# On hypotheses...

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# Outline

- Introduction
- Some conceptual analysis
- Developing a hypothesis
- Empirical hypotheses > examples
- Interpretive hypotheses
- Notes on the quality of hypotheses
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- Notes on Johansson's article
- Some references

# “Hypotheses non fingo”
## (Isaac Newton, 1713)

‘I feign no hypotheses’

(... about the constitution of space, which might explain gravity.)

>> facts, precise measurements and logical reasoning, not speculation...

Darwin, Notebook 1837

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# Peirce: Abductive reasoning

Deduction: All the beans from this bag are white.
These beans are from this bag.
> These beans are white.

Induction: These beans are from this bag.
These beans are white. [And these and...]
> All the beans in the bag are white.

Abduction: All the beans from this bag are white.
These beans are white.
> These beans are [probably] from this bag.

# Peirce: Abductive reasoning

- Reasoning via hypotheses
- A surprising observation would make sense if X were true... so X is probably true
- Leads to new knowledge
- Fallibility

The idea of the **working hypothesis** is

"one of the most important discoveries of modern times, which has replaced the idea of dogma and doctrine."

Aldous Huxley

A hypothesis is a kind of .....?

A hypothesis is a kind of .....?

*Definition*

Hypothesis: a good guess
at the best answer to a question,
based on the most reliable facts available;
a guess that will be TESTED.

# Related concepts: possible co-hyponyms of “hypothesis”

- assumption, claim, argument...
- testable vs falsifiable
- variable focus on testing:

**assumption** (> not tested in a given project)

**claim, argument**

(> testable against evidence, alternatives etc)

**empirical hypothesis** (> falsifiable)

# A hypothesis is also a kind of theory

Popper's model of scientific progress:

Problem 1

> Tentative Theory (hypothesis)

> Error Elimination (testing)

> Problem 2 ...

## *Kinds of hypotheses*

Empirical

**Descriptive**: all X have feature Y/ belong to class Y

**Explanatory**: X is caused / made possible by Y

**Predictive**: in conditions ABC, X will occur

Conceptual

**Interpretive**: X is (usefully) interpreted as Y

# Some empirical hypotheses about translation

Descriptive hypotheses: universals...

E.g.

**The explicitation hypothesis**

which claims that:

translations tend to be more explicit than their originals

(Blum-Kulka et al et al) (True?)

*Another descriptive hypothesis:*

**The retranslation hypothesis**

which claims that:

later translations of the same source text,
into the same target language,
tend to be closer to the original
than the first translation.

(Goethe et al et al) (True??)

*An explanatory hypothesis:*

The **literal translation** hypothesis:

Interim solutions show a tendency towards decreasing literalness (= *descriptive claim*)

because

translators first process the ST into a literal TL version;

i.e. they do not deverbalize at an early stage.

(Englund Dimitrova et al) (True?)

*Another explanatory hypothesis:*

Translation quality is affected by
(= can partly be explained by)
emotional factors such as mood and self-image.

(TAP research...)
(True? Always? Sometimes? When?)

*A predictive hypothesis:*

If you allow translators all the time they want, they will produce better translations.

(= translations that will have a “better” effect on readers...)

(Tested e.g. in Hansen 2002) (True?)

# Developing a hypothesis I

- Generation: sources...

  questions

  intuition / subconscious / own experience

  induction from data analysis

  deduction from theory

  derived from previous research (a claim, assumption, hypothesis...)

  chance

# Developing a hypothesis II

- Justification:

  it is not trivial,

  it MAKES A DIFFERENCE

  to theory ( > think differently)

  to practice ( > act differently)

  it has important IMPLICATIONS

Is it new?

Is it true?

Does it matter?

# Developing a hypothesis III

- Formulation:
  Be as precise as possible

Compare these descriptive ones: counter-evidence?

X is possible (under conditions ABC)

X occurs sometimes (“ “)

X is frequent / a tendency (“ “)

X is universal (“ “)

Compare:

(a) “Translations shape the formation of cultural identity”

(> empirical, explanatory, cause-effect hypothesis)

and

(b) “Translations reflect / manifest / are a sign of the formation of cultural identity”

(> interpretive hypothesis)

# Developing a hypothesis IV

- Testing
  - against evidence
  - against competing hypotheses (have two?)
  - for logic and parsimony
  - for added value

Operationalization

Assessing the test itself

- reliability, validity, assumptions,
- degree of support or not > refined / new hyp?

Value of negative results!

*Interpretive hypotheses have a different status.*
*They are not falsifiable, and are tested pragmatically (are they useful?).*
*They are revisable agreements.*

An example:

There are five types of equivalence. (Koller)

(= equivalence can be interpreted as...)

(Useful?)

Another example: definitions of “translation”

- see Pym 2007, in *Across* 8, 2.

# Interpretive hypotheses and the hypothetico-deductive method

Dagfinn Føllesdal: hermeneutics applies this basic method to data that are meaningful – especially when the meaning is not obvious.

It is in principle the same method as is used in empirical science.

# Hypothetico-deductive method

"As the name indicates, it is an application of two operations: the formation of *hypotheses* and the *deduction* of consequences from them in order to arrive at beliefs which – though they are hypothetical – are well supported, through the way their deductive consequences fit with our experiences and with our other well-supported beliefs."

Dagfinn Føllesdal [1979] 1994: 234

## Types of non-obvious meaning in hermeneutics (when conventional linguistic meanings do not suffice for understanding)

- Historical (meaning of X at some time in the past)
- Hidden (e.g. “Freudian” meanings)
- Internal (e.g. aesthetic)
- Scholar’s (meaning to the modern scholar, potential application now)

Also relevant to natural sciences

# The strange Passenger in Ibsen's *Peer Gynt*

Føllesdal's example: what is the meaning of the Passenger? How to interpret this character?

> Symbol of death? Guilt? Ibsen himself? Byron's ghost? >> possible interpretive hypotheses to be tested.

http://ebooks.adelaide.edu.au/i/ibsen/henrik/i1p/act5.html

Føllesdal: Test (interpretive) hypothesis against

- Original data
- Additional data from the same dataset
- Additional evidence, different sources
- Alternative hypotheses
- Possible counter-evidence
- Consequences

Strong evidence: is specific, not vague; finds support of different kinds; makes sense of a wide range of data; has interesting and testable consequences.

Cumulative benefits of multiple hypotheses

# The hermeneutic AS: X is interpreted *as* Y

- Representing / symbolic *as*
  - Venuti, Freud...
- Metaphorical / analogical *as*
  - Cronin: translators as nomads
- Classificatory *as*
  - > Hypernym: e.g. translation as rewriting
- Compositional *as*
  - > Hyponyms, e.g. equivalence as two / five types
- Definitional *as*
  - > e.g. Toury's norm-based definition of translation

*Reminder…*

Operationalization
always involves
interpretation

(so we cannot manage without
interpretive hypotheses)

# Explanation via interpretive hypotheses

Compare the role of interpretation in qualitative research, e.g. in Grounded Theory

>> explaining via

generalization

unification (showing connections...)

>> making sense

# Notes on the quality of hypotheses

For all hypotheses:

> Explore counter-evidence.
What would count against the hypothesis?
Consider counter-arguments etc.
Cite sources that disagree!

> Assess alternative, competing hypotheses.

# Good empirical hypotheses...

- are testable
- are internally coherent and elegant
- are simpler and/or more powerful / more general than competing hypotheses
- make predictions that are surprising and come true (if they are predictive)
- raise new questions and hypotheses
- have a high degree of falsifiability / risk

>> i.e. they bring **added value**

## *Bold vs cautious hypotheses*

Bold hypotheses supported: high added value.

Bold hypotheses rejected: low added value.

Cautious hypotheses supported: low added value.

Cautious hypotheses rejected: high added value.

Bad hypotheses

cannot be tested, cannot be operationalized, have unjustified assumptions, neglect relevant variables, bring little added value.

E.g.

In conditions ABC, X may occur more often than Y.

(What evidence could count against this?!)

(Beware modal verbs!)

# Hypotheses in research designs

(Gile 1998)

- theoretical
- empirical
  - observational
    - exploratory
    - focused analytical
    - hypothesis-testing
  - experimental

*In other words (see e.g. Hertog et al 2006)*

- Start with a hypothesis (or two opposing ones) and test it

or

- Start with a question or problem, develop an evidence-based argument, and end with a claim that can serve as a hypothesis for future research

or

- Start with data, explore, raise questions, generate interesting hypotheses...

NB: If you invent a new hypothesis, give it a good name!

>> **citability**!

Important distinctions:

- ***What are you assuming?***
  (Hidden assumptions? Risky assumptions?)

- ***What are you testing?***
  (The initial hypothesis: how is it operationalized?)

- ***What are you claiming?***
  (Evidence? Counter-evidence? Logic?)
  (Interpretive hypotheses?)

Note: the same proposition –

e.g. *"Professional translators produce better quality work than amateurs"* –

could function as

an assumption (not tested)

a hypothesis (explicitly tested)

or

a claim (e.g. conclusion of an argument)

– depending on the research design in question.

# Notes on Johansson's article

Johansson, Stig 2004. "Why change the subject?" *Target* 16, 1, 29-52.

## Johansson's article - *potential*

Interesting data... Possible research designs:

Predictive hypotheses:

H1: There will be no variation, i.e. there will be a tendency to

(a) preserve the subject

or (b) change the subject in a similar way.

H2: There will be variation, i.e. no clear tendency.

TEST: to what extent are H1 and H2 supported?

## Johansson's article - *potential*

Descriptive hypotheses:

H3: Chevalier's claim: translators tend to prefer animate subjects (where these are possible).

H4: The literal translation hypothesis: preferred if this is possible.

## Johansson's article - *potential*

Explanatory hypotheses:

Explaining (a) variation, or (b) tendencies?

Variation: personal preferences?
different norms for lit/non-lit?

Tendencies: universals?
shared general norms?
language-pair contrastive constraints?

## Johansson's article - *actual*

Exploratory study: starts with data and some initial questions.

No **explicit** initial hypotheses.

Explores the range of variation.

Explores some differences between the two groups (lit vs non-lit).

**(**Does not end with an explicit hypothesis)

... and what about your project?

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