

Cognitive Economy and Cybersecurity, do not fall for Goldilocks's porridge

<p>To assist us in remembering, and communicating with each other we develop categories. These categories are neither too large nor too small, too big, or too wide, to inclusive, or not inclusive enough - they are just about right, much like Goldilocks's porridge in her encounter with the three bears. This category of porridge was just right.</p> <p>If we were asked to look around and explain things that we see, we might say I see a house, a tree or an automobile.</p> <p>We would not say I see a 56 Chevy Bel Air, with a dual four-barrel carb, a 411 engine with 245HP, followed by the Latin genus of the closest tree.</p> <p>We do this for many reasons.</p> <p>One, it's just too much work. We want to conserve our cognitive energy. Also, well, we're lazy; however, that could be an evolutionary trait to ensure preservation.</p> <p>We use this cognitive economy everywhere. It helps us to understand and then communicate to each other what's around.</p> <p>As many people would have no idea what a 56 Chevy Bel Air was anyway, let alone a dual four-barrel carb.</p> <p>We are trying to get the most utility from our limited brain power. We want to save costs.</p> <p>We need more categories for utility, but fewer categories to conserve effort. We then eventually reach this steady state, and it works quite well, as most of us can understand these general categories.</p>	<p>These judgment categories happen so often. We make judgments based on someone's religion, someone's ethnicity, where they work, clothes they wear, etc.</p> <p>And while this sounds like a good use of resources, it can get us into a lot of trouble</p> <p>Take an example.</p> <p>I like peanut butter, and I like chocolate, so I will also like peanut butter and chocolate.</p> <p>I also like shrimp and french-fries, but if I cook my shrimp the same way I cook my french-fries (certain types of cooking oil), I may have to go to the hospital with a severe allergic reaction.</p> <p>Therefore, these associations, and with the issues of utility and mental power, our newly developed associations could hurt us.</p> <p>Thinking about cybersecurity.</p> <p>Will a policy for one department, work for an identical department?</p> <p>Is a policy designed to guard against one of our nations critical infrastructures, say nuclear, also assist us with protecting the nations electrical grid?</p> <p>It could, but it could also backfire on us</p> <p>The problem we have is that cybersecurity experts have to be painfully aware that the cognitive economy phenomenon exists. While these shortcuts help us, e.g., a security policy in one place may work in another area, and we might indeed like peanut butter and</p>
---	--

All these categories are stored in our neural networks, and the associations that are created help us to understand things, and then try to examine and understand associations that have not to be dealt with yet.

chocolate, or they may backfire and kill us, like in Mure's 1831 version of the fairytale, Goldilocks dies in the end.

Carol, C., (1972). Cognitive economy in semantic memory. *Journal of Experimental Psychology*. 92. 149-154. 10.1037/h0032072.

Nicholas, R. (1989). *Cognitive Economy: The Economic Dimension of the Theory of Knowledge*. University of Pittsburgh Press.

Rosch, E. (1978). Principles of categorization. In E. Rosch & B. B. Lloyd (Eds.), *Cognition and categorization*. Hillsdale, NJ: Erlbaum.