
RELIGION & PHILOSOPHY

ticated Kabbalah, from the 11th century.

The mystics defied talmudic injunctions against speculation about God and his ways. Indeed, the Kabbalah offers a biography of God: "God is even provided with a wife," Maccoby reports, "and, eventually, with a cosmic love story . . . with tragic episodes and a happy ending." The mystics also broke down the traditional Judaic separation of matter and spirit, man and transcendent God. For example, says Maccoby, a 16th-century Palestinian Jew named Isaac Luria argued, "In order to create the world, God had had to exile part of Himself from Himself; and this creative withdrawal (*tzimtzum*) or exile was what was being re-enacted on earth by Israel."

The mystics can also be described in part as Jewish fundamentalists: "If the Bible speaks of the 'hand' of God," Maccoby notes, "this to the kabbalists is not just a metaphor for His influence on events, but a real hand." Scholem's greatest achievement, Maccoby believes, was to show how periodic outbursts of mysticism have changed Judaism and infused it with new energy. In *Sabbatai Sevi: The Mystical Messiah* (1957), for example, Scholem chronicled the brief career of a 17th-century Palestinian Jew who publicly violated Jewish dietary and other laws and claimed divine status, a blasphemy that many local Jewish leaders accepted without protest. Sabbatai won a wide following, and although the movement collapsed after he was forcibly converted to Islam, he left Jewish law and liturgy altered.

Scholem's scholarship encouraged many Jews to acknowledge the hidden mystical aspect of their faith. "After his work," Maccoby concludes, "we can no longer think of the history of Judaism as one of outer tribulations but inner calm."

SCIENCE & TECHNOLOGY

Death by Trauma

"Trauma" by Donald D. Trunkey, in *Scientific American* (Aug. 1983), P.O. Box 5969, New York, N.Y. 10017.

The battles against cancer and heart disease top the list of U.S. medical priorities, but trauma—injuries from wounds, burns, or falls—takes, by some measures, a heavier toll.

In 1982, cancer and heart disease together took 1.2 million lives in the United States. Trunkey, a San Francisco General Hospital surgeon, reports that 165,000 Americans died from trauma last year. But because trauma claims primarily youthful victims—it is the leading cause of death among those up to age 38—it cuts more deeply into lifespans. The two well-known killers each reduced American lives by some 1.8 million years in 1975; the loss to trauma was nearly four million years.

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Trauma claims most of its victims quickly. Half are "dead on arrival" at a hospital, casualties of highway accidents, homicide, and suicide. The most promising remedies are preventive and nonmedical: handgun control, stiffer penalties for drunk driving, laws requiring motorcyclists to wear helmets.

Another 30 percent of trauma deaths occur between one and two hours after injury. Here, the critical factor is how fast the victim reaches surgery. The typical U.S. hospital's emergency room is inadequate, says Trunkey. A 1980 study of Portland, Oregon, hospitals showed that it took surgeons an average of one hour and 15 minutes to get to the hospital in response to emergency calls. Needed are specially equipped trauma centers with surgeons and anesthesiologists on duty around the clock.

In 1970, for example, West Germany opened special trauma centers along its high-speed *autobahns*. The result: Deaths from motor-vehicle accidents dropped from 16,000 annually to 12,000 during the 1970s. But few U.S. communities are willing to bear the high costs of modern trauma centers. The federal government, meanwhile, skimps on research into the little-understood multiple organ failures and infections that account for the remaining 20 percent of trauma fatalities, which occur days or weeks after the injury.

Trauma costs the United States some \$50 billion annually in medical expenses and lost production, not to mention scores of thousands of young lives. That news, says Trunkey, deserves some headlines.

Computerizing Baseball

"The Microchipped Diamond" by Sy Weissman, in *Psychology Today* (Aug. 1983), P.O. Box 2990, Boulder, Colo. 80302.

Casually citing arcane statistics—"Reggie Jackson bats .367 under a full moon"—has become the stock-in-trade of television's baseball broadcasters. And slowly but surely, the computers that manufacture such hairsplitting data are finding their way into major league dugouts.

For the New York Yankees, Oakland A's, and Chicago White Sox, 1983 has been the second season of the computer age. According to Weissman, a TV science producer, the teams' managers can predict a batter's performance by "inning, score, the batter-pitcher match-up, number of outs, [and] number of men on base, as influenced by such physical circumstances as temperature, humidity, wind velocity and direction, park dimensions, playing surface, total attendance, and date." (One statistician has even uncovered a "Birthday Effect": Players exceed their season batting average by 50 points in games on their birthdays.)

Such data help managers decide, for example, which player to use as a pinch hitter. The Yankees' electronic "tenth player" offers odds on the