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COMMENT

Dept. of Useful Things

Out of the Frying Pan, Into the Voting Booth

by Malcolm Gladwell

My parents have an electric stove in their kitchen made by a company called Moffat. It has four burners on top and a raised panel that runs across the back with a set of knobs on it, and the way the panel is laid out has always been a bone of contention in our family. The knobs for the two left-hand burners are on the left side of the back panel, stacked one on top of the other, with the top knob controlling the back burner and the bottom knob controlling the front burner--same thing on the right-hand side. My mother finds this logical. But not my father. Every time he looks at the stove, he gets confused and thinks that the top knob controls the front burner.

Does this mean that my mother is more rational than my father? I don't think so. It simply means that any time you create a visual guide to an action that isn't intuitive--that requires some kind of interpretation or

physical contortion--you're going to baffle some people. From the perspective of "usability" researchers, my father has fallen victim to an ill-designed interface. People who pop the trunk of their car when they mean to pop the gas-tank lid are experiencing the same kind of confusion, as the singer John Denver did, apparently, when he died in an airplane crash a few years ago. Denver was flying a new, experimental plane, and may not have realized how little fuel he had, since the fuel gauge wasn't linear, the way you'd expect it to be. When the line on that sort of gauge registers one-quarter, for example, it doesn't mean that the twenty-six-gallon tank is a quarter full; it means that the tank has less than five gallons left.

Then, there's the question of voting. Susan King Roth, an associate professor of visual communication at Ohio State University, did an experiment recently with voting machines and found that a surprising

number of the people in her study didn't vote on the issues section of the ballot. Why? Because the issues proposals were at the top of the ballot, sixty-seven inches from the floor, and the eye height of the average American woman is sixty inches. Some people in the study simply couldn't see the proposals.

The Florida butterfly ballot may be the textbook example of what can go wrong when design isn't intuitive. The usability expert Kevin Fox has identified three "cognitive paths" that could have led voters to misunderstand the butterfly layout: gestalt grouping, linear visual search, and numeric mapping--all of which point out that the way the butterfly ballot invites itself to be read does not match the way it invites voters to act. In the language of usability studies, there is an incompatibility between input and output. In a sense,

it's just like the problem with the Moffat stove. My father hasn't burned down the house yet. But sometimes he puts a pot on the back burner and turns on the front burner. If he's used the stove twenty thousand times in his life, it's a reasonable guess that he's made this mistake maybe a few hundred times. In the grand scheme of things, that's not a very high percentage. Then again, sometimes a few hundred mistakes can turn out to be awfully important.

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