The Bull Pen

By George McLeod
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Statistics On The Moon

As soon as athletes reach the moon, I fear, men are going to quit keeping statistics.

Last at the trouble, Fearless Fraley stumbled into
when he wrote recently for United Press International and
the Citizen that Rocky Calavito could throw a
baseball on the moon 5,192 feet.

Our copyreader should have been suspicious. He
should have realized that Oscar stopped his calcula-
tions virtually in midair after multiplying the recent
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 D. McDonald to discover the error.

According to McDonald, Fraley’s error short-
changed Calavito some 3,260 feet. Rocky, if he ever
gets in contract negotiations with the moon’s baseball
majors, 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 deals with the actions in which
various sporting records could be recorded. One 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 elec-
tric 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 hit 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 Calavito would hit it 3,782
feet.’

“Is it clear that all the GE scientist did was to
multiply the 445 feet (record throw by Dan Grohe,
1914 in Minneapolis) by the factor 6.3, which factor
gives the ratio of gravity on the earth to gravity on
the moon.

“Furtunately it’s not that simple. The GE fel-
low underestimated the extent to which air resistance
takes up with gravity to limit long throws and long
hits on earth.

Aerodynamic Effects

“Tn recent weeks, I’ve been doing a lot of calculations
on this very problem, and now have fairly accu-
date data on aerodynamic drag reduction of the
range of hit and thrown balls. Air resistance cuts
the distance almost in half under normal atmospher-
ic conditions. This factor must be allowed for in predict-
ing throwing distances on the moon.

“Using my results on air resistance, I computed
that Dan Grohe 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 distance to which get wells could be driven
on a highway would also rise to about that same
range of 3,782. On the other hand, pole-vaulting rec-
ords, jumping records, and distances to which heavy
objects such as the shot put and the discus could be
thrown on the moon are currently predicted as 4.3
times greater on the moon than on the earth, as re-
ported by Fraley. But football and golf are very sig-
nificantly influenced by aerodynamic effects, and in
these sports, Fraley’s figures are wrong by a factor of
very nearly ten.”

Oscar, how could you?