On hypotheses...

Andrew Chesterman

MuTra, 3.10.2008
Outline

• Introduction
• Some conceptual analysis
• Developing a hypothesis
• Empirical hypotheses > examples
• Interpretive hypotheses
• Notes on the quality of hypotheses
• Hypotheses in research designs
• 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...
I think

[Tree diagram]

Then between A + B关节 frequent generation C + B. The frequent generation B + D rather greater distinction than former will be formed...
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 \( \Rightarrow \) 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?


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 \textit{as} Y

- Representing / symbolic \textit{as}
  - Venuti, Freud...
- Metaphorical / analogical \textit{as}
  - Cronin: translators as nomads
- Classificatory \textit{as}
  - Hypernym: e.g. translation as rewriting
- Compositional \textit{as}
  - Hyponyms, e.g. equivalence as two / five types
- Definitional \textit{as}
  - e.g. Toury’s norm-based definition of translation
Reminder…

Operationalization always involves interpretation

(so we cannot manage without interpretive hypotheses)
Explaination 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 experimental

exploratory focused hypothesis-testing
analytical
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’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?
Some references


