

# **An introduction to realist research Workshop**

**Dr Marjolein Dieleman**

Royal Tropical Institute  
Nederland

**Dr Geoff Wong**

Queen Mary, University of London  
United Kingdom

**Dr Bruno Marchal**

Institute of Tropical Medicine  
Belgium

**Second Global Symposium on health systems research,  
Beijing, 31 Oct – 3 Nov 2012**

## During this workshop, please....

- Feel free to ask questions as we go along, though at times I may ask you to wait until we get to the appropriate part of the workshop 😊
- Turn off your mobile phones, smart phones etc.

## **Structure of this workshop**

- Objectives
- Introductions
- The essentials of realism
- Applying a realist logic of enquiry
- Wrapping up and closing comments

## Objectives

By the end of this presentation I hope you will:

- Have an understanding of the principles / assumptions underlying realism
- Be able to explain to another person what realism is
- Have had practice applying realist logic

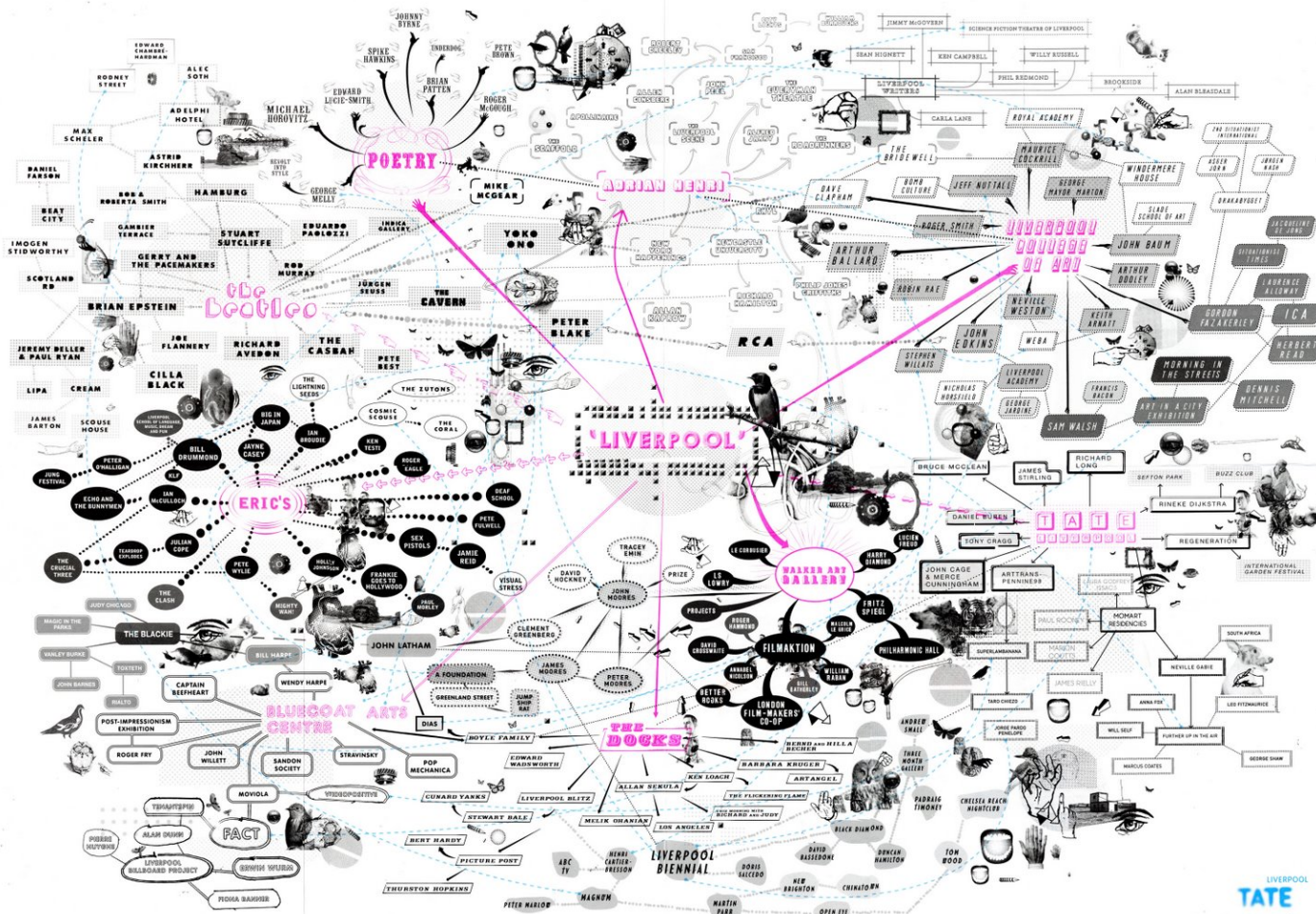
# Introductions

# Introductions

- What's your name?
- What do you do?
- What do you want to get out of this workshop?

# **The essentials of realism**

# 'Complexity'

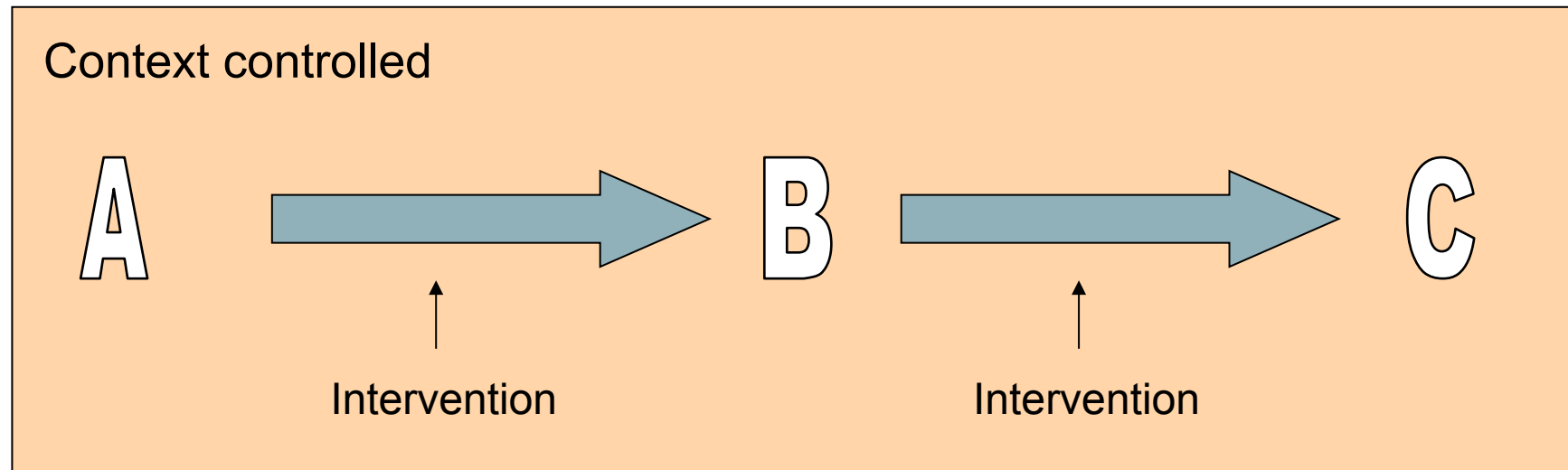




# Complex interventions

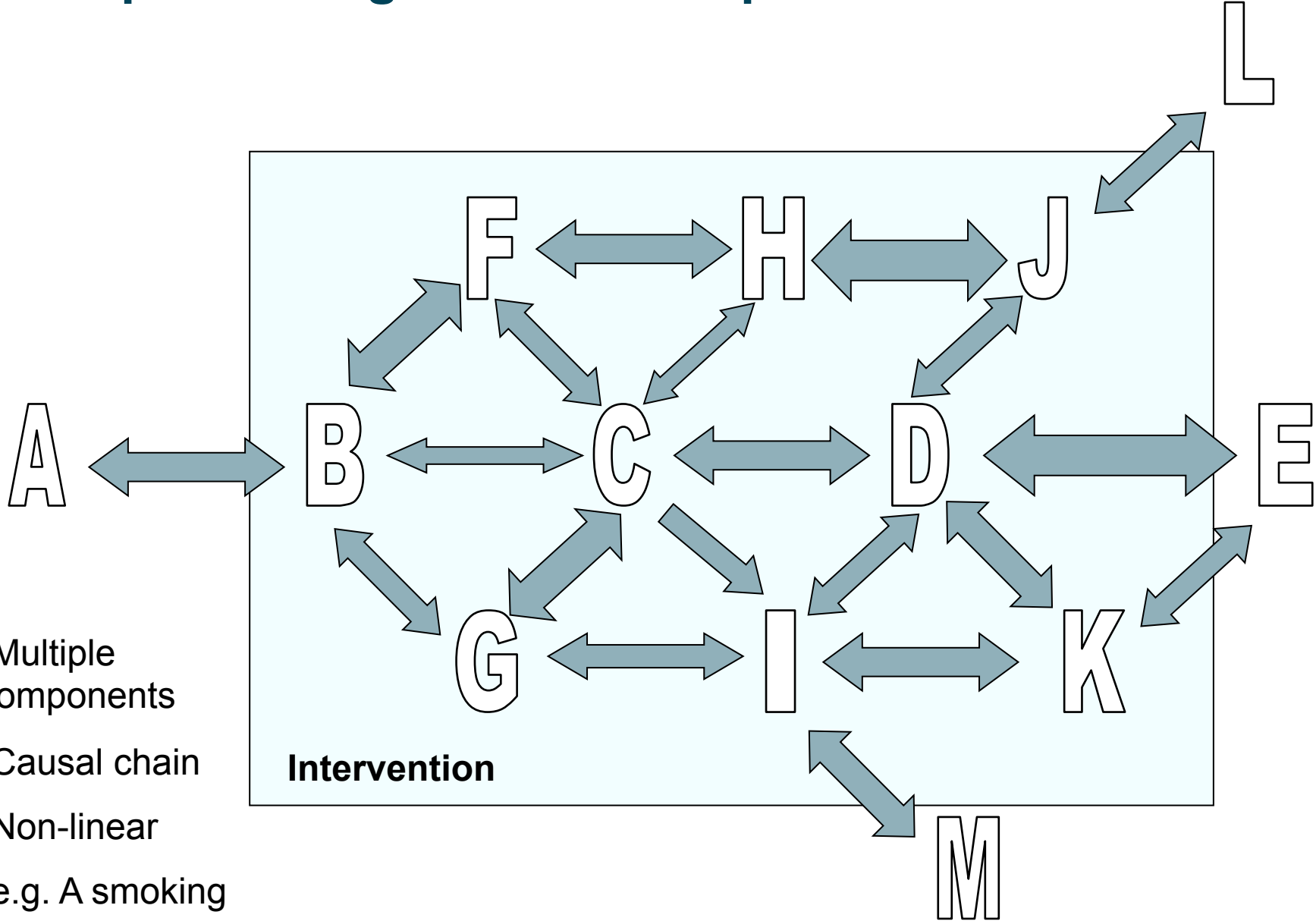
- Number of interacting components within the experimental and control interventions
- Number and difficulty of behaviours required by those delivering or receiving the intervention
- Number of groups or organisational levels targeted by the intervention
- Number and variability of outcomes
- Degree of flexibility or tailoring of the intervention permitted
  - Craig P, Dieppe P, Macintyre S, Michie S, Nazareth I, Petticrew M. Developing and evaluating complex interventions: the new Medical Research Council guidance. BMJ 2008; 337:a1655.
- In addition:
  - Not simple ‘black boxes’
  - The components tend not to act in a linear fashion
  - Complex interventions are reliant on **people** carrying out the intervention
  - Are highly dependent on the context in which they take place
  - Emergence

# A 'simpler' intervention



- Linear
- Deterministic
- e.g. Blood pressure medication

# A simplified diagram of a 'complex' intervention



- Multiple components
- Causal chain
- Non-linear
- e.g. A smoking cessation service

## A possible solution?

- Why does a realist approach help?
  - Because it unpacks the ‘black box’.
  - Has methods for dealing with the influence of context (and heterogeneity).
  - Provides ‘answers’ which are explanatory and allow for causal inferences to be made (‘predictive’).

# What are realist evaluation and synthesis?

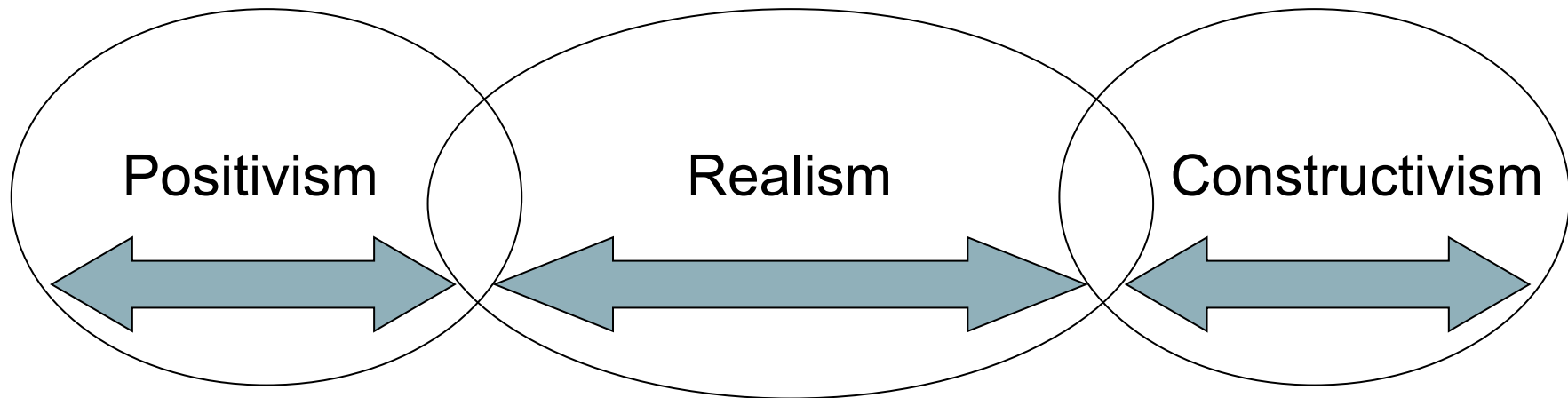
- Realist evaluation = primary research
- Realist synthesis = secondary research
- Both methods:
  - have more of an explanatory rather than judgmental focus.
  - based on a realist philosophy of science (ontology)
  - look to answer the ‘How?’ , ‘Why?’ , ‘For whom?’ , ‘To what extent?’ and ‘In what circumstances?’
  - look for mechanisms and middle-range theories.
  - test and build these theories.
  - are iterative.

# What is realist research?

- Important concepts to grasp about realist research methods:
  - Realism
  - Causation
  - Explanation building

# What is realist research?

- Realism: a different way to account for the nature of reality



# What is realist research?

- Causation
  - Mechanism may be defined as:
    - “...underlying entities, processes, or structures which operate in particular contexts to generate outcomes of interest.”\*
  - Mechanism:
    - Are usually hidden
    - Sensitive to variations in context
    - Generate outcomes

\*Astbury B, Leeuw F. Unpacking Black Boxes: Mechanisms and Theory Building in Evaluation *American Journal of Evaluation* 2010 31(3):363-381



# What is a realist synthesis?

- Explanation building:
  - As with all philosophies of science, realists also have to deal with the problem of knowing when something is ‘true’
  - This is done through:
    - plausible explanatory theory/theories that account for observation(s)
    - conjointness of theory/theories
    - Success of theory/theories



# What is a theory?

“A theory is an attempt to organize the facts – some ‘proven’, some more conjectural – within a domain of inquiry into a structurally coherent system.”

Klee R. Introduction to the philosophy of science. Cutting nature at its seams. New York: Oxford University Press, 1997.

# What's a middle-range theory and why is it so important?

- “Middle-range theory involves abstraction, of course, but they are close enough to observed data to be incorporated in propositions that permit empirical testing.”

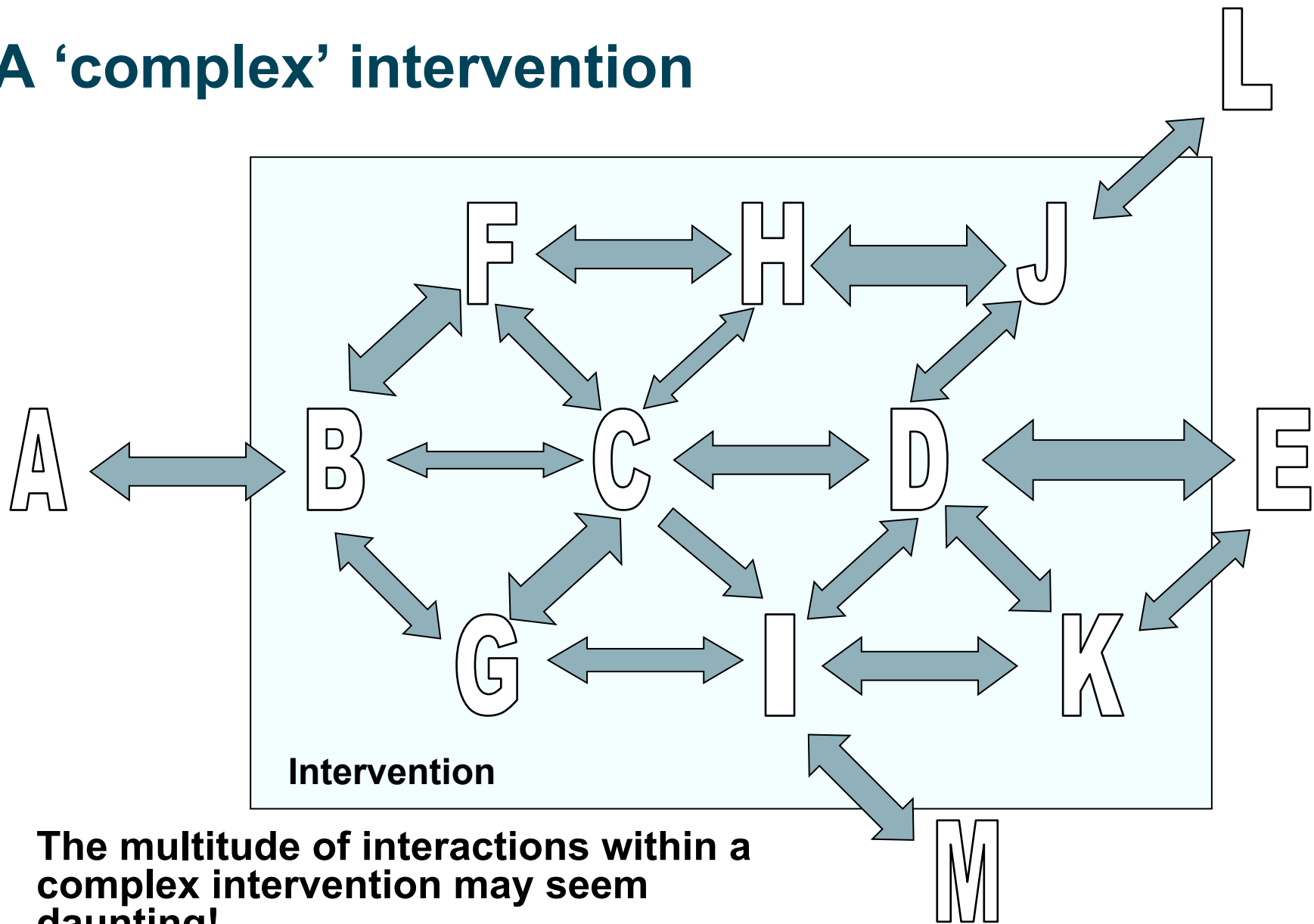
Merton R. On Theoretical Sociology. Five Essays, Old and New. New York: The Free Press, 1967.

- In simple terms, a theory that is at the correct level of abstraction to be ‘useful’ and ‘testable’.
- Mechanisms are some of the ‘building blocks’ of middle-range theories

# What is a programme theory?

A programme theory explains how the planners expect the intervention to reach its objective(s)

# A 'complex' intervention



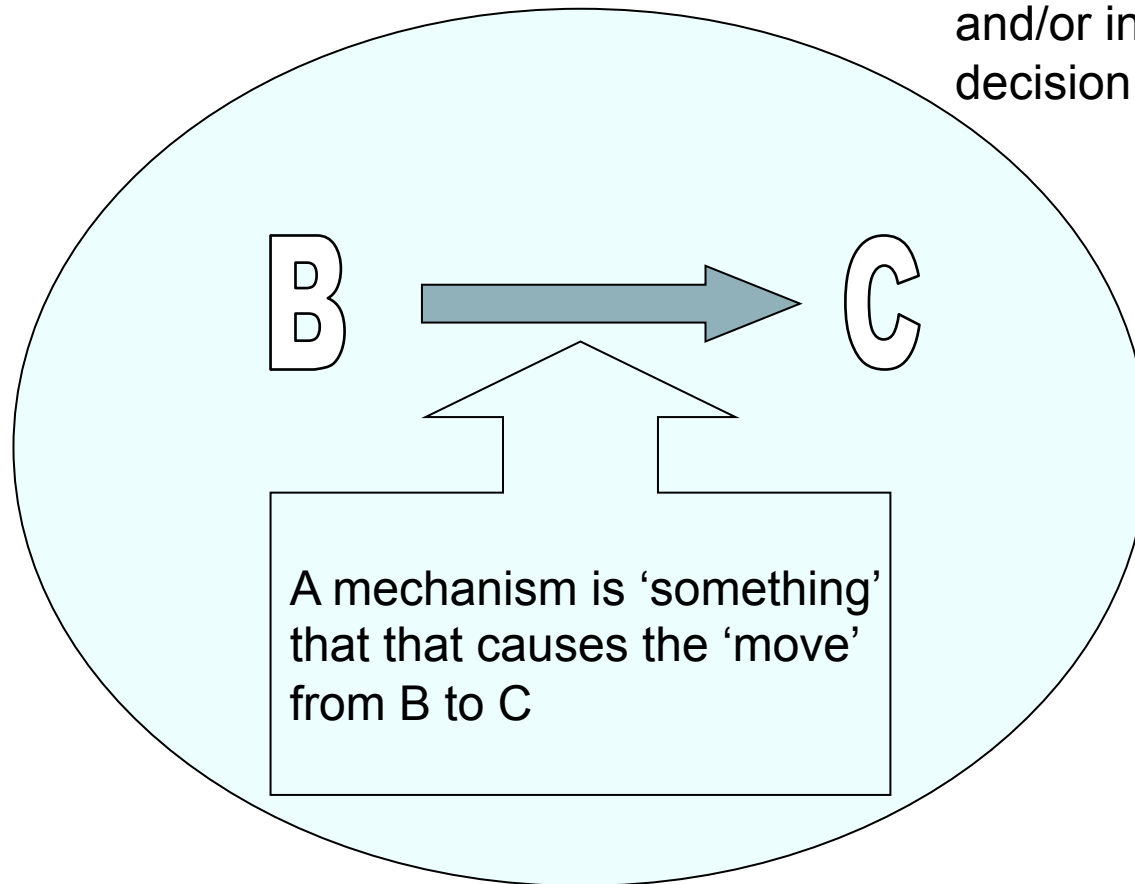
The multitude of interactions within a complex intervention may seem daunting!

# What's a middle-range theory and why is it so important?

- When participants take part in a complex intervention, they make choices about what actions to undertake and these choices about actions give us our outcomes.
- Participants do not have an infinite range of choices available to them as to what actions they might take.
- The range of choices is limited and determined by the context in which the study takes place.
- Various 'mechanisms' lie behind these choices.

# One section of the causal chain of a 'complex' intervention

BUT... the context in which this intervention is taking place may limit and/or influence this decision





# What is context?

Context is pre-existing structures that may or may not influence a mechanism

# What's a middle-range theory and why is it so important?

- Hence...

Context influences which mechanisms 'fire'

Context + Mechanism = Outcome

- Mechanism are one of the building blocks of middle-range theories
- Middle-range theories explain how and why the context limits and influences mechanism

# What is a demi-regularity?

A demi-regularity is a semi-predictable pattern or pathway of program functioning

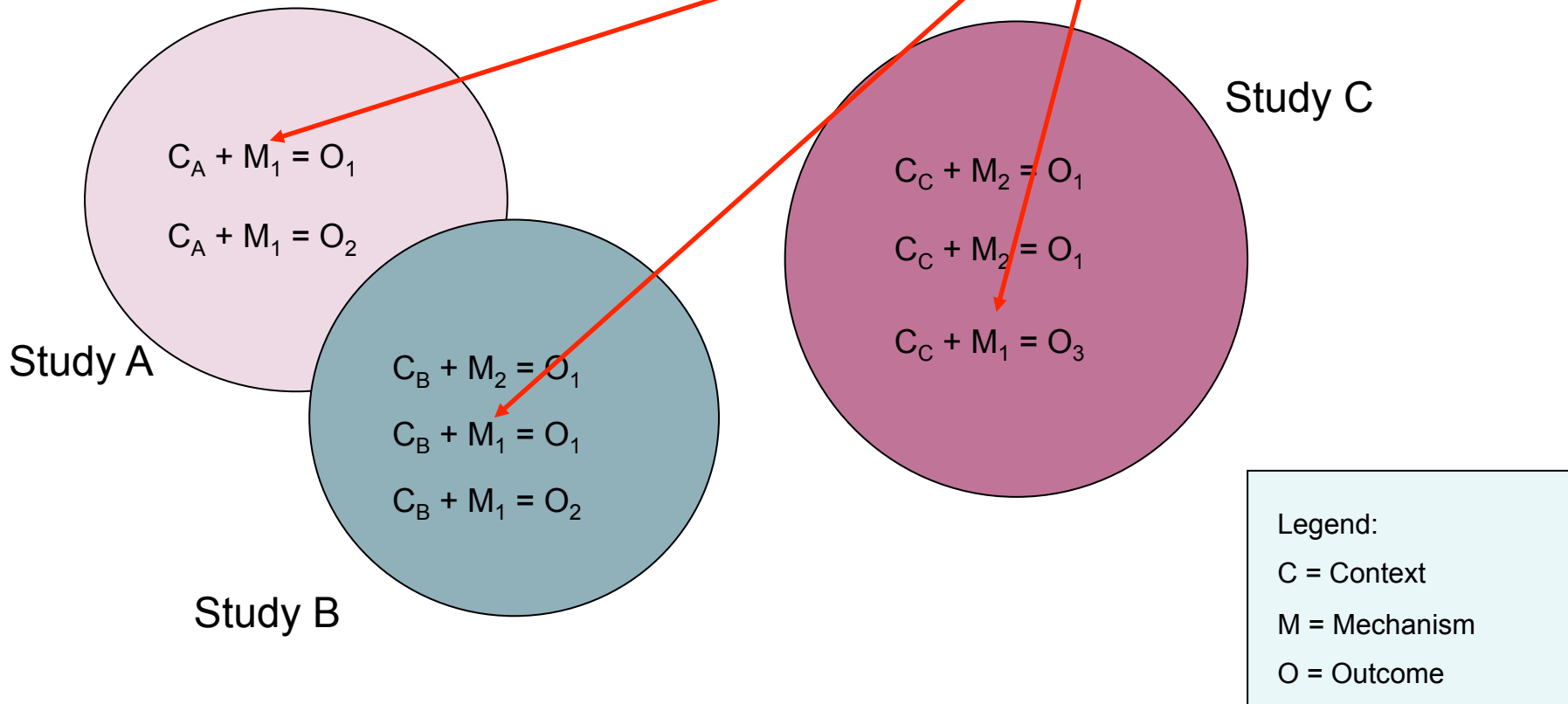
# What's a middle-range theory and why is it so important?

- Our heads are 'full' of various different mechanisms
- These mechanism 'fire' or are 'triggered' by certain contexts
- Interventions are 'full' of context
- Patterns (or demi-regularities) of  $C + M = O$  occur  
(i.e. certain people tend to behave in certain ways under certain situations)  
**When demi-regularities occur, one possible inference is that the same mechanisms may be causing the outcome**
- Middle-range theories explain the limitations and/or influence of context on mechanisms behind these demi-regularities.
- The key goal of a realist synthesis is to uncover these middle-range theories.

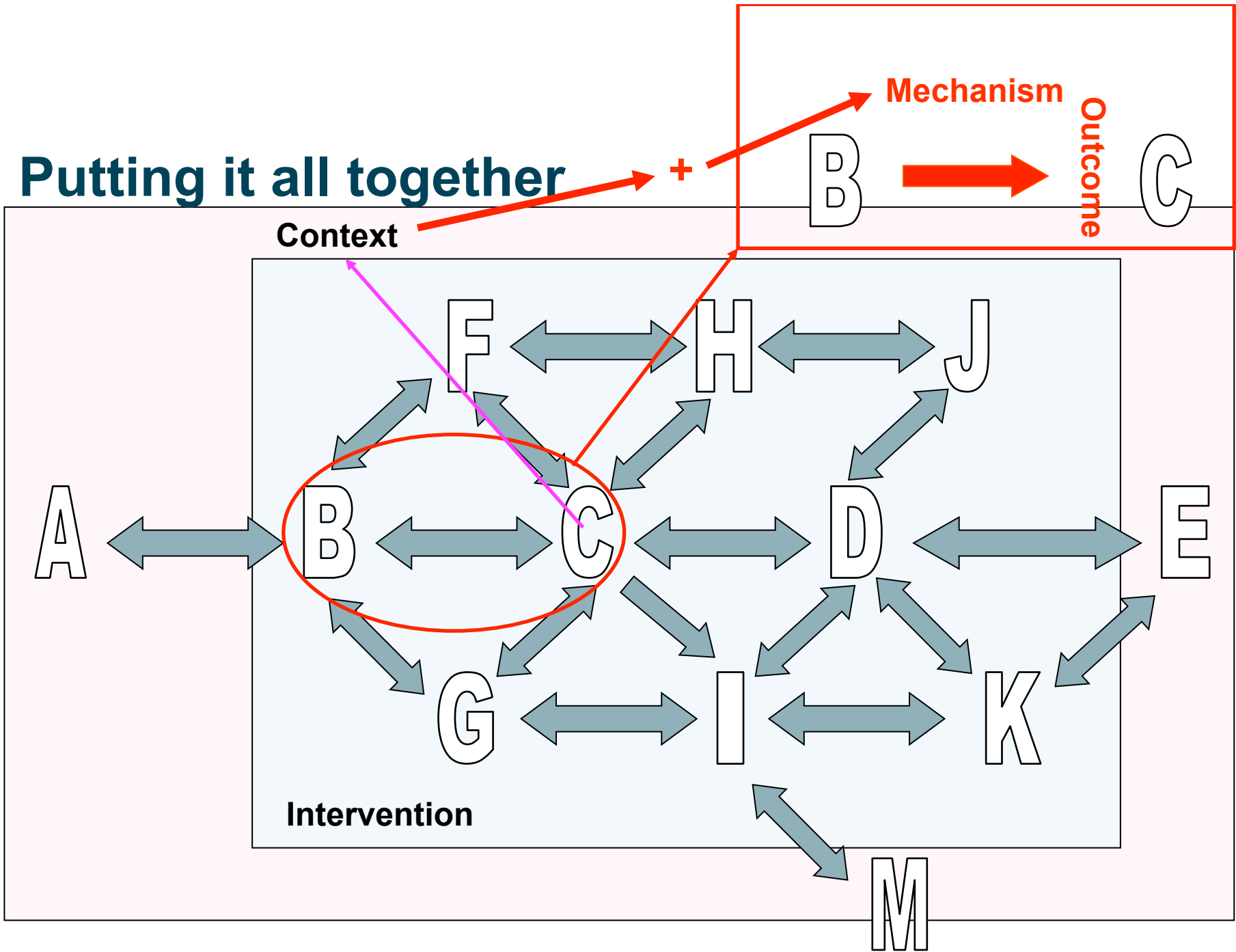
# What's a middle-range theory and why is it so important?

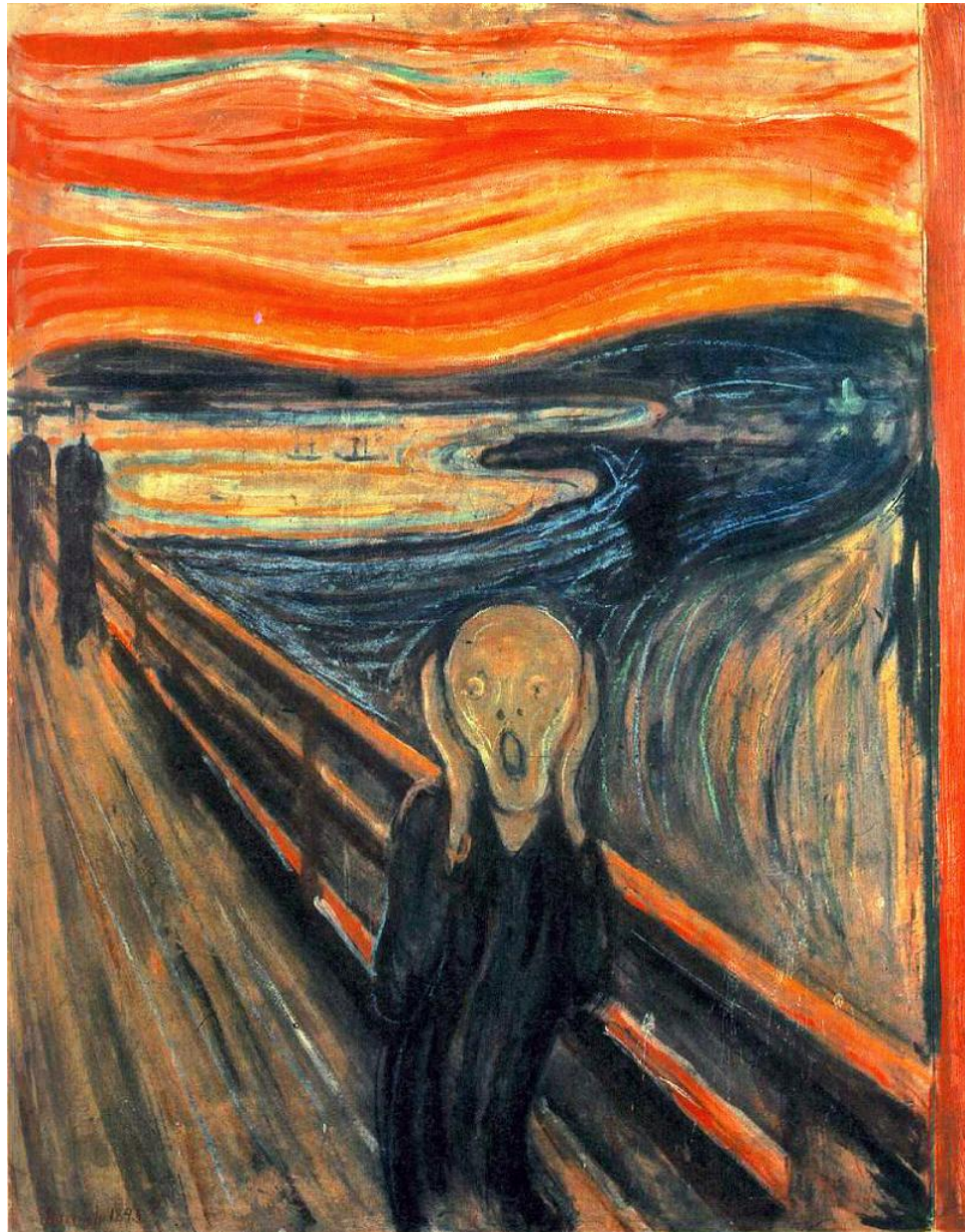
The same mechanisms are operating in these different contexts AND SO the same middle-range theory may explain why certain outcomes may arise.

In three 'seemingly' similar complex interventions (Study A, B and C) with two mechanisms and three outcomes



# Putting it all together





## Small group exercise 1

- In pairs or trios, one asks the question:  
“So how do realists explain causation?”  
and the other answers it!
- You have up to 15 minutes.  
If you have time – swap around your roles.



## Small group exercise 1

- Were you able to answer the question?
- Any further questions before we move on to the next small group exercise?

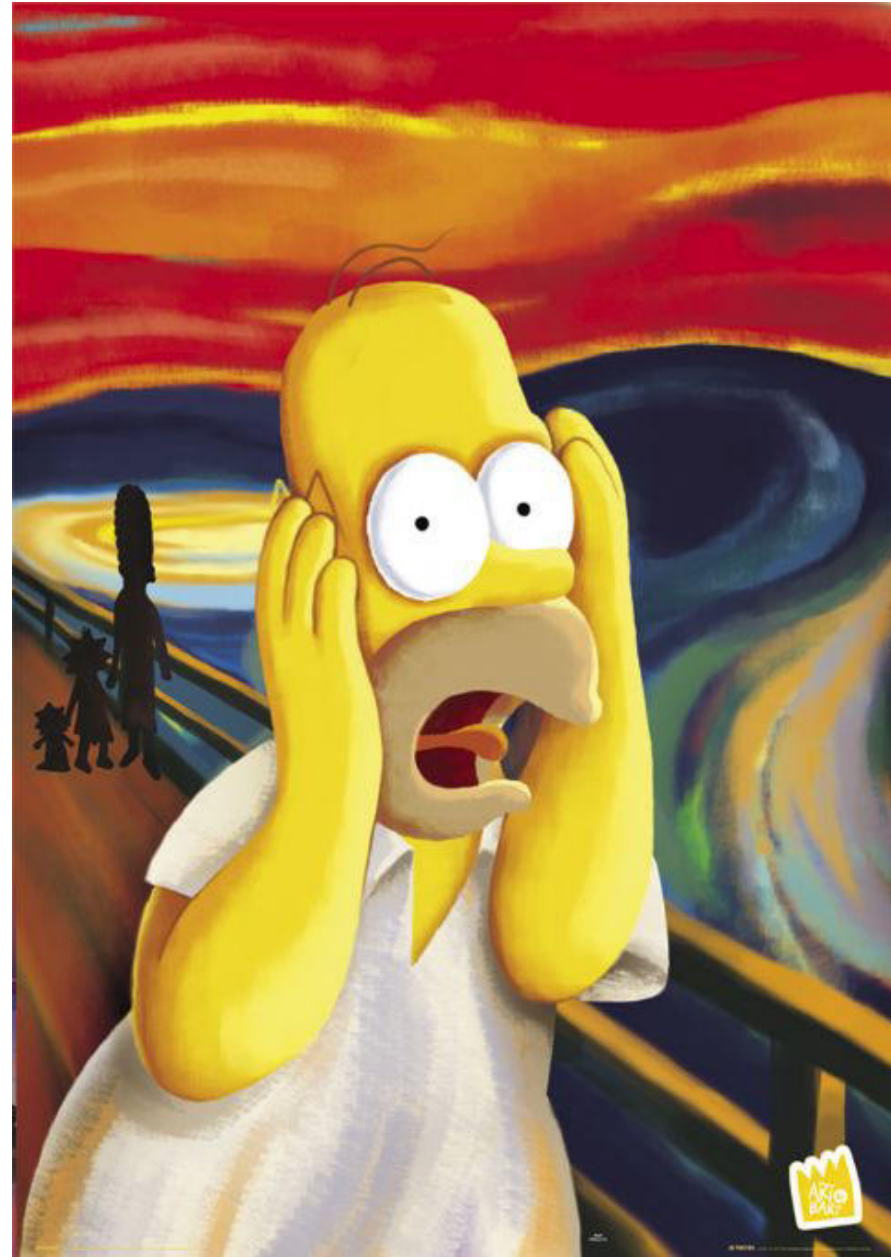
## Small group exercise 2

- In pairs or trios, try to explain everyday observations in realist terms – e.g. **C**ontext, **M**echanism, **O**utcomes, programme theory, demi-regularities  
For example:
  - A child cries when (s)he falls over
- Try also using examples from your work  
For example:
  - Most smokers who get given nicotine replacement don't stop smoking
- You have up to 15 minutes.  
If you have time – swap around your roles.

## Small group exercise 2

- Were you able to analyse and explain observations in a realist way?
- If not, why not? What stopped you? What would have helped you?

**Any questions?**



# **Wrapping up and Closing comments**

## Closing summary

- Many interventions in health services research are ‘complex interventions’
- One way to make sense of complex interventions is to account for how outcomes occur – i.e. a model of causation.  
In realism the explanation for why knowledge is transferable is based on mechanisms
- Many current research methods often lack a coherent account of how outcomes occur and what the rationale is for transferable knowledge
- Realist research methods help by focussing on the influences of context and dare looking inside the ‘black-box’ of the intervention itself!

**How many realists does it take to change a light bulb?**



It depends on  
the context  
and  
mechanism

# Thank you for listening and for your questions

Suggested readings:

- Pawson R., Tilley N. **Realistic Evaluation**. London: Sage, 1999
- Pawson R. **Evidence-based Policy. A Realist Perspective**. London: Sage, 2006.
- Pawson, R., Greenhalgh, T., Harvey, G., and Walshe, K. **Realist Synthesis: an introduction**. <http://www.ccsr.ac.uk/methods/publications/documents/RMPmethods2.pdf> . 2004. ESRC Research Methods Programme.
- Wong G, Greenhalgh T, Westhorp G, Pawson R. **Realist methods in medical education research: what are they and what can they contribute?** Medical Education 2012, 46:1, 89–96
- Klee R. **Introduction to the philosophy of science. Cutting nature at its seams**. New York: Oxford University Press, 1997
- RAMESES on JISCM@il – [www.jiscmail.ac.uk/RAMESES](http://www.jiscmail.ac.uk/RAMESES)

**If you are interested in undertaking a realist research project please email us:**

[bmarchal@itg.be](mailto:bmarchal@itg.be)  
[grckwong@gmail.com](mailto:grckwong@gmail.com)  
[m.dieleman@kit.nl](mailto:m.dieleman@kit.nl)