Random Samples:

Putting Heat on the Ball . . .

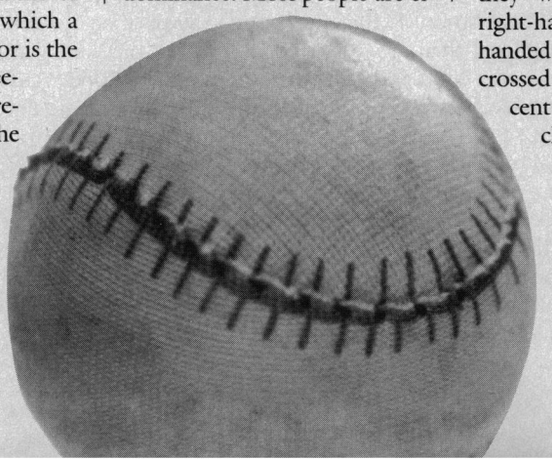
So you thought it was a hot summer for you? Think how major league baseball players felt out on a hot diamond. More important, think how they responded to all that heat and humidity.

While there are no data so far on how baseball players responded to the hot summer of 1988, a team of University of Michigan psychologists do have some data on 1986. Alan Reifman and associates say that when temperatures soared into the 90s that summer, nearly twice as many batters got hit by pitches each game.

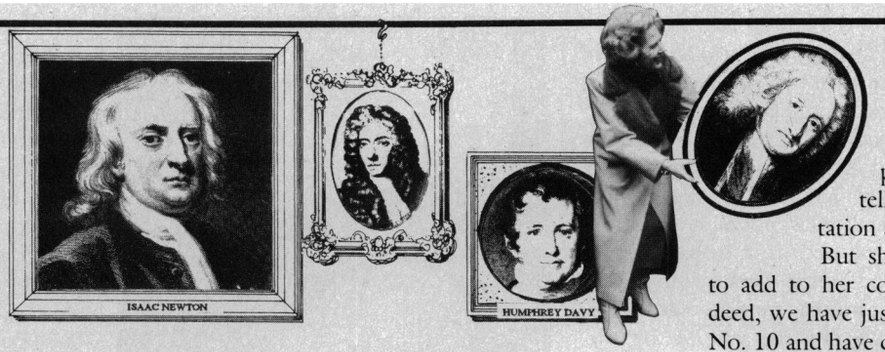
The researchers analyzed a random sample of 215 games and noted the number of hit batters and the high temperature in the home city for each game day (or the ambient temperature in domed stadiums). They controlled for three variables: the total number of walks and home runs, and the attendance. Increases in any of the three could have made a pitcher more frustrated and, thus, more likely to seek revenge by throwing a beanball.

When controlling for these variables the researchers found that on days in the 90s, an average of .56 batters were hit per game, compared with .31 on cooler days. The results don't necessarily mean that pitchers are getting meaner, Reifman says. They are probably just getting more aggressive because of the heat. He compares his findings to studies of urban violent crime, in which a commonly used predictor is the number of 90-degree-plus days. Reifman presented the results at the annual meeting of the American Psychological Association this summer.

Reifman and associates are now reviewing the 1987 season and, come the end of the year, will begin a review of the 1988 season.



Maggie's Pictures



British Prime Minister Margaret Thatcher, that nation's best known chemistry major, has won few friends in the U.K. scientific community with her refusal to increase the nation's research budget. But it's nothing personal, she says. Some of her best portraits are scientists.

Speaking at a dinner given by the Royal Society in London on 27 September, Thatcher said she has a portrait of the 19th-century physicist Michael Faraday—one of her favorite historical figures—hanging in the hallway of No. 10 Downing Street.

In addition, she said, the stern face of Isaac Newton can be found in the dining room. And Robert Boyle, Humphrey Davy, Edmund Halley, and Dorothy Hodgkin also look down on top-level discussions of affairs of state, reminders, said Thatcher, of the "enormous contribution that scientists have made and are making to our prosperity and intellectual reputation as a people."

But she would like to add to her collection. "Indeed, we have just redecorated No. 10 and have changed some of the other pictures, so there are several spaces vacant," she said, spaces just waiting to be filled by portraits of today's top scientists.

Alas, said Thatcher, "we have found that many distinguished scientists do not devote time to being painted by distinguished artists on canvasses of the right size." She did not specify what this size is; but she did say she would be grateful if the Royal Society "could rectify this state of affairs."

Images from Culver Pictures, Inc.

. . . and Keeping Your Eye on It

Jose Portal was a heck of a shortstop and pitcher when he played Little League in Falls Church, Virginia. But his batting average was not the best until he switched to hitting left-handed. Today, a good number of years later, Portal thinks he knows why.

Good hitting, says Portal and co-worker Paul E. Romano of the University of Florida College of Medicine, depends on the right kind of eye-hand dominance. Most people are either right-handed or left-handed, with only a relative handful being truly ambidextrous. Similarly, most people are right-eyed or left-eyed, with a few having what's called central ocular dominance—the world is viewed as from a Cyclopean eye at the root of the nose. One's dominant eye can be determined through a "pointing sighting test."

As described in the 8 September *New England Journal of Medicine*, Portal and Romano tested 23 varsity college baseball players and 100 normal control subjects and found that they differ in their eye-hand dominance. Sixty-five percent of the controls had uncrossed eye-hand dominance; that is, they were either right-eyed–right-handed, or left-eyed–left-handed. Eighteen percent had crossed dominance, and 17 percent saw things the way Cyclops did.

But only 39% of the baseball players had uncrossed dominance, 35% had crossed dominance, and 26% had central ocular dominance. Moreover, the better hitters had either crossed dominance (a .310 batting average) or central ocular dominance (.340). The pitchers with the lowest earned run average (4.06) were those with central ocular dominance.

Eye dominance seems to be genetically determined, Portal says, and he cautions against trying to change one's dominant eye, since the result can be permanent double vision. Experts also recommend against trying to change one's handedness.

But young athletes might well be tested to see what side they should bat from and whether they're better suited for pitching or hitting. The test is easily self-administered. With both eyes open, focus on an object. Close first one eye, then open it and close the other, and determine which eye the object seems more directly in line with. That's your dominant eye. If the object appears equally in line with both eyes, you have Cyclopean vision.

In short: if you're right-eyed, bat left-handed; if left-eyed, bat right-handed. And see what happens to your average.

■ GREGORY BYRNE