Self, World, & God

More New Data

- e_{13} Breast cancer incident.
- e_{14} Infected knee incident.
- Expanded theory
- t_7 Cadaver particles and "putrid matter derived from living organisms."
- Neglect of these cases in clinical reports
- Missed opportunity

Critical Thinking

Tragedy of Semmelweis

- **Not renewed for his assistantship**
- **Failure to write**
- **Ignorance of good experimental technique**
- **Ignorance of microscopy**
- **End of his career**
- **Death**

Critical Thinking

Scientific Revolution

- **Paradigms**
 - **Learning and training**
 - **“Normal science”**
 - **Anomalies**
 - **Revolution**
- **Germ theory of disease**
- **Pasteur**
- **Lister**

Critical Thinking