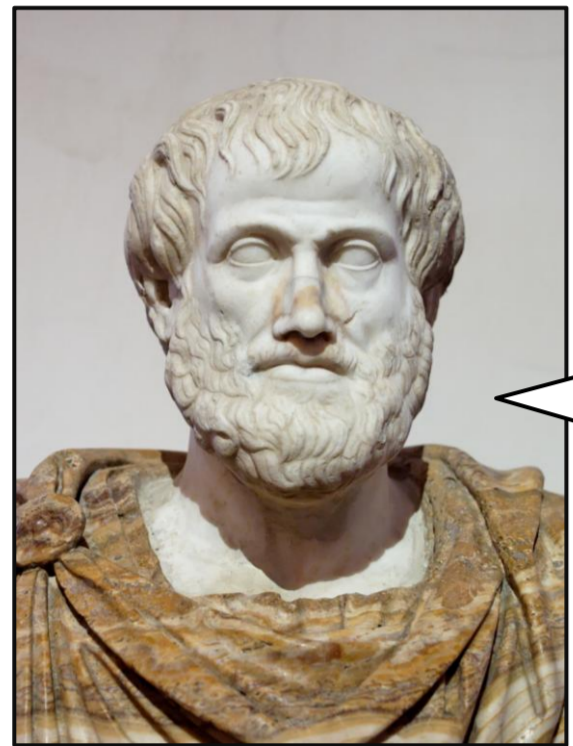


# Formal Causation Regained

Petter Sandstad & Ludger Jansen

## Neglected Varieties of Causality



1. Material cause
2. **Formal cause**
3. Efficient cause
4. Final cause

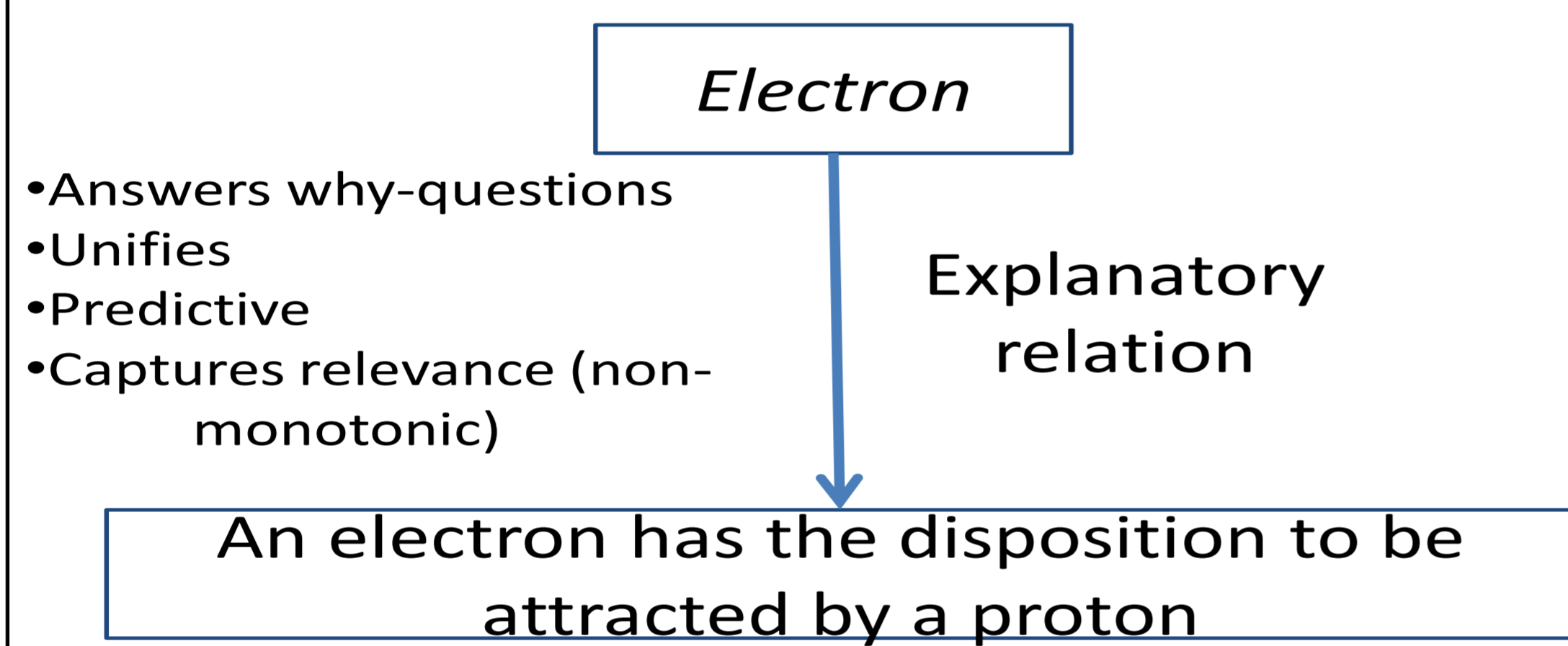
- Events
- Transference
- Association



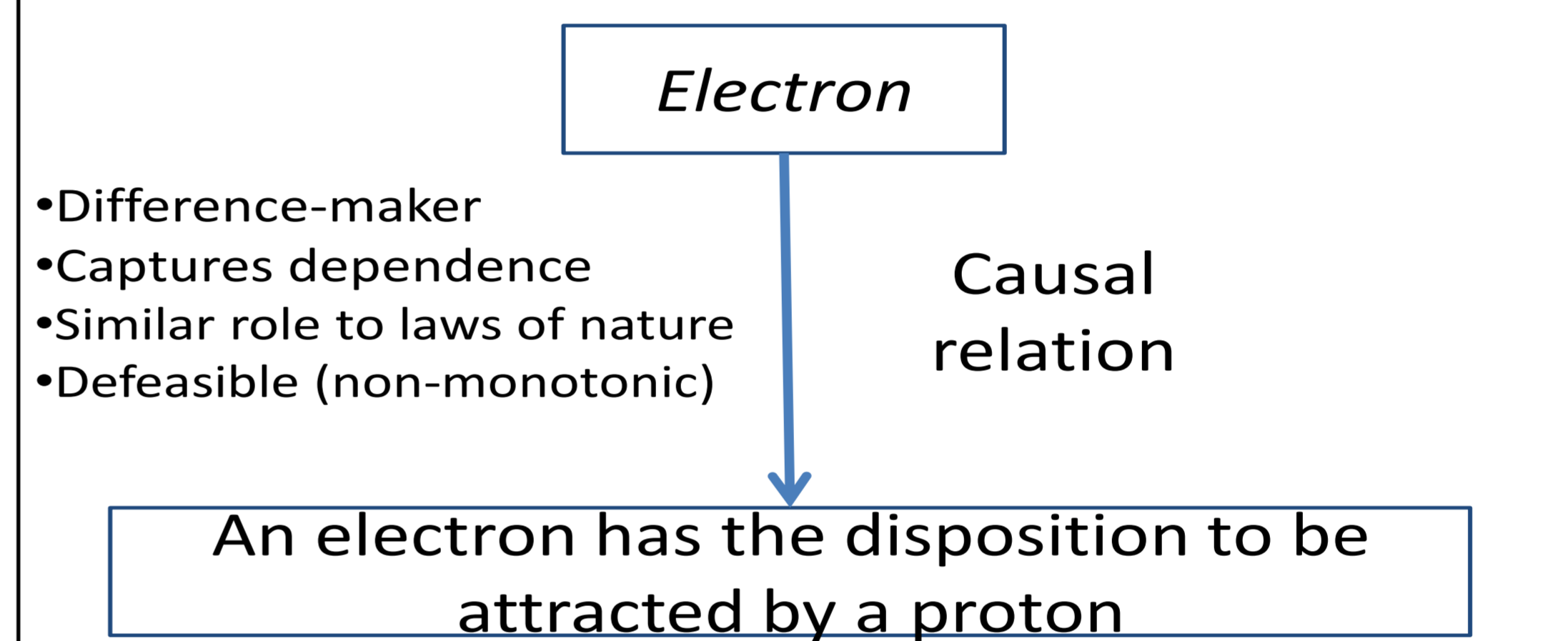
## Formal causation: Kind membership as cause

- Whales have the disposition to breathe with lungs *because* they are mammals.
- Whales have blowholes *because* they are cetaceans.
- A scalene has internal angles equal to  $180^\circ$  *because* it is a triangle.
- A scalene has external angles equal to  $360^\circ$  *because* it is a polygon.
- Particle #102 has negative charge *because* it is an electron.

## Formal cause as explanation



## Formal cause as causation



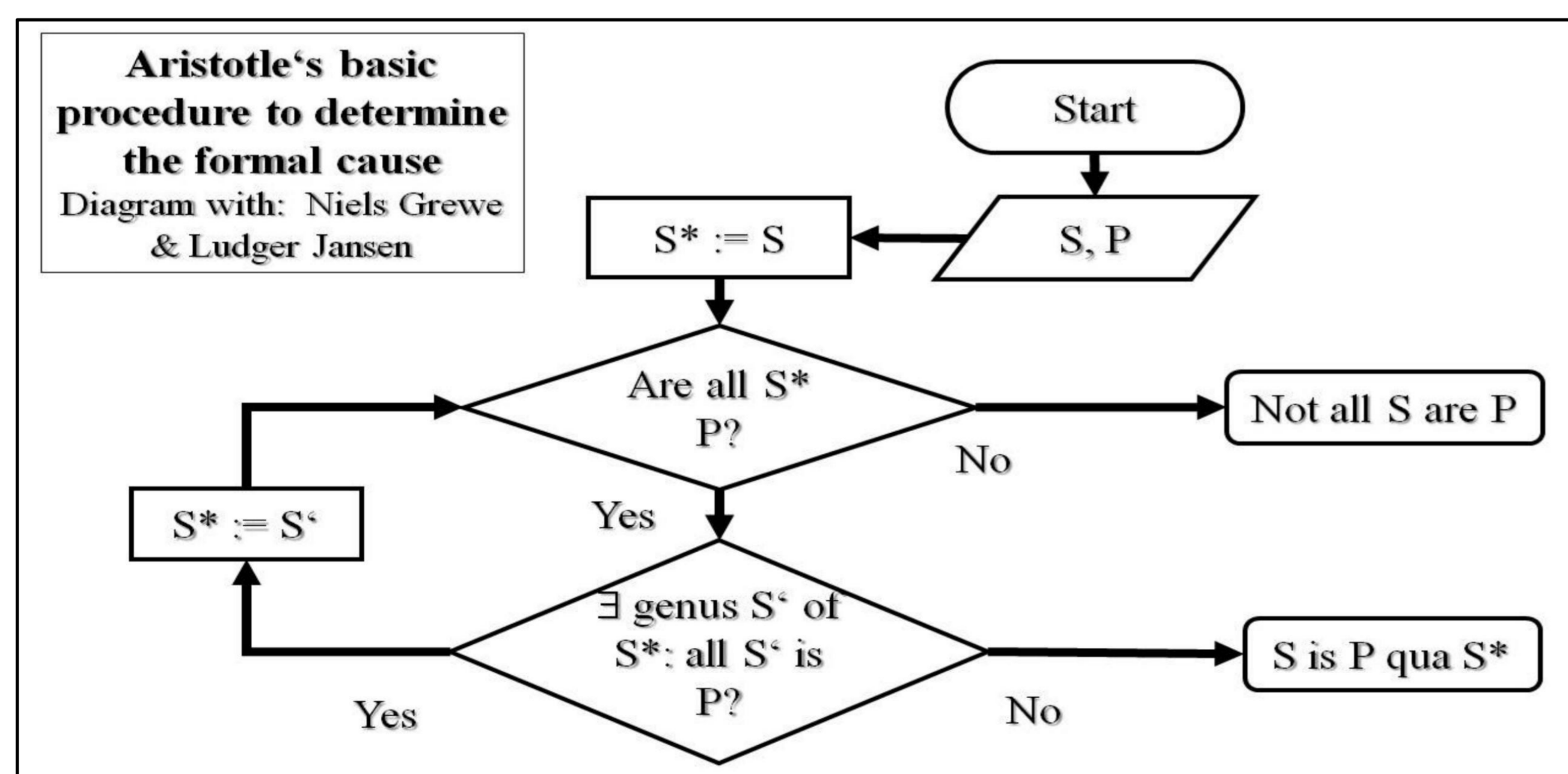
## What formal causation is committed to

- Entities have forms, e.g., particle #102 is an electron.
- Forms (usually) compose taxonomic hierarchies.
- Forms can be studied scientifically (without mystery).
- Formal causation has an explanatory and causal role.

## What formal causation is *not* committed to

- Any specific view of universals (compatible with a Platonist, Aristotelian, conceptualist, and even some nominalist accounts)
- Hylomorphism (which is, *prima facie*, inapplicable to abstract geometrical objects)
- Individual forms/haecceities (only universal forms)
- Consistent both with a committal to, and a rejection of, biological kinds, social entities, etc. as *real* kinds.

## Identifying Essential properties



## Allowing for exceptions, using default logic

