

groundbreaking achievement.

The New Theory of Reference draws on “modal logic, the formal study of the different modes of truth—necessity and possibility—that a statement can possess,” Holt explains. First pondered by Aristotle, and a significant concern of medieval scholars, modal logic was largely neglected by later thinkers. In the 1940s, Marcus, then a graduate student, “added new formal features” to modal logic, “greatly enlarging its philosophical implications,” Holt says. A decade later, teenage prodigy Kripke “supplied it with something it had hitherto lacked: an interpretation, a semantics.” Taking the German philosopher Leibniz’s conceit that the actual world is just one of a large number of possible ones, Kripke “characterized a proposition as “*necessarily* true if it holds in every possible world, and *possibly* true if it holds in some possible world.”

In 1962, Kripke attended a talk by Marcus in which she defended modal logic and expatiated upon the relationship between a proper name and the object to which it refers. The traditional theory was that every proper name (e.g., “Aristotle”) was associated with a cluster of descriptions (“teacher of Alexander the Great,” “author of the *Metaphysics*,” etc.), and these constituted its meaning. Marcus, however, argued that whereas a statement such as “Aristotle is Aristotle” is necessarily true, the statement “Aristotle is the author of the *Metaphysics*” is not, since it is possible to imagine circumstances in which the historical Aristotle did not become a philosopher.

“Marcus’ use of modal reasoning to undermine the traditional theory of the meaning of names,” Holt notes, “was a step toward the New Theory of Reference—a theory that emerged full-blown from Kripke’s Princeton lectures a decade later.” This theory holds that proper names are what he calls “rigid designators” (referring to the same individual in every possible world); that many common nouns, such as “gold” and “tiger,” are “natural kind” terms that work in the same way as proper names; and that terms such as “Aristotle” and “gold” are connected to the things to which they refer, not by the meanings in people’s heads but by “causal chains” stretching back to the first application of the term to the object.

In late 1994, Quentin Smith, a professor at Western Michigan University, stirred up a ruckus among philosophers that has still not died down, Holt reports. Smith concedes that the “natural kind” and “causal chains” features of Kripke’s theory were “genuinely new,” but contends that the concept behind Kripke’s term “rigid designator” was really Marcus’s. Kripke responds that some of the ideas he later developed “were present . . . in a sketchy way” in Marcus’s 1962 talk, “but there was a real paucity of argumentation on natural language. Almost everything she was saying [then] was already familiar to me at the time.” Marcus has declined to discuss the matter.

“It is easy to tell when someone has borrowed the prose of another,” Holt comments, but ideas “are rather trickier to identify.”

Onward, Christian Soldiers

“Reinterpreting the Crusades: Religious Warriors” by Jonathan Riley-Smith, in *The Economist* (Dec. 23, 1995–Jan. 5, 1996), 25 St. James’s St., London SW1A 1HG, England.

The Christian crusades are scorched in the modern mind as repulsive adventures in brutality and bigotry. Historians since the late 19th century have argued that it was greed, in one form or another, that motivated the crusaders. Lately, however, writes Riley-Smith, a professor of ecclesiastical history at Cambridge University, an older interpretation has been gaining favor.

The crusades were not, as many historians have maintained, a venture in imperialism, he says. The First Crusade, launched by Pope Urban II in 1095, “certainly began the

process of European conquest and settlement in the eastern Mediterranean,” but that was not the original intent. “The Christian knights assumed they would be joining a larger force that would drive back Muslim Turks who had recently invaded Asia Minor, and restore Jerusalem, lost for 350 years, to the Byzantine empire.” It was only after Byzantine Greeks failed to join in with much enthusiasm that the knights struck out on their own.

More recent economic interpretations of the crusades hold up no better, Riley-Smith

avers. Documents show that “most nobles and knights” were far more preoccupied with the costs of taking part in the Crusades than they were with visions of riches to be won in the Holy Land.

Historians who opted for an economic interpretation “forgot how intellectually respectable the Christian theory of holy war once was,” Riley-Smith contends. In the decades leading up to the First Crusade, “a group of brilliant intellectuals [was] anthologizing and reviving St. Augustine’s ideas” of just war, including “the idea of a war at Christ’s command mediated by the pope as his agent on earth.”

In one respect, however, crusading was an exceptional form of holy war: it was enjoined as a means of doing penance for one’s sins. This notion, which put combat on the same meritorious plane as prayer, works of mercy, and fasting, had never been entertained by Christians before the late 11th century. While it came to be diluted over the centuries with the rise of the chivalric ideal of knighthood, the idea of combat as penance nevertheless “remained at the heart of the crusading ethos.”

There is no escaping the fact that the crusades, stretching over hundreds of years, were full of horrors and atrocities (equaled on the Muslim side), Riley-Smith says. But the crusaders should be seen as they were, religious warriors “pursuing an ideal that, however alien it seemed



Religious warriors taking part in the First Crusade wrest the city of Nicaea in Asia Minor from the Turks in 1097.

to later generations of historians, was enthusiastically supported at the time by such heavyweights as St. Bernard of Clairvaux and St. Thomas Aquinas.”

SCIENCE, TECHNOLOGY & ENVIRONMENT

The IQ Controversy

A Survey of Recent Articles

That strength, beauty, and intelligence are not equally distributed among human beings is an obvious fact—but one that we Americans, with our democratic passion for equality, would rather ignore. We, or at least many of us, prefer to dwell mentally in Garrison Keillor’s Lake Wobegon,

where all the women are strong, all the men are good-looking, and all the children are above average.

Linda S. Gottfredson, who teaches in the College of Education at the University of Delaware, writes in the *American Scholar* (Winter 1996) that research that shows dif-