Metaphors of containment and causality: A Cognitive Challenge to the Social Sciences

Dominik Lukeš

Feb 2005

Outline

- Joke and caveats
- Two key issues in social sciences
- New metaphor research
- Implications for social science research
- Containment and causality in education theory
- Conclusions: The language instinct revisited

Joke

Ivan and Pyotr were watching the installation of the Omsk telephone exchange. "*These modern gadgets*," sighed Pyotr. "*I can never understand how they work*."
"*But it is easy*," replied Ivan. "*It is like a very long dachshund. You twist his tail, and he barks in the middle of the city.*"
"*Ah*," said Pyotr. "*That explains telephones. But what about radio?*"
"*Radio is exactly the same*," said Ivan, "*but without the dachshund*."

Pyotr thanked Ivan for explaining telephones. "*But what I really do not understand, Ivan, is television. I watch the soccer matches and the news every day--but how is it possible to send color pictures from one end of the country to the other, and without wires?*"
Ivan thought for a few moments and replied: "*And with wires, you'd understand?*"

from Jack Cohen and Ian Stewart, 1993

Caveats

- Center or periphery
- Reductionist or reactionary
- Solutions or solace
- Naming or explaining
- Social sciences or humanities
- Science or wissenschaft (věda, nauka)
- Questions

Foundational issues in social sciences

- Psychology vs. sociology
  - statistics, survey vs. case study
- Analog vs. digital
  - quantitative vs. qualitative (methods of sampling and quantification)
- Other consequences
  - impartial vs. activist
  - removed vs. action-based research

About containers

- “So, naturalists observe, a flea
  Hath smaller fleas on him that prey
  And these hath smaller fleas to bite ‘em
  And so proceed ad infinitum.”

  Jonathan Swift

- “That wch is below is like that wch is above & that wch is above is like yt wch is below to do ye miracles of one only thing.”

  The Emerald Tablet
  as translated by Isaac Newton

About causes

- “…one of the most important and exciting voyages of discovery that humanity has embarked upon […] is the search for the underlying principles that govern the behavior of our universe.”

  Roger Penrose, 2004

About metaphor

- “Darwin and Melville both say a lot about whales, but to rely on The Origin in a philosophy class is like using Moby-Dick as a zoology text. One is fact, the other metaphor. The Arts Faculty often finds it hard to tell the difference.” … “Evolution is to the social science as statues are to birds: a convenient platform upon which to deposit badly digested ideas.”

  Steve Jones, 1999

- “*One picture is worth a thousand words*, said an ancient Chinese; but it may take 10,000 words to validate it. It is as tempting to ecologists as it is to reformers in general to try to persuade others by way of the photographic shortcut. But the essence of an argument cannot be photographed: it must be presented rationally--in words.”

  Garett Hardin, 1968

- “Metaphors can kill.”

  George Lakoff, 1991

Conceptual metaphor

- Mapping between two domains of experience (source – target)
- Important inferential structure is inherited from the source domain in projection
- The projection from one domain to another is partial consistent with the topology of both domains
- The use of metaphor is a central and mostly unconscious cognitive process
- Metaphor functions at all levels of discourse

Typical conceptual metaphors

- CONTROL IS UP / BEING CONTROLLED IS DOWN
- ARGUMENT IS WAR – He attacked his position. She destroyed his argument.
- CHANGE IS MOTION – Our progress ground to a halt.
- IDEAS ARE OBJECTS / MIND IS A CONTAINER – Who put those ideas into your head?
- SOCIETIES ARE CONTAINERS
- STATES ARE PEOPLE

Types of metaphors I: Conventionality

- Entrenched (lexicalized)
  - I need to digest some of these ideas.
  - The child lit up.
  - Harry blew his top.
- Analogical (novel)
  - Education is reading the fine print
  - Teachers are engineers of the soul
  - Atom is like a planet with moons

Types of metaphors II: Cognitive function

- Structural (Rich conceptual structure)
  - EDUCATION IS READING THE FINE PRINT
- Attributive (Borrowed structure)
  - He’s a sheep
- Ontological (Few mappings)
  - KNOWLEDGE IS A THING TO BE SOLD
- Orientational (Schematic, enablers)
  - UP IS CONTROL, WHOLE IS RATIONAL

Types of metaphor III: Nature

- Rich image
  - We’re snowed under, Keep somebody at arm’s length
- Image schematic
  - We’re out of money, Talk down to someone, Breathe out a sigh of relief
- Conceptual
  - We’re wasting out time
  - The mind is a computer

Types of source domains

- Space/movement/physical world/forces
- Human body/animals/plants
- Food/cooking
- Light/darkness/vision
- Machines/tools/structures
- Money/market

What do domains look like

- Image schemas
- Images
- Scripts, scenarios
- Folk theories, stories
- Salient examples, paragons
- Roles and relationships
- Categories

More about metaphors

- One target domain is usually structured by several source domains (ARGUMENT IS WAR, BUILDING, JOURNEY)
- One source domain is usually used to conceptualize multiple target domains (THEORIES, CAREERS, COMPANIES ARE BUILDINGS)
- Metaphors create complex interconnected systems (COMPLEX SYSTEMS ARE MACHINES)
- Metaphorical understanding is inseparable from literal understanding

Issues for metaphor theory

- Status of primary metaphors?
- Relative status of source and target domains?
- What is the status of linguistic metaphors?
- What is the nature of inferential structuring?

Bibliographical interlude

- **Precursors**
  - Richards, Black ➔ Schön, Reddy
- **Theory**
  - **Lakoff & Johnson 1980 *Metaphors we live by***
  - Lakoff 1993 *Contemporary theory of metaphor*
  - Kövecses 2002 *Metaphor*
- **Applications and implications**
  - Lakoff 1991 *Metaphor and War*
  - **Lakoff & Johnson 1999 *Philosophy in the flesh***
  - Lakoff & Nuñez 2000 *Where mathematics comes from*
  - Lakoff 1996/2002 *Moral politics*

Metaphors of containment I
Orientational Schematic

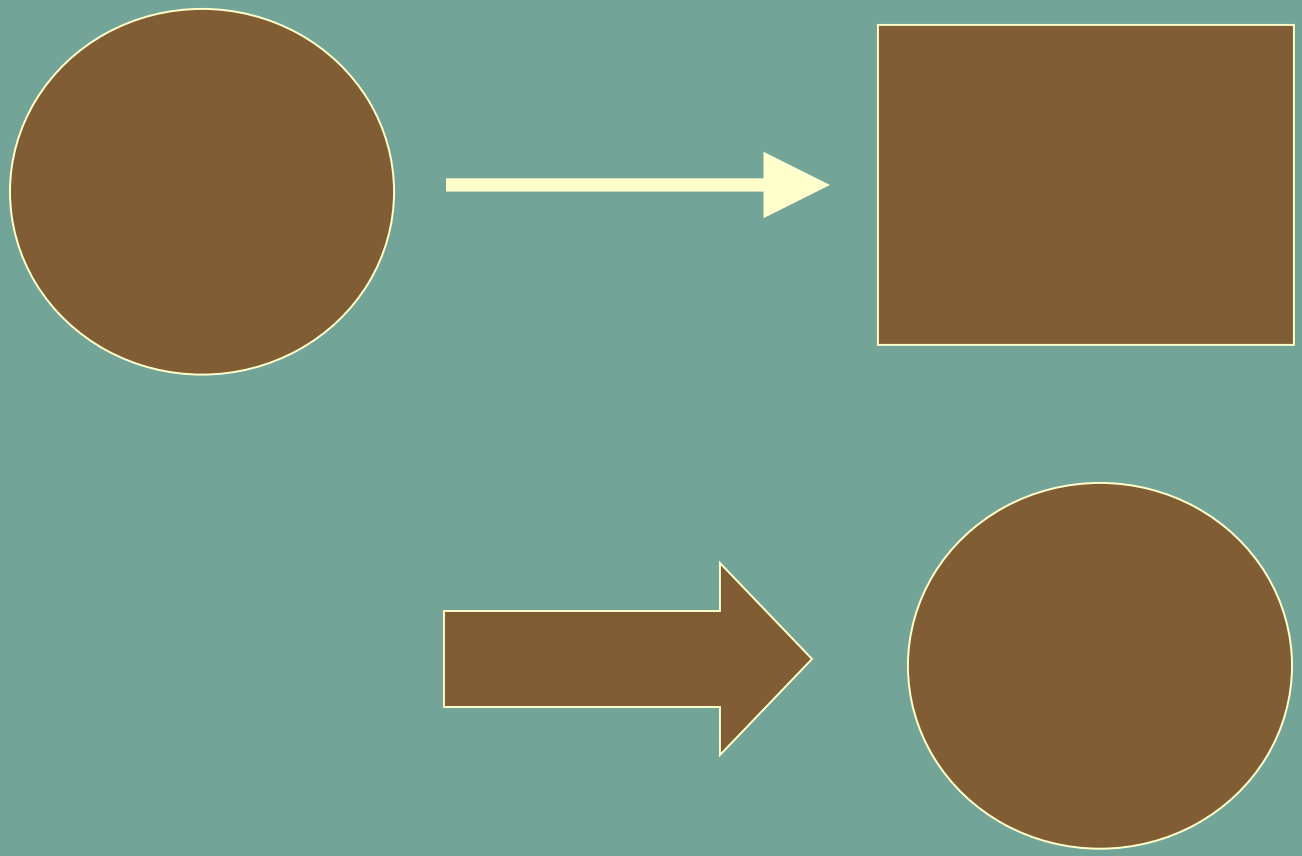


Metaphors of containment II

Structural Rich Image

- Adding things to a container can cause it to overflow or burst
- Last thing added has to be the first to be taken out
- The more things are in a container, the more stressed they are
- Something either is or is not in a container but can also be on an edge
- Things in a container are the same inside and outside (unless other conditions apply)

Metaphors of causality I
Orientational Schematic



Metaphors of causality II
Structural Rich Image / Conceptual

- Things have to be commensurate in size and/or force to have an effect (Inhabit/invade)
- Many small causes can combine to have a large effect (Mountains / molehills)
- Many causes may not cause an effect until last moment (Straws / camel backs)
- Events sequenced and co-occurring usually have a causal relationship (Smoke / fire)
- Events may have undesirable side effects (Eggs / omelets)

Parts, wholes and causes in daily experience

- series of musical notes -- a melody
- individual acts of smoking -- a habit of smoking, addiction
- acts of drinking -- a dependency on alcohol
- stars in a part of the sky -- a constellation of stars
- a series of articles -- chapters in a book
- sexual encounters with someone -- relationship with someone
- taking classes -- doing a degree
- a number of political initiatives -- a political vision
- a series of events -- a narrative or a story

Danaher, 2003

Other examples of detail-whole model switching

- aphorisms vs. complete text
- detail vs. wholeness of a translated text
- common sense vs. expert sense
- Sayings:
  - ‘Can’t see the forest for the trees.’ vs. ‘Jack of all trades and a master of none’;
  - ‘Something either is or isn’t’/ ‘I want a yes or no’ vs. ‘Nothing is ever as cut and dry/black and white/as it seems’;
  - ‘last straw’ or ‘straw that broke the camel’s back’ vs. ‘going back to first principles’ / ‘back to square one’ / ‘butterfly effect’ / ‘proximate vs. ultimate causes’

Metaphor continua in action

“the Balinese live in **spurts**. Their life, as they arrange it and perceive it, is less **flow, a directional movement out of the past, through the present, toward the future** than an **on-off pulsation of meaning and vacuity**, an arhythmic alternation of short periods when 'something' (that is, something significant) is happening, and equally short ones where 'nothing' (that is, nothing much) is--between what they call **'full' and 'empty' times**, or, in another idiom, **'junctures' and 'holes'**. In focusing activity down to a burning-glass dot, **the cockfight is** merely **being Balinese in the same way** in which everything from the monadic encouters of everyday life, through, the clanging pointillism of *gamelan* music, to the visiting-day-of-the-gods temple celebrations are (sic!).”

(Deep Play, Clifford Geertz, 1971)

Implications:
Folk and expert theories

- Policy effects
  - Education reform
  - Country image, Nation's spirit
  - Historical causes
- Research
  - Deep vs. broad research
  - Measure vs. nature (IQ-intelligence, literacy-reading, speed of reading-understanding)
  - Testability of hypotheses
- Philosophy
  - Free will
  - Prime mover

How metaphors can kill

The Causal Commerce system is a way to comprehend actions intended to achieve positive effects, but which may also have negative effects. The system is composed of three metaphors:

Causal Transfer: An ***effect is an object transferred from a cause to an affected party***. For example, sanctions are seen as "giving" Iraq economic difficulties. Correspondingly, economic difficulties for Iraq are seen as "coming from" the sanctions. This metaphor turns purposeful actions into transfers of objects.

The Exchange Metaphor for Value: The ***value of something is what you are willing to exchange for it***. Whenever we ask whether it is "worth" going to war to get Iraq out of Kuwait, we are using the Exchange Metaphor for Value plus the Causal Transfer metaphor.

Well-being is Wealth: Things of value constitute wealth. Increases in well-being are "gains"; decreases in well -being are "costs." The metaphor of Well-being-as-Wealth has the effect of making qualitative effects quantitative. It not only makes qualitatively different things comparable, it even provides a kind of arithmetic calculus for adding up costs and gains.

Taken together, these three metaphors portray actions as commercial transactions with costs and gains. Seeing actions as transactions is crucial to applying ideas from economics to actions in general.

Lakoff, 1991, Metaphor and war

Causes and containers in social theory (Lakoff & Johnson 1999)

- Causal paths (difficult to change course; critical mass)
- Domino effect (spontaneous intersocietal change)
- Thresholds (irreversible intra societal change)
- Plate tectonics (inevitable effects of unrelated causes)

Causes and effects in educational theory

“What the best and wisest parent wants for his own child, that must the community want for all its children. Any other ideal for our schools is narrow and unlovely; acted upon it destroys our democracy.” John Dewey

- Teacher and student behavior
- Curriculum content and structure
- Instruction and assessment
- Literacy and prosperity
- Preparing future workers
- Preparing future citizens

Education and prosperity

Example of Metaphorical progression

- Thinking is involved in education
- The better thinking the better education
- Knowledge is involved in education
- The more knowledge the more education
- People who can think better and know more are better workers
- The more good work is done, the more wealth is created
- More educated people create more wealth
- Educated population leads to prosperous countries
- In more prosperous countries, wealth trickles down to all parts of the society

Alternative views?

- “Questioning the **automatic value of any rise in the education budget**, it seems, places one somewhere between an animal-hater and an imbecile.”
- “… an **unquestioning faith in the economic benefits** of education has brought with it huge amounts of wasteful government spending attached to misguided and even pernicious policies.”
- “Politicians’ faith in education is **fuelled by a set of clichés about the nature of the twenty-first century world**: globalized, competitive, experiencing ever faster rates of technical change.” (Alison Wolf, 2002, p. xi)
- “The **powerhouses** of the new global economy are **innovation and ideas, creativity, skills and knowledge**. These are now **the tools for success and prosperity** as much as **natural resources and physical labour power** were in the past century.” (David Blunkett, 2000, quoted in Wolf)
- “The **wisdom** that a **democratic community** needs is **the wisdom of the entire population**. [O]ne of the most important elements in the strength of a country...is its educational system...provided that the educational system will be directed to **moral, intellectual, aesthetic and spiritual growth**.” (Robert Hutchins, 1953, quoted in Wolf)

Effects of, on and in education

- Effects of education
  - Education leads to more prosperity
  - Education leads to better democracy
  - Education leads to less crime
- Effects on/in education
  - Moral teachers will lead to moral students
  - Knowledgeable/expert teachers will lead to knowledgeable/expert graduates
  - Up-to-date curriculum will lead to students better prepare in today's life
  - More interesting textbooks will lead to students learning more
  - Paying attention to individual needs of every student will lead to better educated students at the end

Conclusions

Language instinct revisited

- The metaphorical application of models of variable richness is automatic (instinctive).
- Our expert and folk scientific concepts are founded in our experience:
  - directly through models and schemas
  - indirectly through theories and conventionalized scenarios
- Conceptual metaphor can be used both as a tool for analysis of social concepts and as a reflective (therapeutic) device.
- Further examination into the metaphoric and literal distinction (interpretations vs. facts) is needed.

References and more

www.bohemica.com/metaphor