It is one of the fascinating paradoxes of our profession. Turfgrass management - for golf - is indeed both an art and a science. It was always meant to be so.

The keeper-of-the-green profession has a heritage going back 400, perhaps 500 years. How much it has changed! Science has changed it. And yet, paradoxically, how little it has changed. It is still basically an art form. The thoughts that follow are mostly concerned with science, but my real message is about art.

**Science and the Earthworm**

Back in the 1930's, Dr. John Montieth, then Director of the Green Section, recalled golfers of that day continuously complained about earthworm casts on the surface of greens. Invariably, they told him, the casts would deflect their putts away from the hole. Now, from a scientific and statistical point of view, he felt surely a ball would occasionally be deflected into the hole. Over the years, he never recalled hearing one complaint about this occurrence!

Science has long ago solved the earthworm problem - and many more. Weed control, disease devastation, better machinery, better fertilizers - we are all better off because of turfgrass science.

**Science and the Stimpmeter**

“Science” has even developed a little stick we now roll a ball down to test the speed of the green. The Stimpmeter is designed to establish speed criteria - not to make every green lightning fast, virtually impossible to putt of to maintain a healthy turf. Man did that! Those who condemn the Stimpmeter overlook the fact that there is an art in using it. The speed of any particular set of greens must surely be at that level best suited for the membership and the conditions that prevail.

**Science and Soils**

Science has given us specifications for putting green construction. The Green Section Specifications, written in the early 1960’s, are officially entitled, “A Method of Putting Green Construction.” No one in a responsible position with the Green Section ever said or claimed they would produce the perfect foolproof green. Someone else said that. But science produced the data. It is up to us to execute, to use the data, to make it work. An artist does that.

**Science and Research**

Now a new era of research, to be sponsored by the USGA Green Section, lies just ahead. Conceived by Al Radko, a long-range, multi-million-dollar research project on minimal maintenance turfgrasses will soon be underway. The objective is to develop turfgrasses that will have greater winter hardiness, wear resistance, drought and temperature tolerance, disease and insect resistance, salt tolerance, require lower fertility levels, and still produce superior playing qualities. Grass plant selections in Asia and South Africa are now underway by U.S. scientists, sponsored by the Green Section. Once the work is complete, an intensive plant breeding program will begin. Genetic selections will be made by advanced computer analysis that cuts years off of previous plant breeding techniques. The full study will take at least 10 years. It will require an estimated outlay of $5 million. It is an exciting undertaking, the largest of its kind in history! It will need your help and your support.

**Science and Computers**

Computers have been mentioned and they are indeed a new “science”. They are going to affect our professional and private lives immeasurably in the immediate future. Dr. V.B. Youngner, University of California, Riverside, recently said, “Computers are an unbelievably fast and unbelievably accurate machine. They are also incredibly dumb. Man, on the other hand, is an extremely slow and inaccurate machine. However, he is brilliant! Bring these three forces together, i.e., speed, accuracy and brilliance, and there is no limit to what may be accomplished.”

Notice, if you will, it is man’s brilliance, his art that makes the difference. He makes the computer work.

And so it is in turfgrass management, in cooking, in driving an automobile, in just about any pursuit in life. You can have all the science in the world, but if you don’t have that certain ability, that perception, that art, to bring it all together in the right manner:

- If you don’t have that “touch,”
- You don’t have very much!

**Science and Irrigation**

Science has also given us improved methods of irrigation. Now here is a topic we can all relate to as a science and an art. Who among us will disagree that automatic irrigation is not AUTOMATIC! Any type of irrigation is, at best, an inexact science. There are so many variables: wind, cloud cover, temperature, soil types, humidity, cutting height, type of grass, shade factors, etc. The more variables one must deal with, the greater the “art” becomes. Good irrigation is indeed an art.

continued on page 7
has been going on since golf has been
eyou to know your enemy. Learn about
played in this country, and it will
the Stimpmeter. Educate your member-
continue, with or without the Stimp-
ship about its uses and how it works.
meter. However, rather than compare
Make it a tool you can use. Al Radko,
putting green speeds, perhaps the
former National Director of the Green
comparison should be in dollars bud-
Section, has suggested the following
geted for putting greens, water, pesti-
four-step program for use of the
icides, and labor. Perhaps a mathemati-
Stimpmeter:
could develop a formula to compare
Step 1. Following the steps recom-
putting green speed and budget and
mended in the Stimpmeter Instruction
also add in the weather for good measure.
also add in the weather for good measure.
Booklet, measure all greens thoroughly
It is the grand total of innumerable
and record the average speed of each
green. By thorough measurement it is
agronomic practices that equals good
meant that all areas of each putting
putting qualities. Don't be blinded by
speed be averaged and recorded to
green be averaged and recorded to
determine the overall average of every
determine the overall average of every
bring the
green, including the practice green. At
green, including the practice green. At
minimum, three separate areas of each
green should be tested and averaged,
except where contours or slopes limit
the number of measurements per green.
green should be tested and averaged,
except where contours or slopes limit
the number of measurements per green.
Step 2. If the average speed of any
green varies widely from the average
speed desired, determine the cause and
correct this deficiency to bring the
reading up to the desired average speed.
This may be done by additional mowing
at first and if this does not correct the
deficiency, by altering other manage-
deficiency, by altering other manage-
ment practices on deficient greens.
ment practices on deficient greens.
Step 3. Once the average speed is
attained and the average speeds are
consistent (within plus or minus 6 inches
consistent among all greens), then it will only be
among all greens), then it will only be
necessary to test three or four greens
everyday to insure that the greens remain
necessary to test three or four greens
consistent throughout. The number
tested daily will depend on the number
of mowers used — i.e., if three different
mowers are used, then it will be necessary
to test one green mowed by each, etc. If
triplex mowers are used, then four
greens at minimum should be tested
daily (two on the front side and two on
the back side).
Step 4. Once every month, re-test all
greens to determine whether the average
speed continues to be uniformly
consistent. Variations in speed can do more
to negate a player's skill than perhaps any
other factor on the golf course. Con-
sistency is the key word — not speed.
Putting greens kept at speeds over 8'6" as a daily average will need extra labor
and manpower because of additional
maintenance practices required. Under
extreme weather conditions, there is
also a much greater potential for turf-
grass damage when putting green speeds
are maintained above the fast range for
regular membership play. As with any
other tool, I would urge you to use the
Stimpmeter to your professional
advantage.

Science and Us

Perhaps one of the greatest gospels you and I can
preach today in turfgrass management is that "green
does not necessarily equal good." This story should be
told over and over again, especially to American
golfers.

Now, I have heard the quick voices of dissent
among us regarding this philosophy. There are always
quick voices of dissent. But before we agree to argue
about it, let's first be sure we understand what is being
said. No one has said, "Green golf courses are bad!"
That's foolishness. But the demand by some for a green,
green, green golf course, overly watered, overly
fertilized, not properly mowed for good playing
conditions (but mowed instead for a good green
appearance) does NOT make it a good golf course for
golf.

Our concern, our job today is much the same as it
was for the "keeper of the green" 500 years ago. It is to
provide the best possible playing surfaces for the game
of golf, not necessarily the greenest ones.

Science will help us immeasurably in our work. But
it takes more than science. It takes that special, magical
ingredient known as YOU. It is you who make it all come
together. You make it happen. You are the artist. Please
don't ever forget that!

World's Longest Golf Hole? . . .

Two top Australian golfers, Billy Dunk
and Ted Ball, will tee off next April on a
one-hole golf match—the hole is 1,597,550
yards long and par has been set at 7,173.
They'll start at the Ceduna Golf Club in
South Australia and hope to hole out at the
Kalgoorlie Golf Club's 18th green in Western
Australia three or four weeks later. They'll
play across Australia's harshest terrain on
the Nullarbor Plain and down the Eyre
Highway, always being careful not to hook
into the shark-infested waters of the Great
Australian Bight. The two pros will be
riding special three-wheel motorcycles.
Accompanying them, will be a mechanic, a
doctor, an army logistics expert, Ball's
wife, Margaret, and a Guinness Book of
World Records official. The whole thing is
an attempt to set a record that will go into
the Guinness Book of World Records as the
world's longest golf hole.

The Hartford Courant