KARL POPPER AND FALSIFICATIONIST CRITICISM

Karl Popper (1902-1995) was born in Vienna, Austria. He enrolled in the University of Vienna in 1918, where he studied physics, mathematics, and philosophy. In 1928 he received his Ph.D. for a dissertation titled *On the Problem of Method in the Psychology of Thinking*. He never returned to the subject of psychology again during his professional career, because he became convinced that methodology of science is exclusively a matter of logic and objective knowledge instead of psychology. Popper was personally acquainted with Rudolf Carnap and other members of the Vienna Circle, and although he had been invited to address the group at a meeting in which he set forth his philosophy of science, he was never a member of the Circle. In 1937 he was appointed a senior lecturer to Canterbury University College in Christchurch, New Zealand, and then in 1945 he was appointed to a readership at the London School of Economics, University of London. In 1949 he was made professor of logic and scientific method at the London School. He was knighted in 1964.

Einstein's Influence and the Falsificationist Thesis of Criticism

In his intellectual autobiography in Schilpp's *The Philosophy of Karl Popper* (1974) Popper states that Einstein was the most important influence on his thinking. The influence was not a personal one, since Popper and Einstein did not actually meet until 1950; the influence was through Einstein's published works. The year 1919 was the fateful year in Popper's intellectual life. At that time he was interested in the views of several thinkers including Marx's theory of history, Freud's theory of psychoanalysis, and Alfred Adler's theory called "individual psychology."

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Popper relates in his "Science: Conjectures and Refutations" (1957) in *Conjectures and Refutations* (1963), that he had come into personal contact with Alfred Adler and cooperated with Adler in the latter's social work with children and young people in the working class districts of Vienna during the last years of the Austrian Empire and the subsequent revolution. In the summer of 1919 Popper became dissatisfied with the views of Marx, Freud and Adler, because the persons who accepted and advocated these theories were strongly impressed by the theories' purported explanatory power, and because study of these theories had the effect of an intellectual conversion or revelation. Most objectionable to Popper was the fact that once the reader's eyes were opened to the theory, he found that the theory was verified everywhere one might think of applying it. Unbelievers were dismissed as persons who could not see the verifications. In Popper's view the apparent strength of these theories' purported “explanatory” power is their principal weakness.

Popper saw in Einstein's theory a striking contrast to the situation he found in the views of Marx, Freud and Adler. Eddington's solar eclipse observations in 1919 brought the first important test to bear upon Einstein's relativity theory of gravitation. This test was distinctive, because in the test there was a risk involved in the theory's prediction. Had Eddington's observations showed that the predicted effect is definitely absent, then Einstein's theory would simply have been refuted. And the risk in Einstein's case was very great, since the predicted effect was different from what was expected from Newton's theory, which had long demonstrated great success culminating with the discovery of the planet Neptune. In his autobiography Popper said that what impressed him most was Einstein's own clear statement that he should regard his theory of relativity as untenable, if it should fail certain tests. This was an attitude that was very different from the dogmatic attitude of the Marxians, Freudians, and Adlerians. Einstein was looking for crucial experiments where agreement with his predictions would by no means establish his theory, but where disagreement with his predictions, as Einstein was the first to say, would show his theory to be untenable. Thus in 1919 Popper concluded that the critical attitude, which does not look for verifications but rather looks for crucial tests that can refute the tested theory, is the correct attitude for science, even though the crucial tests can never establish the theory. This is Popper's falsificationist philosophy of scientific criticism, the central thesis of his philosophy of science.

