

Occam's Razor

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Popular philosophical principle, much cited in English speaking countries (maybe overused). Little talked about in many other countries.

Latin original:

"Entia non sunt multiplicanda praeter necessitatem"

Possible translations / interpretations:

- ? "Entities should not be multiplied more than necessary"
- ? "Scientific system modelling should not create conceptual objects without a need"

Occam's Razor is a philosophical principle that has mathematic precision - it's never wrong in science. In a way it is constitutional for science.

Parallels:

There are various parallels to Occam's Razor, applying it (or misapplying it) to wider contexts. Such pieces of advice are purely pragmatic: they may be right or wrong, depending on the circumstances. These are not logically derived from Occam's Razor - just similar statements from other fields.

- ? Don't use extra identities without a need. Avoid Sock Puppets.
- ? Don't use a PenName without a need. Use Real Names.
- ? Don't create pages without a need. Avoid Shallow Pages.
- ? Don't create links without a need. Avoid Clutter Links.
- ? Don't create duplicate information without a need. Seek Less Redundancy.

Don't multiply words without a need, either. *When there are many words, transgression is unavoidable, but he who restrains his lips is wise.* Even apart from the greater risk of offence, it is good to be concise, and to avoid complexity and jargon if possible. It's better to express something short, clear and in simple words. Cf

Diminishing Replies.

Stronger statements are "Small is beautiful", **Keep It Simple Stupid (KISS)**, and **Worse Is Better (WIB)**. In other words, avoid multiplying entities *even when this is necessary*. In software, the advice **You Arent Gonna Need It (YAGNI)** discourages multiplying entities even if the programmers think they might be necessary later on. In parallel, the advice **Once And Only Once** suggests replacing two near-identical pieces of code with a single entity that performs both tasks.

But there are misunderstandings

- ? It is said "If there are two equal theories, the simpler one is to be preferred". There are never two equal theories. Einstein is more complex than Newton, but in rare situations he does better. Sometimes you can prove that the more complex theory is correct.
- ? It is said "The simplest explanation is probably the right explanation". No, if we have a problem in society, the simplest explanation is "ABC is to blame" (replace "ABC" by "immigrants", "capitalists", "communists" or "the government" as you like). The world is more complex than that.
- ? It is said "When you hear hoof beats, think horses, not zebras." No, the statistical chance that you are right or wrong depends on where you live - in London or in Africa. The advice may be sound for a situation, but it can't be based on Occam's Razor which is not about chances or statistics. The correct one according to OR would be "When you hear hoof beats, don't think about unknown green animals from Mars."