

## Models of scientific growth. (Trying to judge present ability)

### ① Assume constant effort.

Accumulation of knowledge builds tools  $\left\{ \begin{array}{l} \text{material} \\ \text{conceptual} \end{array} \right.$   
 history of detected artefacts  
 base of knowledge.

- If new horizons are unlimited, then the working capital should increase with new discovery. And this should follow a compound interest law!

②

Base of knowledge is a maintainable fabric, i.e. it costs to keep pace. Upkeep of libraries; failure of memory and of understanding; transmission to another generation: constant distillation and reinterpretation as the rest of the world changes. Pioneer and ~~senior~~ pupil.

Usable base cannot enlarge very fast; its quality can improve. Each generation can forget selectively.

③

Output can only be measured as

1. Input of effort = cost of science (total)

2. Volume of output = papers

(or # of paper-writers)

3. Cost of output = investment in sci. commun.

may be a fixed fraction of 1.

[As publications get relatively cheaper this argument falls.]

4. May be relatively immaterial to the significance of the output.  
Horizons may be  
limited in a field  
actively expanding in relation to our perceptions

Delay does imply that a specific area is relatively neglected.

∴ organizational efforts in availability of knowledge and attractiveness of problems.

Not a stochastic dispersion over possible targets.

First order model assumes this to illustrate the deviation.

"What's interesting" is a social question.

E.g. Tetanus problem. Literature on atoxic strains of *Salmonella*: needs for epidemiological tracing.

↳ 1893 — .....

names of contemporaries