THE BULL PEN

By George McLeod
Citizen Sports Editor

Statistics On The Moon

As soon as athletes reach the moon, I, for one, am going to quit keeping statistics.

Look at the trouble Fearless Fraley stumbled into when he wrote recently for United Press International and the Citizen that Rocky Colavito could throw a baseball on the moon 2,782 feet.

Our copyreader should have been suspicious. He should have realized that Oscar stopped his calculations virtually in mid-air after multiplying the record earth throw of 445 feet, one inch by the factor 6.3, a factor which gives the ratio of gravity on the earth to gravity on the moon.

However, it remained for University of Arizona scientist James E. McDonald to discover the error.

According to McDonald, Fraley's error short-changed Colavito some 2,300 feet. Rocky, if he ever starts contract negotiations with the moon's baseball magnates, could, in fact, boast a baseball throw of slightly over 5,000 feet.

Air Resistance And Gravity

Writes McDonald:

". . . Fraley's story had a substantial scientific error in it. . . . His story dealt with the extent to which various sporting records could be exceeded once man gets himself into outer space and onto other celestial bodies.

"Fraley attributes the computations underlying his story to 'an expert of the General Electric's missile and space vehicle department,' but doesn't give the fellow's name. The GE scientist's figures are all OK until he takes up the interesting question of how far a baseball could be thrown or batted on the moon.

"Fraley notes that 'On earth the baseball throw record is 445 feet, one inch. On the moon, a strong-armed guy like Rocky Colavito would fling it 2,782 feet.'

"It is clear that all the GE scientist did was to multiply the 445 feet (record throw by Don Grote, 1956 in Minneapolis) by the factor 6.3, which factor gives the ratio of gravity on the earth to gravity on the moon.

"Unfortunately it's not that simple. The GE fellow overlooked the extent to which air resistance teams up with gravity to limit long throws and long hits on earth.

Aerodynamic Effects

"In recent weeks, I've been doing a lot of calculations on this very problem, and now have fairly accurate data on aerodynamic drag reduction of the range of batted and thrown balls. Air resistance cuts the distance almost in half under normal atmospheric conditions. This factor must be allowed for in predicting throwing distances on the moon.

"Using my results on air resistance, I computed that Don Grote could, if GE can just get him onto the moon and solve his oxygen problem and a few other details, throw a Spalding ball just a bit over 5,000 feet.

"The distances to which golf balls could be driven on a lunar fairway would also rise in about that same ratio of 12-fold. On the other hand, pole-vaulting records, jumping records, and distances to which heavy objects such as the shot put and the discus could be thrown on the moon are correctly predicted as 6.3 times greater on the moon than on the earth, as reported by Fraley. But baseball and golf are very significantly influenced by aerodynamic effects, and in these sports, Fraley's figures are wrong by a factor of very nearly two."

Oscar, how could you?