

# Golf Course Architecture

John MacLeod

Over one hundred years ago, it was not unusual for the keeper of the green to be far more than that. I speak specifically about Old Tom Morris of St. Andrews, Scotland. Not only was he the greenkeeper, club professional, teacher and player, caddy, golf ball and club maker, but a highly sought after golf course architect and designer. About fifty of his courses remain to this day. Tom Morris, however, is most recognized as the one who for almost forty years developed the Old Course at St. Andrews into a classic links course. It should be noted that during his tenure at St. Andrews, many persons sought out Tom Morris as teacher and advisor. Early architects like Willie Park, John Low, Harry Colt and Donald Ross all knew or worked for him. Later in America, other golf architects like

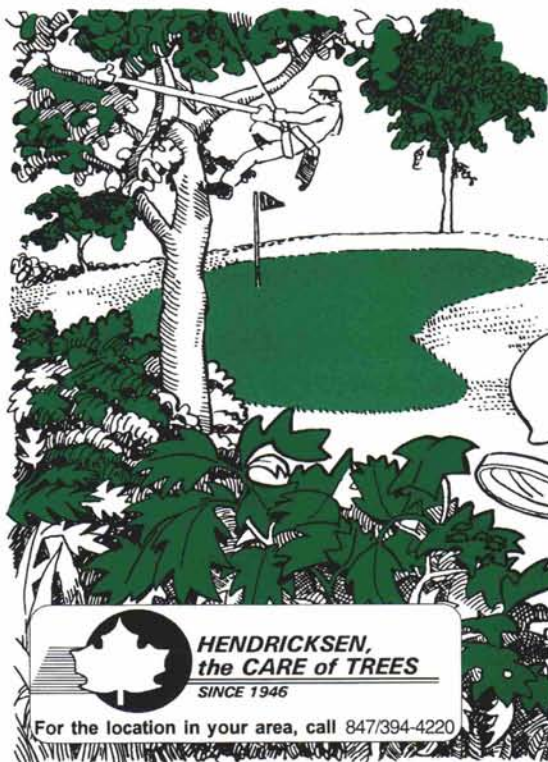
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A. W. Tillinghast, Alister Mackenzie, Charles B. MacDonald, and Donald Ross used St. Andrews as a model or were greatly influenced by courses designed by Tom Morris.

What then is behind the design decisions that influence today's architect? What are the specific issues used in modern golf course design? How do the above affect the golf course superintendent regarding maintenance, especially greens? I asked the above questions of Dr. Michael Hurdzan, past president of the American Society of Golf Course Architects.

Right from the beginning, the answer to the first question was in so many words, what does the owner want? You must first satisfy the person who will be paying for the golf course. So what

*(continued on page 26)*



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do the owners want in the golf course? Will it be a private, members-only course with unlimited construction funds, or public with a specific dollar limit to be spent? Is the course built for land developers to attract homesite buyers? These are the first questions that are addressed.

Dr. Hurdzan likes to also find out and pin down the owners on a dollar figure they are willing to spend, not only on original construction but on maintenance after the course is built. He believes this information vital in giving clients the best plans based on future expenditures and maintenance costs and, therefore, will design the golf course accordingly.

Once the preliminary discussions have taken place between owner and architect, the designs are begun. After the plans are rendered and approved, the architect's wishes must be interpreted by the contractor. This demands some intuitive understanding of the ideas presented and of the land on which the golf course is being built. As one person has said, it is just as easy to use nature in your plans than to fight it. Good golf courses complement nature rather than detract from it. This is an old philosophy, but one that is fast becoming the current philosophy of today. That is why Dr. Hurdzan believes in being environmentally friendly whenever possible.

Some architects go for the visual, i.e., to make a bold statement at whatever the cost in terms of complete terrain alteration. Dr. Hurdzan prefers to design courses that are appealing but are also harmonious and complement nature. He challenges himself to work with the land to achieve a satisfactory result. He prefers to design courses that are very playable no

matter what the skill of the golfer. This means he prefers strategic as opposed to penal design. Penal punishes every bad shot. Strategic design gives both the amateur and professional interesting possibilities or alternate routes, some safer for the beginner, some more challenging for the better player.

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As for green design, he believes that a green should provide a sufficient target area for approach shots and be of consistent putting surface to test all skill levels of golfers. The design must provide enough cupset space to allow the turf to recover. He believes that it takes 21 days for an area of a green to heal; therefore, it should have at least 21 cup setting positions. The damaged area around a cup usually falls within 16 feet in diameter. This equates to 200 square feet times 21 cup settings equals 4,200 square feet. Add another 25 percent for the perimeter and some additional surface for undulations that are

unfair pin placements, and the total green area should be about 6,000 square feet.

On the construction of greens, Dr. Hurdzan mentioned the most common mistakes made in this area. They are: (1) the depth of amended soils not uniform; (2) improper drainage, or crushed tile lines after installation; (3) use of improper materials or wrong mixing of material (He suggests laboratory testing of all materials to be used.); or (4) the improper use of construction equipment, especially when dealing with complicated greens construction.

On maintenance, Dr. Hurdzan wrote some ten years ago that "perfect" turf surfaces, especially greens, are virtually impossible to maintain all season long. Every green on a golf course is different and has its own individual requirements because of such factors as orientation, air movement, shade, and the many temperature and humidity changes.

New technology in such areas of soil science, plant physiology, genetics, and equipment over the last fifty years has played a key role in creating the high-quality golf course and greens conditions of today. Golf course superintendents, he believes, are the people who have the knowledge and skills to manage and care for the greens playing surfaces but seldom get the credit they deserve.

Dr. Hurdzan has remodeled and designed over a hundred golf courses. He holds a Ph.D. in environmental turfgrass physiology, a masters in turf studies and a bachelors in turfgrass management. He has written many articles about golf course design and earlier this year published a book titled *Golf Architecture*. ■