

CENTER FOR COGNITIVE SCIENCE

University at Buffalo, State University of New York

Wednesday, September 20, 2000

280 Park Hall

North Campus

2:00 pm –4:00 pm

“Formal Rules Don't Guarantee Good Theories.”

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Recent work in cognitive science has emphasized the importance of theory (or mechanism or explanation) in a variety of areas (categorization, causal reasoning and causal attribution, etc.) However, theories can be dubious as well as plausible and, when dubious, can motivate fruitless searches or have pernicious consequences. Thus, relying on theories requires that they be evaluated to distinguish theories that are likely to be plausible from those likely to be dubious. How can such evaluation take place? Traditionally, theory evaluation is said to occur when individuals and scientific communities rely on various formal principles such as, Consider alternative explanations, or When two factors are confounded and both covary with an effect, treat causation as indeterminate, or Prefer theories that yield good predictions. Such rules can be framed as formal principles that are independent of, and can thus be applied to, any content area, from attachment behavior to epidemiology. However, although these principles can be framed as content free, they can only be successfully applied if content is taken into account. Put differently, theories are plausible to the extent that they are congruent with related or collateral information that we have acquired about the phenomenon that we are trying to explain. The importance of collateral information puts a premium on identifying which types of collateral information are likely to be treated as evidentially relevant; how they interact with one another when more than one type is available; and how the collateral information that is initially available structures subsequent searches for additional, evidentially relevant information.

**Refreshments will be available
Everyone is welcome to attend!**

For information please call the Cognitive Science Office at (716) 645-3794 or check
<http://www.cogsci.buffalo.edu/>