the nature of political tolerance remain, most political theorists contend that it is one of the central tenets of democratic theory because democracies are predicated on the assumption that people with widely differing viewpoints should be able to express their opinions and participate in political processes.

The first major empirical work on political tolerance was published in 1955 by sociologist Samuel Stouffer (1900–1960). In *Communism, Conformity, and Civil Liberties*, Stouffer reported the results of two national surveys in which he found that most U.S. adults were unwilling to extend civil liberties to unpopular left-wing groups; community leaders, however, demonstrated greater tolerance than the general public. This presented a conundrum to many political theorists who had thought that widespread tolerance was necessary for sustaining a democratic society. Later studies provided a partial explanation: U.S. adults were very supportive of civil liberties *in the abstract*, but they were much less likely to apply them to specific groups and situations.

In a groundbreaking study published in 1982, John Sullivan, James Piereson, and George Marcus offered a significant reconceptualization of political tolerance. Sullivan and colleagues defined political tolerance as "a willingness to permit the expression of ideas or interests one opposes" (Sullivan et al. 1982, p. 2). Thus, tolerance presupposes disagreement with a particular group's views. Tolerance is demonstrated when one finds a group's views objectionable, yet still supports the rights of the group. Sullivan and his colleagues developed the *least-liked group* approach to measuring political tolerance, in which they first asked respondents to identify their least-liked group, and then asked whether they would be willing to extend certain civil liberties to the group (recall that Stouffer had focused on unpopular left-wing groups). Their research found that while the objects of intolerance had changed since Stouffer's original study, the majority of U.S. citizens were still intolerant.

Extensive studies of political tolerance both in the United States and in countries such as Australia, Germany, Israel, New Zealand, and South Africa indicate that although the target (least-liked) groups may differ, the variables that influence tolerance tend to be the same. Individuals who support the abstract norms of democracy (e.g., free speech, majority vote) are more likely to be tolerant. Those who perceive a high level of threat from the target group, however, are less likely to be tolerant.

Tolerant stances tend to be associated with education (high), social status (elite), age (younger), religiosity (more secular), and, to a lesser extent, gender (males). Individuals who demonstrate low levels of dogmatism and authoritarianism and high levels of interpersonal trust also tend to be more tolerant. Scholars have also identified contextual factors that promote or inhibit tolerance. Stable, longer-enduring democracies tend to provide an environment that supports tolerance; however, conflict, and particularly conflict that threatens one's group identity, tends to decrease individual levels of tolerance.

SEE ALSO *Civil Society; Conformity; Democracy; Education, USA; Groups; Ideology; Intergroup Relations; Political Correctness; Politics*

BIBLIOGRAPHY

Stouffer, Samuel. 1955. Communism, Conformity, and Civil Liberties: A Cross-section of the Nation Speaks Its Mind. Garden City, NY: Doubleday.

Sullivan, John L., James Piereson, and George E. Marcus. 1982. *Political Tolerance and American Democracy*. Chicago: University of Chicago.

Patricia G. Avery

TOLERANCE, REPRESSIVE

SEE Repressive Tolerance.

TOLMAN, EDWARD 1886–1959

The American psychologist Edward Chace Tolman was born in Newton, Massachusetts, on April 14, 1886 and died in Berkeley, California, on November 19, 1959. He received a BS in electrochemistry from the Massachusetts Institute of Technology in 1911, and a PhD in experimental psychology from Harvard in 1915. He spent the bulk of his academic career at the University of California, Berkeley, retiring in 1954. In 1937 he was elected to the National Academy of Sciences.

Tolman entered psychology in the first years of John B. Watson's behaviorist revolution, and he even dedicated his best-known book, *Purposive Behavior in Animals and Men* (1932), to the white rat, but he was never a radical behaviorist. Whereas Watson (and, later, B. F. Skinner) rejected mental states as explanatory constructs, Tolman emphasized molar behavior over molecular "muscle-twitches," as well as the importance of goals and expectations intervening between stimulus and response. (Another neobehaviorist, Clark Hull, similarly stressed the importance of internal drive states.) Heavily influenced by Gestalt theory, and especially by Kurt Lewin's notion of

the "life-space," Tolman viewed the behaving organism as acquiring a "sign-gestalt-expectation" that a particular behavior will achieve a particular goal in a particular "behavior space," and a general "means-end readiness," represented by a "belief-value matrix" to engage in similar behavior in the future, under similar circumstances. He construed the rat facing a maze, even on the first learning trial, as entertaining and testing a sort of hypothesis as to what it should do; as engaged in "vicarious trial and error" behavior as it considered the choice of turning right or left; and as actively "searching for the stimulus" that would indicate one choice over another.

The flavor of Tolman's experimental work, and its implications, are best illustrated by his most famous experiment, on "latent learning" (Tolman and Honzik 1930). Over twenty trials, rats who were rewarded with food took progressively less time to traverse a maze, compared to a control group that received no reward. A third group received no reward for the first ten trials, and behaved no differently than the controls. But when reward was introduced in trial eleven, they showed a precipitous drop in running time, behaving just like the rats who had been rewarded all along. Apparently, these rats had formed a "cognitive map" of the maze as a whole, but did not act on what they had learned until they had an incentive to do so. This experiment shattered the traditional view that reinforcement was crucial to learning: Reinforcement may control performance, but learning happens even in its absence. By redefining learning as the acquisition of knowledge, which organisms-rats as well as humans-could use for their own purposes, Tolman's "purposive behaviorism" set the stage for the cognitive revolution in psychology that began in the 1950s.

Tolman was a civil libertarian as well as a psychologist, and served for a time on the national board of the American Civil Liberties Union. Perhaps reflecting his Quaker background, in 1918 he was dismissed from his first faculty post, at Northwestern University, for publishing an article in a pacifist student publication; and in 1942 he published Drives Towards War, proposing a set of social controls that could produce a warless society. Nevertheless, he volunteered for military service in World War I, and was offered a commission in the army; and he worked for the Office of Strategic Services, forerunner to the Central Intelligence Agency, during World War II. From 1949 to 1950 Tolman led faculty opposition to a loyalty oath required by the Regents of the University of California. He (among others) was briefly dismissed from his post, taking shelter at Harvard. In Tolman v. Underhill (1955) the California Supreme Court invalidated the oath, and Tolman and the others were reinstated. In 1963, in recognition of his contributions to both the discipline of psychology and the cause of academic freedom, the building housing Berkeley's Department of Psychology

and the School of Education—an award-winning example of mid-twentieth-century modernism designed by Gardner Dailey—was renamed in Tolman's honor.

SEE ALSO Behaviorism; Civil Liberties; Gestalt Psychology; Hull, Clark; Peace; Psychology; Skinner, B. F.; War

BIBLIOGRAPHY

PRIMARY WORKS

- Tolman, Edward C. 1932. Purposive Behavior in Animals and Men. New York: Century.
- Tolman, Edward C. 1938. The Determinants of Behavior at a Choice Point. *Psychological Review* 45: 1–41.
- Tolman, Edward C. 1942. *Drives Towards War*. New York: Appleton-Century-Crofts.
- Tolman, Edward C. 1948. Cognitive Maps in Rats and Men. *Psychological Review* 55: 189–208.
- Tolman, Edward C. 1952. Edward Chace Tolman. In A History of Psychology in Autobiography, vol. 4, eds. Edwin G. Boring, Herbert Werner, Heinz S. Langfeld, and Robert M. Yerkes, 323–339. Worcester, MA: Clark University Press.
- Tolman, Edward C. 1955. Principles of Performance. *Psychological Review* 62: 315–326.
- Tolman, Edward C., and Charles H. Honzik. 1930. "Insight" in Rats. University of California Publications in *Psychology* 4 (14): 215–232.

SECONDARY WORKS

- Bower, Gordon H., and Ernest R. Hilgard. 1981. *Theories of Learning*. 5th ed. Englewood Cliffs, NJ: Prentice Hall.
- Ritchie, Benbow F. 1964. Edward Chace Tolman. *Biographical Memoirs of the National Academy of Sciences* 37. New York: Columbia University Press.

John F. Kihlstrom

TOLTECS

SEE Pre-Columbian Peoples.

TOMMING

SEE Uncle Tom.

TOOLS

Stanley Kubrick's science-fiction film 2001: A Space Odyssey (1968) opens with a scene of early hominids hammering with bones, depicting primitive tool use. While we