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**Janet H Barnett\*** (jbarnett@uscolo.edu), Department of Mathematics, 2200 Bonforte Boulevard, Pueblo, CO 81001-4901. *The Continuum Hypothesis, Independence and Consistency.*

First stated by Cantor in 1878, the problem of "the cardinal number of the continuum" was the first problem described by Hilbert in his famous 1900 Address to the International Congress of Mathematicians. Progress in resolving the problem finally came in 1938 with Gdel's famous proof of the consistency of the Continuum Hypothesis. Twenty five years later, Cohen used a new method for constructing set theoretical models to prove that the Continuum Hypothesis is, in fact, independent of the Zermelo-Fraenkel axioms for set theory. Cohen's method of forcing not only resolved the continuum problem, but also provided a powerful technique with which set theorists could study the relative consistency of other axioms, including the axiom of choice. In essence, these relative consistency results show that a 'new' axiom is no more suspect of inconsistency than the standard axioms of Zermelo-Fraenkel set theory alone. This talk will examine the structure of relative consistency proofs established by forcing in the context of Cantor's Continuum Hypothesis. No specialized knowledge in set theory is assumed. (Received September 15, 2000)