

# Arguments

Peter Rowlett

Sheffield Hallam University

`p.rowlett@shu.ac.uk`

# So what if $p \implies q$ ?

- ▶ If we know  $p$  is true, and  $p \implies q$  is true, then we can say  $q$  is true.
- ▶ This is one of the building blocks of making logical arguments.
- ▶ An argument is made up of two parts:
  1. a number of propositions, called the premises;
  2. a proposition, called the conclusion.

# Sorites

- ▶ Lewis Carroll put this idea to good use in a type of puzzle he called 'Sorites'.
- ▶ These are a collection of premises for which a conclusion is to be found, and they are a good way to practice logical arguments.

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- ▶ The two premises can therefore be written:
  - ▶  $d \implies u$ ;
  - ▶  $u \implies v$ .
- ▶ The conclusion that can be drawn from these premises is  $d \implies u \implies v$ , that dictionaries are valuable.