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Great Innovators Think Laterally

by Ian Gonsher and Deb Mills-Scofield | 10:00 AM April 23, 2013

Do you ever wonder why cars aren't called "horseless carriages" anymore? Today's cars are just as horseless as they were a century ago. Horselessness is standard equipment on most new and late models, both foreign and domestic.

Framing the question this way may seem a bit absurd; yet, it's a playful reminder that innovation does not emerge out of nothing. New innovations evolve from historical, iterative processes. The automobile developed out of, and in opposition to, concepts associated with the horse and carriage. This was the familiar frame of reference when the automobile first emerged. Early automobiles extended and adapted the accustomed 19th century understanding of locomotion.

However, long after the automobile had made the horse and carriage obsolete and the association had faded, the concepts of each still defined one another; this synthesis is still present today. Traces of the horse and carriage are found in terms like "horsepower" and in the names of classic cars like the Mustang, Colt, and Bronco. Consider the form of a car's design. You can see how four legs evolved into four wheels and headlights into the eyes of our metal beasts of burden. The vestiges of formative features still affect how we make sense of the built environment and our material culture, even if the original antecedent has long been forgotten.

Often, when searching for a new way to understand a familiar idea, we look for its opposite. By doing this, we create a spectrum of possibilities between what it is and what it is not. This strategy is somewhat similar to what is often referred to as the Hegelian Dialectic (http://en.wikipedia.org/wiki/Dialectic) , although Hegel himself probably never used this term, or its familiar formula: Thesis, Antithesis, and Synthesis:

- Thesis is a proposition about a prevalent paradigm; e.g. a horse and carriage;
- Antithesis is a counter proposition that opposes or negates the Thesis; e.g. the first generation of automobiles called "horseless carriages";
- Synthesis emerges from the tension between the Thesis and the Antithesis, blending the opposing ideas without fully negating either of them completely; e.g. our modern understanding of the car.

A creative, innovative mind also seeks to move beyond the given categories of thought established by binary either/or frameworks (such as the Hegelian model just described). This is still a move towards synthesis, but it includes opposing concepts that are internal to that binary framework and to ideas outside of it. If you're a visual thinker, you can think of the

internal concepts as a "vertical" axis and the external concepts as a "horizontal" axis. Lateral thinking (http://en.wikipedia.org/wiki/Lateral_thinking) , the ability to move horizontally across different categories of thought, often manifests itself as a synthesis between seemingly incongruent ideas; think of Roger Martin's classic, *Opposable Minds (http://www.amazon.com/Opposable-Mind-Winning-Integrative-Thinking/dp/1422139778/ref=sr_1_1?ie=UTF8&qid=1364255937&sr=8-1&keywords=opposable+mind)* .

Let's extend the horselessness example to imagine how horizontal moves across categories can play out. Beyond the familiar four-wheeled vehicle, which may have evolved in response to animal anatomy, we can imagine other categories of vehicles. We might imagine a vehicle with three wheels or five wheels or no wheels at all. But why stop there? We can imagine even more divergent, lateral moves across other categories as we consider vehicles that fly or hover. Once upon a time legs became wheels, which eventually took on a variety of divergent configurations, so why can't wheels become something else entirely?

Consider the astonishing fact that within about 60 years we went from Kitty Hawk to Apollo 11, from flying just a few feet above the earth's surface to traveling the 234,000 miles to the moon. Flying vehicles went from wings to wingless, from within the earth's atmosphere to outside of it in a single lifetime. This is just one example of how lateral thinking and quick iteration can produce astonishing results in a relatively short amount of time. Students at Brown University and the Rhode Island School of Design had the opportunity to explore (http://browncreativemind.com/) this principle at the 2012 Better World By Design Conference (http://www.abetterworldbydesign.com/blog/workshops-tours/ian-gonsher-workshop/) , where they iteratively designed, constructed, and tested paper airplanes. They extended familiar categories of the paper airplane to include designs inspired by frisbees, helicopters, and birds. Within about an hour, participants had completely reimagined the paper airplane (http://www.gonsherdesign.com/includes/content/teaching/airplane.php) , exploring categories that went well beyond their initial conceptions about what a paper airplane was and could be.

The creative process is just that: a *process*. Recognizing value that others have missed doesn't require preternatural clairvoyance. A well-honed creative process enables us to intuitively recognize patterns and use those insights to make inductive predictions about divergent ideas, both vertically within categories, and horizontally across categories. By understanding the genealogy of innovation within a given category, we can imagine what might come next.

We need to break out of thinking that is solely based on what we know, what we assume, and what we've experienced. Many of us are so entrenched in our industries that we don't know how to think laterally or horizontally. We usually go a mile deep but only an inch wide. We haven't given our people and ourselves the time and opportunities to explore other industries, cultures designs, ways of being and doing, and other "adjacent possibilities."

If you want to take your "car" far beyond horses, even to the moon perhaps, you and your team need to understand the genealogy of innovation, of how you got to where you are, and look outside of that familiar world to see where you can go.