

## Department of Psychology **Colloquium Series**

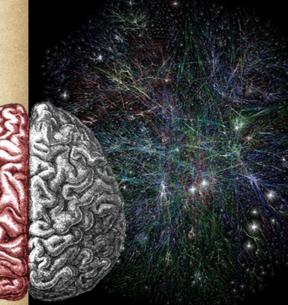
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l ford ampart. al'iz)], a

mon or ghost that sucks the blood of persons asleep; a kind of bat. In (Vall), money front of an army or fleet; a large overed wagon for moving householargoods, &c. **vanadium** (van-3a'dirum), n. a rare metallic element. **vanadium steel** (van-Jacji-um stel), n. steel containing vanadium. The ef-fect of adding vanadium to low-carbon steel is to ruse its tensile strength. **Vandal** (van'dal), n one of a Teu-tonic race inhalting the south shores of the Balty, noted for their manes and the nuclei of work of art.

on art. andal (van'dal), n. one who tile to art or literature; or ruthlessly destroys what is or venerable.

al'iz)), a ruthlessly destroys what is or venerable. "undalism (van'dal-jzm), n to works of art or literatu destruction of what is an intrepid-vang (vang), n. a rope f the extremity of the p to the side of a ship. "unguard (van'gärd), n guard of an army. "vanish (van'ish), s. to of an orchid, used for posses-posses-price; (van'i-tiz)], love of in admiration; empty pride fruitless desire or endes the esti-use; esti-tise; es-to esti-use; subdue; refute in arguments wantage (van'isi), n. advantage; in law to runis, the first point after deuce



The Stories of Two **Hemispheres:** Language in the Brain

Thursday, November 2, 2017 2:30 p.m. - 4:00 p.m. **Tory 340** 



Dr. Olessia Jouravlev Institute of Cognitive Science **Carleton University** 

Hemispheric functional specialization is a fundamental feature of human brain. Neural networks located in the left hemisphere (LH) sub-serve processing of verbal stimuli and fine motor movements, while networks located in the right hemisphere (RH) dominate in processing of attentional and visuospatial information (Gazzaniga, 1995; Mesulam, 1990). Out of all functional networks, language-related functional cortices show the most pronounced lateralization. About 80-95% of right-handed individuals rely primarily on their LH when processing language. It would be incorrect, however, to state that only one hemisphere contributes to language processing. Although many researchers agree that neural networks located in the RH are also sensitive to language, the role of RH homolog of the language network is unclear (Mitchell & Crow, 2005). In my talk, I will tell you about several fMRI studies that were conducted by me to shed light on contributions of two hemispheres to processing of language. In this research, I took an individual-differences approach. I examined degree of lateralization of language function in three populations with distinct language profiles: (1) individuals with typical language abilities, (2) individuals with impaired language abilities due to autism spectrum disorders (ASD), and (3) individuals with exceptional language abilities (polyglots). Compared to individuals with typical language development, the other two groups (i.e., individuals with ASD and polyglots) showed a significantly reduced degree of lateralization for language, however, mechanisms contributing to this reduction were different in ASDs vs. polyglots. Thus, reduced language lateralization is characteristic of "atypical" language abilities, although it could mean compromised as well as extraordinary ability to communicate linguistically. I hypothesize that the role of the RH in language processing is to provide access to high level conceptual representations via mental imagery rather than verbal input.