Rudolf Carnap

Rudolf Carnap (1891-1970) was a highly influential, German-born analytic philosopher who made important contributions in logic, philosophy of language, and philosophy of science.

Carnap was born in 1891 in what is now Wuppertal, Germany. Just before the outbreak of World War I, Carnap studied philosophy and mathematics at the University of Freiburg and the University of Jena (where he was a pupil of Gottlob Frege). Having finished his military service, Carnap returned to Jena where he completed a dissertation on the philosophical foundations of geometry.

By 1926 he was a member of Moritz Schlick's (1882-1936) famed Vienna Circle, a group of philosophers and scientists attempting to work out a "scientific" conception of the world—which in their eyes was equivalent to a scientific materialist worldview. This group of logical positivists is perhaps best known for its verifiability principle which claimed that all cognitively meaningful statements must be either analytically true (i.e., true in virtue of the meaning of the terms) or empirically verifiable through observations of the senses. Importantly, because they thought they could not be verified by experience, the positivists dismissed the claims of aesthetics, ethics, theology, and traditional metaphysics as meaningless pseudo-statements which are neither true nor false. (The verification principle has primarily been criticized for not meeting its own criterion: the principle itself is neither analytically true nor empirically verifiable.)

In 1931 Carnap took a position at Prague's German University. But seeing Europe's growing darkness, Carnap emigrated to America in 1935. There he influenced many notable philosophers as a professor at the University of Chicago and UCLA.

By 1936 Carnap was arguing that scientific or empirical statements are not subject to verification but to *confirmation*. Because empirical hypotheses can always be overturned by further sense experience, Carnap thought that they are subject to increasing probabilistic confirmation or disconfirmation (in light of our evidence) rather than verification. Thus began his life-long pursuit of an adequate inductive logic, a logic of probability.

One common way to think of probability is in terms of frequencies. On this view, if three-fourths of all sea turtles fail to survive their first year, then the probability that a randomly chosen baby sea turtle will survive its first year is .25. But notice that we often want to know the probability of an event's occurrence *given certain evidence*. Given that a major scientific study reported that half of all sea turtles die their first year, on the degree-of-confirmation (or "logical") interpretation of probability advocated by Carnap the probability that a randomly chosen newborn sea turtle will die this year is .5—even if this doesn't match the actual frequency. On this latter view, probability is a measure of the degree to which an evidence set confirms a given empirical hypothesis.

One major benefit of Carnap's inductive logic is its potential for solving David Hume's (1711-1776) problem of induction. A persistent problem for Carnap's logic, however, was that the probability of universal scientific laws is always zero.

Still hard at work on an adequate system of inductive logic, Carnap died on 14 September 1970.

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Recommended Reading:

Friedman, Michael and Richard Creath, eds. 2007. *The Cambridge Companion to Carnap*. Cambridge Companions to Philosophy. Cambridge: Cambridge University Press.

Schilpp, Paul Arthur, ed. 1963. *The Philosophy of Rudolf Carnap*. Library of Living Philosophers, Volume XI. La Salle, IL: Open Court.