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## F14 Mental Maps: Why You Should Worry

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After attending this presentation, attendees will recognize how a personal Cognitive Positioning System (CPS) affects legal decision-making and case analysis.

This presentation will impact the forensic science community by illustrating the need to be educated about mental defaults that subconsciously filter information and distort judgments that guide decisions.

A CPS develops from experience and education, both of which are filtered through the brain's cognitive defaults. A person's CPS is their personal perspective, which is comprised of a unique network of influences and shortcuts that affect (and infect) mental processing. All interpretations and subsequent decisions are made within this frame. Everyone prefers familiarity, simplicity, and closure, and their mindsets comply with the feeling, "That's right!" This can hinder thorough analysis.

For example, in an experiment, 50 homicide investigators and 68 undergraduates were given evidence from a homicide case and offered two potential hypotheses. The students showed bias in accord with their initial hypothesis, but were open to disconfirming evidence. Investigators — especially those with a high need for closure — were more likely to automatically view evidence as incriminating. They accepted disconfirming evidence *only* if it aligned with their initial hypothesis.<sup>1</sup>

Contrary to common belief, rational thinking is not automatic. Some information goes through rational channels and some through intuitive channels. The latter are faster, so they have the first impact. Intuitive responses are automatic, subconscious, and highly influenced by emotion. Conclusions form quickly, without analysis. Thus, they are vulnerable to the errors that form from personal bias and limited experience or education.

Everyone makes automatic judgments from within their frames of reference. Constructs learned from social and familial milieu, such as gender roles, rules of thumb, and racial stereotypes, have a significant subconscious impact on how the world is seen. Repeated experience with these constructs forms mental schemas. Then situations are "scripted" with construct-specific expectations.

These constructs feed into mental maps.<sup>2</sup> "Mental mapping" describes how people become habituated to their perspective. It goes by other names, such as cognitive map, perceptual set, or frame of reference. Individuals encode, recall, and recognize their "situated existence" according to a familiar frame. That is, people learn things from their families, culture, and subcultures that subtly thread throughout their personal interpretations.

How the world is physically and emotionally processed with mental maps guides people's decisions and behaviors. The brain then links perceptual sets with physiological systems, so that habits become encoded. This "embodied cognition" or "body memory" explains "gut feelings." Individuals allow even uninformed notions to guide them.<sup>3</sup>

However, what *feels* right is not necessarily right. Gut instinct can become a threshold diagnosis that averts a full analysis. People tend to see what they expect to see, and their recall is usually more consistent with personal beliefs and feelings than with facts, especially as it supports an intuitive hypothesis. Contradictory information is generally ignored. Sometimes, it is not even perceived.<sup>4</sup>

**In sum:** Research in cognitive psychology shows that certain types of mental maps present a persistent challenge for those involved in the legal/investigative process. Investigators arrive at scenes with mental maps that frame their investigation (or lack thereof).<sup>5</sup> Attorneys, judges, and jurors approach cases via their personal CPS. This presentation will identify common cognitive biases and offer suggestions for minimizing their damaging impact.<sup>6</sup>



# Jurisprudence Section - 2015

## References:

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## Mental Maps, Threshold Diagnosis, Cognitive Bias