

**Table C.8 The nature of fallacies**

Categories	Example/indication	Reason of author and consequences for the reader
1 Prescription gets mixed with description	In the middle of a text (not clearly separated) you read, for example, 'The growth of turnover has been lower than ever. This should not be accepted...' Prescription or undue normative statements are often also recognisable from the use of qualifications such as 'fantastic' or 'bad' (⊕E9).	The author is too eager to give advice; has not gone through the whole reflective cycle (⊕A2, A3); has not made a clear distinction between analysis and advice. If this happens too often you can skip reading the text.
2 Reversible causalities	<ul style="list-style-type: none"> ■ You read a text stating: 'if not C then D', but you can easily also state: 'if not D then C' (for example, after adding a number of intervening variables). ■ Post-hoc reasoning: suggests that C causes D <i>because</i> D comes after C in time. 	The author is presenting quasi exactness. Time sequence is never a sufficient condition for causality. Argumentation structure should be denied. Abandon the text or broaden the analytical perspective to the intervening variables that are not included in the model.
3 Improper induction	The author has not explained or insufficiently explained what the (re)presentation of the observations is and how they are used to reach general conclusions. No counter-examples are included. The author makes use of popular wisdom or stereotypes to prove something: 'like father, like son'.	The author is either emotionally involved in the topic or suffers from mind-idleness. Some examples or individual observations may be useful, but the conclusions should be ignored.
4 Improper deduction	<ul style="list-style-type: none"> ■ <i>Abusive syllogism</i>: inferior argumentation appears particularly when there are incomplete or improper syllogisms: major premise: All politicians are not to be trusted; minor premise (John is a politician); conclusion: John is not to be trusted. The major premise in this sequence represents an improper generalisation (induction) which makes the whole argument false. ■ <i>Disjunctive deduction</i>: 'if-if' or 'either-or' reasoning: one of the premises is presented as a dilemma, a choice between two mutually excluding alternatives. If one possibility is not applicable, the other one must be. Inferior argumentation, in this context, is, for example: 'either he is on time, or something terrible has happened. He is not in time, so...'. A much used argumentation trick in politics also puts the choice between improper or poorly specified alternatives: 'Clinton or Chaos'; 'Either victory or death'. 	Inferior reasoning. Because vital information (one of the premises) is withheld from the reader, the author is manipulating the reader. Reasoning as well as conclusions are wrong, and should therefore be refuted. It is difficult though, to counter this type of argumentation, because it is not intended to be part of a scientific debate. Argumentation should not be taken seriously (although the interest constellation behind the saying should!).
5 Reason by improper analogy	Analogies can never be sufficient proof for an argument, but they can present an element of likelihood and have a heuristic value. Analogies, like metaphors become improper when they are presented as the sole proof.	Use the analogy as a stimulus for further thinking. Do not debate the conclusion. It is built on improper reasoning.
6 Rationalisation	Writers who master the basics of argumentation (⊕E6) always explain how they have come to a particular selection of examples, theories, and analogies. If you read selection criteria like: 'these categories are not elaborated because they were not relevant to the rest of the research' you might be confronted with an improper (<i>ex-post</i>) rationalisation of the research methodology. This kind of rationalisation, then, is bound to appear in the argumentation itself.	The author(s) have probably not systematically developed their research methodology or argumentation. Their selection is based on unspecified or <i>ex-post</i> reasoning. The 'evidence' presented in the text should be treated with great caution.