

The divergency between the usage of the phrase “if, then...” in ordinary language and its usage in mathematical logic has been at the root of lengthy and even passionate discussions,—in which, by the way, professional logicians took only a minor part. (It is perhaps surprising, that considerably less attention was paid to the analogous divergency in the case of the word “or”.) It has been objected that logicians, on account of their adoption of the concept of material implication, arrived at paradoxes and even at plain nonsense. This has resulted in an outcry for a reform of logic, and in particular, for bringing about a far-reaching rapprochement between logic and ordinary language with regard to the use of implication.

It would be hard to grant that these criticisms are well founded. There is no phrase in ordinary language which has a precisely determined meaning. It would scarcely be possible to find two people who would use every word with exactly the same meaning, and even in the language of a single person the meaning of a given word may vary from one period of the person’s life to another. Moreover, the meaning of words of everyday language is usually very complicated; it depends not only on the external form of the word, but also on the circumstances in which it is uttered, and sometimes even on subjective psychological factors. If a scientist wants to transfer a concept from everyday life into a science and to establish general laws concerning this concept, he or she must always make its content clearer, more precise, and simpler, and free it from inessential attributes; it does not matter here whether he or she is a logician who is concerned with the phrase “if, then...”, or, for instance, a physicist wanting to establish the exact meaning of the word “metal”. In whatever way the scientist realizes the task, the resulting usage of the term will deviate more or less from the practice of everyday language. If, however, we state explicitly in what sense we decide to use the term, and if afterwards we act always in accordance with this decision, then nobody will be in a position to object, or to argue that our procedure leads to nonsensical results.

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