Occam’s Razor: More than just a design principle.

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What is Occam’s Razor? Where did it come from? How is it used in our world today? And how does it effect the world of design?

These are some of the questions that will be addressed in this tutorial.

To understand Occam’s Razor, we have to go back in time. In the 14th-century, there was a Franciscan friar named William of Ockham who lived in England. A scholar, he is reported to have said, “Entities are not to be multiplied beyond necessity.” The first reference to Occam’s Razor didn’t appear until the mid-19th century, however. Research by William Thornburn in 1918 claimed that William of Ockham was not in fact the originator of this concept. In fact, this concept has been traced back to Aristotle. But no matter – William of Ockham is credited with the idea that we should “shave” away assumptions to reach the most logical solution.

This maxim has been expressed in many forms.

• lex parsimoniae
• All other things being equal, the simplest solution is the best.
• The law of economy
• Principle of simplicity
• Simplicity is preferred to complexity
• Nature operates in the shortest way possible.

The maxim has also been used outside its original intention to justify budget cuts, atheism, and creationism.

Here we can see a cartoon Super Ockham trying to prove that evolution trumps creationism.

Here we see a self-proclaimed financial expert using Ockham’s Razor to discuss the stock market.

In science and mathematics, Ockham’s Razor is critical to both scientific modeling and the building of theories. After all, there are an infinite number of possibilities that could explain any data. For example, through two points on a graph, you could draw a straight line, but also a curve, a spiral, or any number of other possibilities, all of which could explain your data points. Occam’s Razor guides the scientist to choose the linear relation as the best candidate, stripping away unnecessary complexity.

In design, Ockham’s Razor encourages us to eliminate unnecessary elements that would decrease a design’s efficiency. A great example of this is Google. Rather than cluttering our screen with ads, Google maintains a clean and very simple interface. It
has few elements that could confuse users or create problems. This efficient design has helped Google dominate the market.

Yahoo would be a non-example of Ockham’s Razor. The search engines are functionally equivalent – they both allow you to search and provide information in a format you can read – but employing Ockham’s Razor, we would select the screen with the fewest visual elements as superior. Then we would continue to look at both designs and remove as many elements as possible, while maintaining function.

We can see Ockham’s Razor used in design all around us. This watch follows Ockham’s Razor – it’s sleek and simple and efficient. Easy to read without very many features.

This watch has too many elements to be simple, although it may provide a user with additional functionality. However, for just telling time, the first watch is better according to the principle of simplicity.

Which of these items follow the principle of Ockham’s Razor?

That’s correct – the simple four-seater sofa. But let’s give you one that’s a little tougher this time.

Right again. Okay, so it wasn’t any tougher, but you get the idea.

When it come to design Ockham’s Razor is simple – keep it simple. I hope this tutorial has been helpful to you in better understanding Ockham’s Razor.