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Hypothetical constructs, hypothetical questions, and the expert witness

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ABSTRACT

Professor John Henry Wigmore in 1940 described the hypothetical question as an intolerable obstruction of truth. Since that time, the nature and application of the hypothetical question in the courtroom, as well as responses to this line of questioning during expert testimony, have been sources of controversy. Governed by legal philosophical foundations, the hypothetical construct addresses what there is, in a general sense, and what can or ought to be. Alexy (2004) has described the nature of legal philosophy as the epistemological question of what we can know. This article begins by examining the philosophical underpinnings, legal parameters, and teaching purposes of posing hypothetical queries. A social–psychological backdrop for the use of hypothetical questions is then discussed followed by a broader discussion of the hypothetical question's role in court procedures. This paper identifies hypothetical questions used in court as devices to elicit information, or as predictions that potentially change underlying factual interpretations of evidence. In particular, on cross examination hypothetical questions seek to make opposing experts assume facts that are incongruent with their conclusions or opinions. Sometimes in these situations, experts are led to re-evaluate opinions based on alternative understandings of events and behaviors. Thus, this paper's final aim is to explore a foundational understanding of hypothetical questions asked of expert witnesses with special reference to mental health issues. Options for responding to hypothetical questions on the stand are considered along the dimensions of assertiveness–passivity, compliance–resistance, and possible redefinitions of the hypothetical issues.

1. Introduction

Rooted in a philosophical foundation, hypothetical questions are used to evoke reflection on possible answers to scenarios that have not necessarily occurred. Its abstract nature affords the hypothetical question with adaptability to numerous domains (Davidson, 1965). As explained by Davidson (1965), "the foundation of the [hypothetical] question is an *assumption*; that is, a hypothesis" (p. 272). Over forty years later, this fundamental feature has coined the use of hypothetical questions as "ubiquitous in domains such as political polling, jury selection, and market research" (Moore, Neal, Fitzsimons, & Shiv, 2011, p. 168). Key to the hypothetical question's broad application is its overarching purpose: to persuade a person or a population in a particular direction depending on the questioner's motive (Moore et al., 2011). There are several practical and legal reasons to employ hypothetical questions in the trial context and many empirical questions that flow from this application. This article brings these questions to light, while investigating the merits and pitfalls of using hypothetical questions in an expert witness-attorney exchange. Finally, we will close with practical guidelines for experts who find themselves a party in such an exchange.

2. The nature of hypothetical questioning: a philosophical perspective

The use of hypothetical questions has a long history, much of which leads to how and why such questions are used in court today. To understand what makes a question hypothetical, one may first explore the nature of questions in general. In essence, a question seeks to create insight (Rombach, 1988). Philosophical tenets define a question by its purpose. For example, a rhetorical question seeks to call attention to a certain circumstance. A question's purpose is further situated by its context: the situation in which it is asked. This aspect of the question may be revealed before the question is even posed (Rombach, 1988). The question also expresses some element of the person who poses it.

For example, the questions of the Greek philosophers mirrored their view of the world. For Socrates, questioning was essential to how knowledge is gained; answers were rare and would only instigate more questions (Meyer, 1980). In Socrates' view, there was only knowing and not-knowing (although some people cannot realize that they do not know) (Hamilton & Cairns, 2000). In this manner, questions become a process through which persons realize what they do not

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know (Meyer, 1980). The Socratic nature of questioning assumes that knowledge can be found in the act of questioning (Meyer, 1980).

If answers are merely veiled questions, how do answers differentiate from questions (Meyer, 1980)? Plato sought to clarify this tautological tenet by defining "criteria for answerhood" (Meyer, 1980, p. 281). Answers became central to Plato's view in order to elicit judgments from those who were knowledgeable on the matter. As explained by Meyer (1980):

> Justifications of answers became, with Plato, justifications of statements, and all the previous allusions to questioning had vanished, even in the analysis of negative statements. Justification was not to be found with reference to some complex question-answer, but rather to *what* was sought and answered; i.e., the Form. The hypothetical method was substituted for questioning as the sole method for reaching truth (p. 282).

Although Plato viewed this form of questioning as the source of scientific and intellectual inquiry, Meyer (1980) argues that Aristotle is responsible for providing the formal criteria for reaching a judgment. As Meyer (1980) explained, since Aristotle, "discovery and progress in knowledge have been considered as a matter of logic and conclusive argumentation" (p. 282).

In contrast to Socrates and Plato, traditional sophists would use questions to put forth their own opinions (Meyer, 1980). In this context, questions allow the teacher to exert intellectual authority over the pupil, as described by Meyer (1980) below:

> [The sophist] does not really give the true answer to a question taken seriously, but merely offers his opinion *as* an answer. That is why the sophist never leaves the realm of the questionable, though he believes he knows *the* answer to whatever question is raised. Socrates, on the other hand, maintains the problematic character of the discourse (p. 283).

The purpose of questions, and especially hypothetical questions, depends on the objectives of the person doing the questioning. Thus, "questionable" hypotheticals may be concerned with the truth of the asker.

Plato did not view questioning as a source of knowledge, nor did he view questioning as a platform for asserting one's knowledge as did the sophists. Instead, Plato used questioning to arouse knowledge through "its psychological routes in recollection" from the listener (Meyer, 1980, p. 285). Here "the question reveals the knowledge (= the answer), which is already hidden in the mind of the questioner" (Meyer, 1980, p. 285). A specific form of question – the hypothetical question – provides the logical framework for this process (Meyer, 1980). The question and reply both take a "circumstantial role" in the process (Meyer, 1980, p. 285). The problem becomes solved simply by assuming something to be so in the form of a hypothetical.

Even if the respondent agrees to the hypothetical question, the question is based on inferences from an *assumed* truth not yet proven (Meyer, 1980). The use of hypothetical questions in this way does not offer a validated truth. Instead, Plato's position may have only further shifted hypothetical questions towards opinion and debate (Meyer, 1980). In other words, such questioning can become simply a "matter of psychology and rhetoric" (Meyer, 1980, p. 289). Aristotle proposed that answers rooted in desires, beliefs, and intentions are based in psychological constructs that, in turn, circumvent the purpose behind *why* questions: to find a cause (Code, 1987). Proper answers to questions of cause, according to Aristotle, would be material, formal, efficient, and final causes (Code, 1987). A proper causation is fundamentally different than an accidental causation made up of conjectured necessary and sufficient causes (Epp, 2004).

3. The hypothetical question as a prediction

It is assumed that asking questions or making hypotheses are a prerequisite to research and the search for causal mechanisms (Chalmers, 1978; Parthey, Vogel, & Wächter, 1969). Predictions must be based on already established conditions (Parthey et al., 1969). Predictions and explanations are traditionally explored through one of two techniques (or some combination of the two): (1) A process of *induction* from facts acquired through observations; or (2) A process of *deduction* from hypothesized outcomes to explanations (Chalmers, 1978; p. 5). Hypothetical thought experiments can help generate predictions about past, existing, and future phenomena at the individual or societal level. Familiar examples would be Schroedinger's cat (Schroedinger, 1935) or the Prisoner's dilemma (Rapoport & Chammah, 1965). However, these exercises are conducted in the imagination or in role-playing and stand in contrast to validated, plausible facts (Gewirtz, 1982). Hypothetical thought experiments can examine the extent to which past events might have occurred differently. They can also lead to lines of alternative propositions that could relate to or explain the matter in question (Albrecht, 1969). In essence, they reflect a prediction of how the phenomena could have or may carry out in the future. Thus, every hypothesis can be divided into two parts: the previously confirmed conclusions and the non-confirmed assumptions (Birr, 1967). Although hypothetical conclusions may appear tightly linked to their objective foundations, they remain a matter of conjecture. Of course, in scientific inquiry any hypothetical supposition must by definition be falsifiable (Chalmers, 1978). It is the malleable nature of the question that affords the hypothetical query with the ability to conjecture many answers to any given question.

4. Hypothetical questions and teaching purposes

With such flexibility and constructivist utility, hypothetical questions can serve a strong teaching purpose (Davis, 2009). In his book *The Righteous Mind*, Haidt (2012) presents a series of hypothetical situations to assist in the exploration of morality. For example, he presents two situations in which nobody was harmed and nobody knew about what happened:

1. A family's dog was killed by a car in front of their house. They had heard that dog meat was delicious, so they cut up the dog's body and cooked it and ate it for dinner. Nobody saw them do this.
2. A man goes to the supermarket once a week and buys a chicken. But before cooking the chicken, he has sexual intercourse with it. Then he cooks it and eats it (p. 3–4).

Haidt uses these and other instances to explore how some actions may be seen as wrong even though nobody is harmed. He further uses these hypothetical situations as a kicking off point to examine ideas of morality around the world.

Many of the Haidt hypothetical situations involve disgust. Thus, Haidt used the following scenario in his research. His assistant would open a container of apple juice, pour it into a plastic cup, and ask the subjects to take a sip; all of them sipped it. Then a white plastic box was presented and they were told:

> I have here in this container a sterilized cockroach. We bought some cockroaches from a laboratory supply company. The roaches were raised in a clean environment. But just to be certain, we sterilized the roaches again in an autoclave, which heats everything so hot no germs can survive. I'm going to dip this cockroach into the juice, like this [using a tea strainer]. Now, would you take a sip (p. 37)?

Haidt reported that 37% of the participants were willing in theory to take a sip of the roach juice. In contrast, 63% were affected by the