

4-4: The value of teamwork

By Barbara Oakley, PhD



“Broad-perspective perceptual disorder
of the right hemisphere”

7/10/2014

Researchers debunk myth of 'right-brained' and 'left-brained' personality traits -- ScienceDaily

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Researchers debunk myth of 'right-brained' and 'left-brained' personality traits

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Chances are, you've heard the label of being a "right-brained" or "left-brained" thinker. Logical, detail-oriented and analytical? That's left-brained behavior. Creative, thoughtful and subjective? Your brain's right side functions stronger -- or so long-held assumptions suggest.

But newly released research findings from University of Utah neuroscientists assert that there is no evidence within brain imaging that indicates some people are right-brained or left-brained.

For years in popular culture, the terms left-brained and right-brained have come to refer to personality types, with an assumption that some people use the right side of their brain more, while some use the left side more.

Following a two-year study, University of Utah researchers have debunked that myth through identifying specific networks in the left and right brain that process lateralized functions. Lateralization of brain function means that there are certain mental processes that are mainly specialized to one of the brain's left or right hemispheres. During the

Hemispheric specialization and creative thinking: A meta-analytic review of lateralization of creativity

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4. General discussion

The current results support the notion of right hemispheric superiority in creative thinking. The systematic meta-analytic approach of our review found that in the literature covering various techniques for assessing lateral dominance and creativity, there is a consistently reported right dominance. Working against our hypothesis, when counting the studies that showed equal activation as left-hemisphere dominance only, the dominance of the right hemisphere in the process was evident. Furthermore, the results from the moderator analysis suggest that global thinking style, context-dependent thinking style and figural processes are significantly more characteristic to result in right hemisphere dominance than in left-hemisphere dominance.

Mihov, K. M., M. Denzler, and J. Förster. "Hemispheric Specialization and Creative Thinking: A Meta-Analytic Review of Lateralization of Creativity." *Brain and Cognition* 72, no. 3 (Apr 2010): 442-8.



Vilayanur S. Ramachandran

PERSPECTIVES

NATURE REVIEWS | NEUROSCIENCE VOLUME 6 | AUGUST 2005

ESSAY

Forty-five years of split-brain research and still going strong

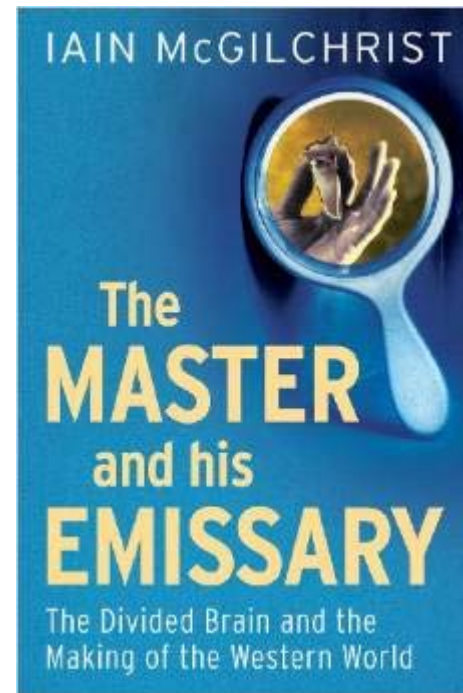
Michael S. Gazzaniga

Abstract | Forty-five years ago, Roger Sperry, Joseph Bogen and I embarked on what are now known as the modern split-brain studies. These experiments opened up new frontiers in brain research and gave rise to much of what we know about hemispheric specialization and integration. The latest developments in split-brain research build on the groundwork laid by those early studies. Split-brain methodology, on its own and in conjunction with neuroimaging, has yielded insights into the remarkable regional specificity of the corpus callosum as well as into the integrative role of the callosum in the perception of causality and in our

epilepsy⁵. However, the surgeries did not lead to a reduction in seizures and they stopped performing the procedure. Thirty years later, Philip Vogel and Joseph Bogen carried out a complete commissurotomy on a former paratrooper who was experiencing severe and life-threatening seizures⁶. They speculated that the earlier surgeries performed by Van Wagenen and Herren had been unsuccessful because the corpus callosum had not been fully severed. During surgery, Vogel and Bogen completely severed all cortical commissures, which was successful in controlling the patient's seizures⁶.

Van Wagenen and Herren's original patients were studied by A. I. Akelaitis at the

During my senior year at Dartmouth College I tried to study Van Wagenen and Herren's original patients. I designed many experiments in an effort to reveal the effects of callosal disconnection in humans, only for them to go unused on the Rochester patients. The effort was not lost, however. By the time I arrived at Caltech, Joseph Bogen, then a neurosurgical resident at Loma Linda Medical School, had developed an argument and rationale for once again introducing callosal surgery as a reasonable approach for controlling otherwise intractable epilepsy⁵. He was extremely familiar with the work of the Sperry laboratory, and asked Sperry if a researcher might be interested in testing such patients both pre- and post-operatively. When I walked in the front door for my first day of graduate work, the assignment was given to me. The split-brain experiments I had designed during my senior year at Dartmouth would finally be implemented, but on the Caltech, rather than the Rochester, patients. Nothing can possibly replace a singular memory of mine: that of the moment when I discovered that case W.J. could no longer verbally describe (from his left



Turning Student Groups into Effective Teams

Oakley, Barbara, Richard M. Felder, Rebecca Brent, and Imad Elhadj. "
Turning Student Groups into Effective Teams."
Journal of Student Centered Learning 2, no. 1 (2003): 9-34.

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This paper is a guide to the effective design and management of team assignments in a college classroom where little class time is available for instruction on teaming skills. Topics discussed include forming teams, helping them become effective, and using peer ratings to adjust team grades for individual performance. A Frequently Asked Questions section offers suggestions for dealing with several problems that commonly arise with student teams, and forms and handouts are provided to assist in team formation and management.

The Strength of Weak Ties¹

Mark S. Granovetter

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*American Journal of
Sociology (1973): 1360-80.*

Analysis of social networks is suggested as a tool for linking micro and macro levels of sociological theory. The procedure is illustrated by elaboration of the macro implications of one aspect of small-scale interaction: the strength of dyadic ties. It is argued that the degree of overlap of two individuals' friendship networks varies directly with the strength of their tie to one another. The impact of this principle on diffusion of influence and information, mobility opportunity, and community organization is explored. Stress is laid on the cohesive power of weak ties. Most network models deal, implicitly, with strong ties, thus confining their applicability to small, well-defined groups. Emphasis on weak ties lends itself to discussion of relations *between* groups and to analysis of segments of social structure not easily defined in terms of primary groups.

Illustration credits

- Ischemic stroke, CT scan of the brain with an MCA infarct, by Lucien Monfils, http://en.wikipedia.org/wiki/File:MCA_Territory_Infarct.svg
- University of Utah Health Care Office of Public Affairs. "Researchers Debunk Myth of 'Right-Brain' and 'Left-Brain' Personality Traits." *Science Daily* (2013). <http://www.sciencedaily.com/releases/2013/08/130814190513.htm>.
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- Cover from McGilchrist, Iain. *The Master and His Emissary: The Divided Brain and the Making of the Western World*. New Haven, CT: Yale University Press, 2010.
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