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**BIOL6381 16867 Ethics in Biological Research SEC 02 – Fall2013**

**Assignment for Week 2**

1. **Should the judge allow the testimony of Ms Wexler?**

The judge should not allow Ms. Wexler's testimony based upon the grounds that it fails to meet the criteria outlined by Frye v US. There are three clear criteria set forth by Frye v US, the first of which states, “To which scientific field does the evidence or testimony belong?” Astrology fails to meet this criteria in that it does not fall under a field of established science. Therefore her testimony as an expert witness should not be allowed in the case.

1. **Give three arguments the prosecution might give against Ms. Wexler's testimony.**

(1) As per rule 702 of the Federal Rules of Evidence (1975), the testimony of the expert witness is to be based on scientific facts or data and is a product of reliable principle. However, there is no scientific evidence for astrology. Astrology is totally at odds with scientific and modern philosophy. Citing Frye v US and the criteria outlined therein, Ms. Wexler's testimony as an expert witness can not be allowed because astrology fails to meet the first criteria set forth in the Frye test. Astrology does not fall under an any established scientific field. Therefore, Ms. Wexler's testimony is inadmissible.

(2) A professional's recognition in his or her community is insufficient grounds to claim expertise if the views of the community in question is not widely accepted by society as legitimate. Astrology is not considered to be a scientific field. While astrologers seek to explain the interaction between the natural world and human behavior, they do not critically evaluate whether those explanations have validity. This methodology, the critical evaluation of hypotheses against experimental results to prove or disprove a theory, is a fundamental aspect of all fields of science. Scientists within a particular field of study will evaluate their ideas against evidence from the natural world and reject or modify their ideas when evidence doesn't support them. Astrologers do not perform critical analysis and re-evaluation of their perspective based on evidence obtained from observation of the natural world regarding their own astrological theories. This lack of a formal scientific process delineates them from fields of scientific endeavor and places any testimony Ms. Wexler could provide in the case as pure speculation on Ms. Wexler's part as to the violent or non-violent nature of the defendant.

(3) Even many astrologers have admitted (and strongly warned) that definite conclusions about specific actions, rather than general trends in a person's life, are not always possible based on celestial readings (as Ptolemy wrote, “the stars incline, they do not compel”). Thus, Ms. Wexler's testimony could at best only provide a loose indication of the defendant's character, and her conclusion that he could not possibly have committed the act in question lacks any concrete bearing even by way of her own field. Anything that Ms. Wexler could testify about with regards to the defendant is pure speculation on her part and inadmissible as testimony. She has no prior relationship with the defendant and was called to testify based on astrological readings performed on the defendant's birth date and age.

1. **Give three arguments the defense might have to allow Ms. Wexler's testimony.**

(1) Ms. Wexler's high demand and wide respect in her field provides sufficient proof of her expertise in her subject area. Rule 702 states that a witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion.

(2) Various statistical studies of note in astrologically inclined circles (for instance, Michel Gauquelin's *L'influence des astres*)might be cited as providing sufficient evidence for the relevance of astrological predictions in daily life. Astrology is an attempt to understand human personality and behavior through the use of analysis of an individual's date of birth in relation to the astrological phenomena at the time of the individual's birth. Astrology's main focus is on that of the natural world and applies theory to help explain the natural world, as do Biology, Chemistry and Physics. As these scientific fields are employed in court rooms throughout the United States, so too should Astrology be allowed as admissible evidence in a court of law.

(3) Millions of people through out the United States consult with astrologers, either in person or through their local newspapers for advice on how to conduct their daily business. It is a widely accepted practice in the United States, it has been estimated that 30-40% of the American public believe in the efficacy of astrology. (see: The Fated Sky, by historian Benson Bobrick) Numerous high-standing individuals within government and business rely on information obtained from astrology to make every day decisions. It is a generally accepted belief amongst a large portion of the US population and therefore should be allowed as testimony regarding an individual's disposition towards violent tendencies. Astrologer Jean Dixon has consulted several Presidents of the United States with respect to astrological influences. This advice has been used to assist them in making very important decisions that have affected the lives of millions of Americans. If this information is accepted at the highest levels of our executive branch of government, it should also be admissible as testimony in a court of law.

1. **List three things a court might use to determine if something is actually a science.**

(DAUBERT STANDARD)

The factors that may be considered in determining whether the methodology is valid are

(1) whether the theory or technique in question can be and has been tested;

(2) whether it has been subjected to peer review and publication;

(3) its known or potential error rate;

(4) the existence and maintenance of standards controlling its operation; and

(5) whether it has attracted widespread acceptance within a relevant scientific community

1. **DNA fingerprinting was first brought up in court in 1982. Many judges and jurors had never heard of DNA and didn't believe in it as evidence. What is the difference between the DNA evidence and the astrology evidence?**

DNA differs from astrology in that tested and repeatable results can be obtained in independently conducted tests. If you were to send biological materials to several labs for genome sequencing each lab will be able to accurately return results which can then be verified against one another for accuracy. Barring any faults with the labs procedures, and with the exception of minor variations due to sequencing errors, the DNA sequence found at a crime scene gives a unique profile. Multiple runs of DNA sequencing on the same sample produce very nearly identical results. No such consistency has been found to hold regularly in astrology; for instance, even two experienced astrologers could provide different interpretations for the horoscopes they respectively cast for the same person, based on their individual practices. DNA results will match one another to a high degree of statistical accuracy. This repeatability of results independent of when the test is conducted and who conducts the test is a key factor in the acceptance of DNA evidence within the scientific community and within a court of law.

1. **Research and find out if astrology has ever been in a legal case. List your findings.**

In Tammy Kitzmiller, et al. v. Dover Area School District, et al. (400 F. Supp. 2d 707, Docket no. 4cv2688) was a case that involved challenging the requirement of a public school district to teach the theory of intelligent design. The defense called Michael Behe as a witness for the defense. Dr. Behe is professor of Biochemistry at Lehigh University in Pennsylvania, and a leading proponent of the theory of intelligent design. During the course of his testimony, he testified, "Under my definition, a scientific theory is a proposed explanation which focuses or points to physical, observable data and logical inferences. There are many things throughout the history of science which we now think to be incorrect which nonetheless…would fit that definition. Yes, astrology is in fact one, and so is the ether theory of the propagation of light, and…many other theories as well."

While Kitzmiller v Dover did not use an astrologer it was at that time a shocking statement that made numerous media outlets since a Professor of Biochemistry testified that astrology fell under the domain of scientific theory.

We could find no evidence of an Astrology admitted as testimony in a modern United States legal case.