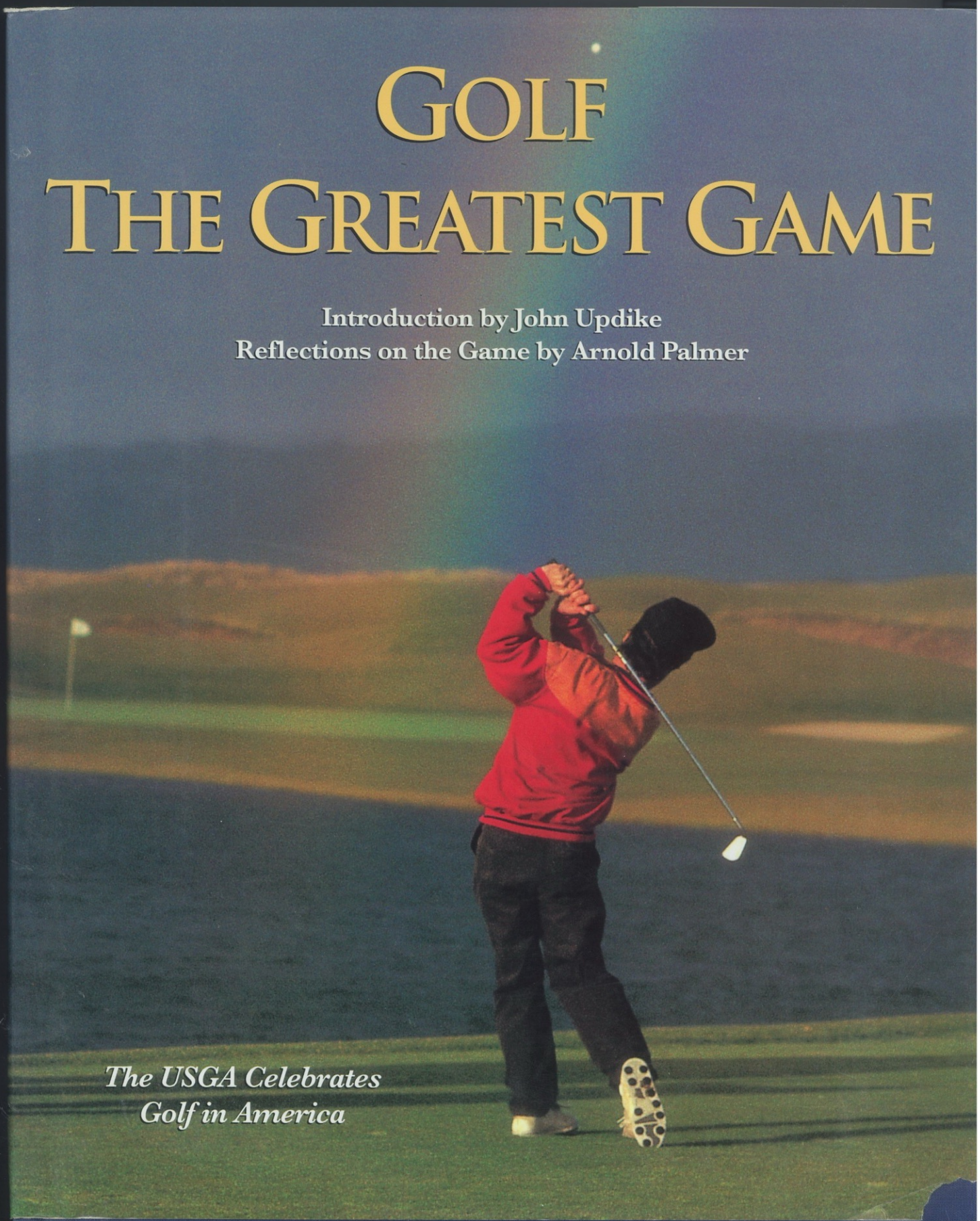
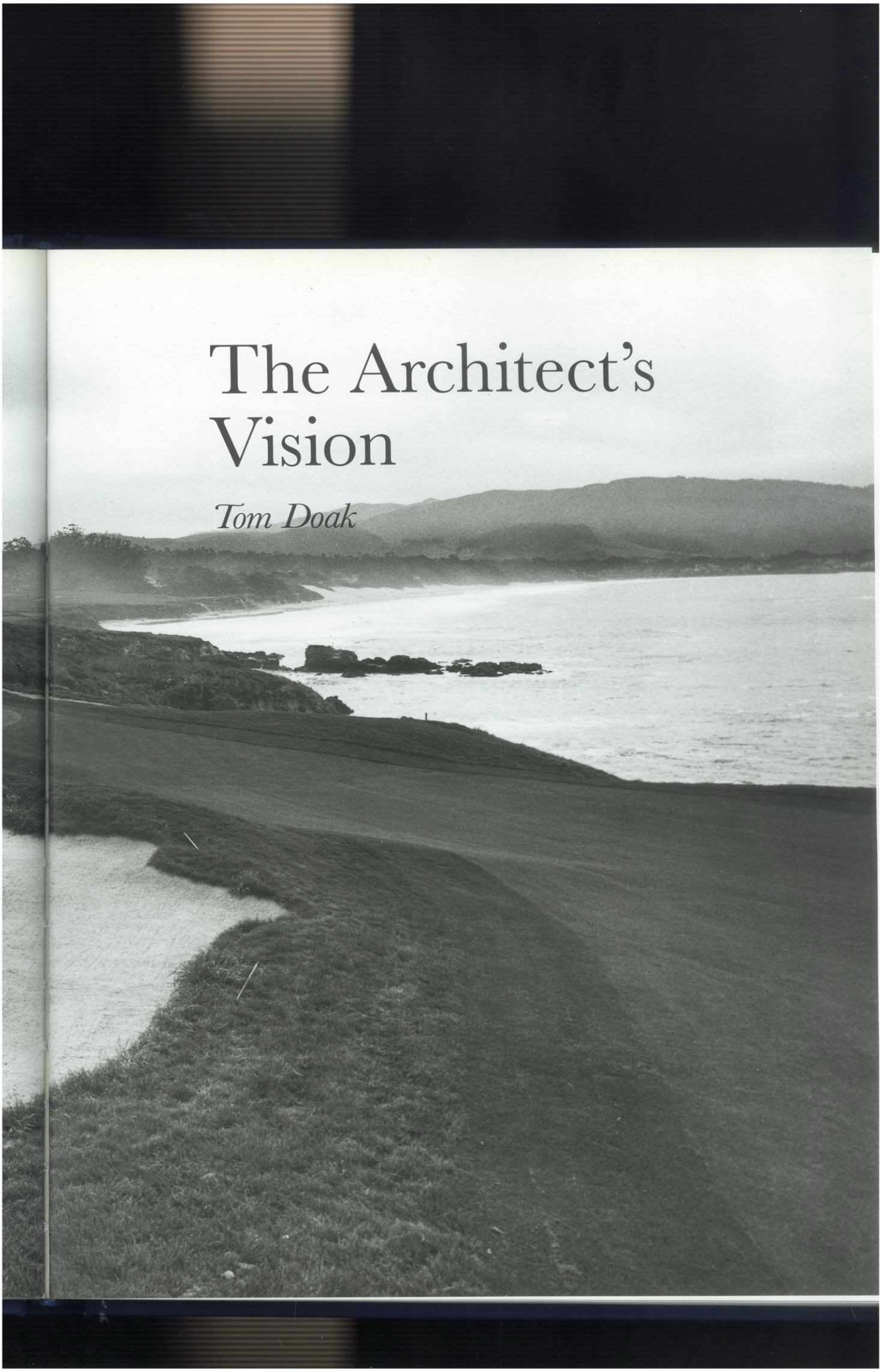
GOLF
THE GREATEST GAME

Introduction by John Updike
Reflections on the Game by Arnold Palmer



The USGA Celebrates Golf in America

Robert Walker



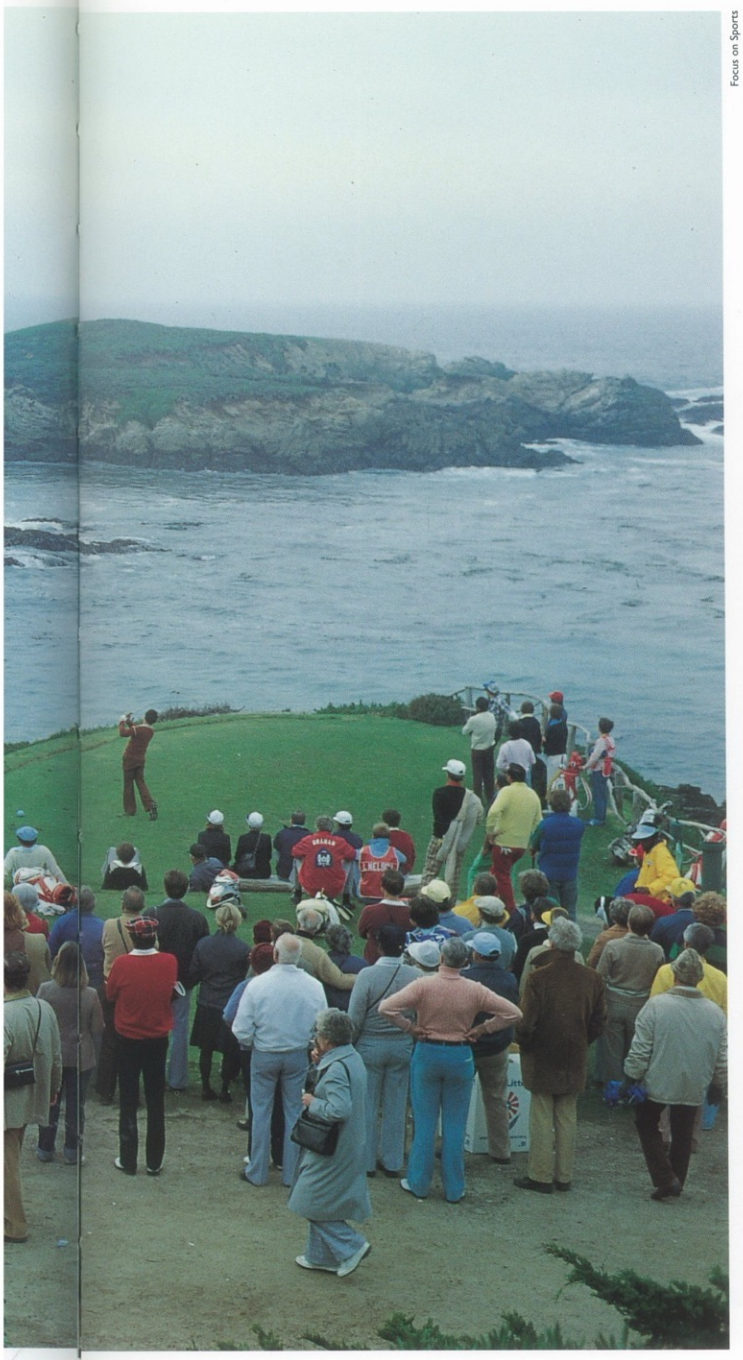
The Architect's Vision

Tom Doak



Previous spread: Hard by the Pacific, Pebble Beach's 431-yard par-four eighth hole demands one of the most exacting approach shots in the game.

The sixteenth at Cypress Point (above): the most heroic carry in golf.



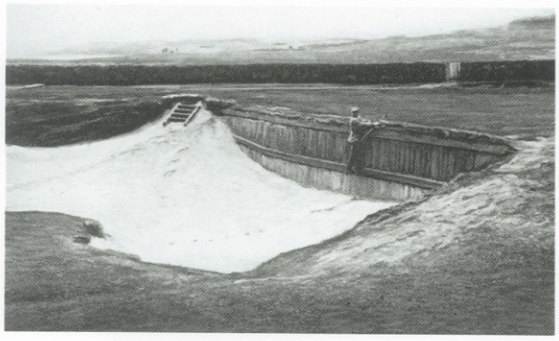
October 1928: Dr. Alister Mackenzie, the globe-trotting Scottish golf architect, sits atop a grassy knoll at Crystal Downs, a small residential community in northern Michigan, a bottle of Scotch by his side. "I have the plan for the front nine," he tells his assistant, Perry Maxwell. "Come see what you think of it." After studying the plan, Maxwell tells Mackenzie that he likes every one of the holes, but that there are only eight of them. Thus, the green of the ninth hole, a classic uphill par three, was crowded onto the ridgetop where the two men sat. A few days later, with the routing complete and Maxwell armed with rough sketches of his designs for the greens, Mackenzie resumes his journey from California to England.

April 1988: Paul "Pete" Dye is on his knees in the desert of Tempe, Arizona, at work on the creation of the Karsten Golf Course for Arizona State University. Dye's oldest son, Perry, is the architect of record for the new course, but the father is the star attraction, surrounded by an entourage of project managers and university VIPs whenever he makes a site visit. The group huddles to listen as Dye instructs a bulldozer operator on the design of the par-three twelfth hole:

"We've got it all wrong here. Let me show you what I want to do. Build it up more over on this side and let the green tilt down to the left," Dye says, molding the dirt in front of him with his hands into a rough model of the green site. "Cut a deep bunker on the front left—six or seven feet down. Then jazz up the approach on the right with some rolls and mounds to tie it in with the mounding on that side of the green, and try to sneak the cart path to thirteen through those mounds, so you can't see it from the tee. Understand?" The shaper nods. As Dye gets up to dust himself off, he scuffs at the dirt with his foot, destroying the evidence of his thoughts.

One of the joys of golf architecture is that, as Tom Fazio delights in saying, "There are no rules of golf-course design"—no minimum or maximum length of hole, no enforced limit of contouring to greens or bunkers, no guidebook for the placing of hazards. Unlike other sports whose playing fields are rigidly defined, golf courses are so big that it is impossible to standardize them.

In Scotland, where the game evolved on coastal land, the sandy ground was shaped by the wind and the rain, and the early



USGA Collection

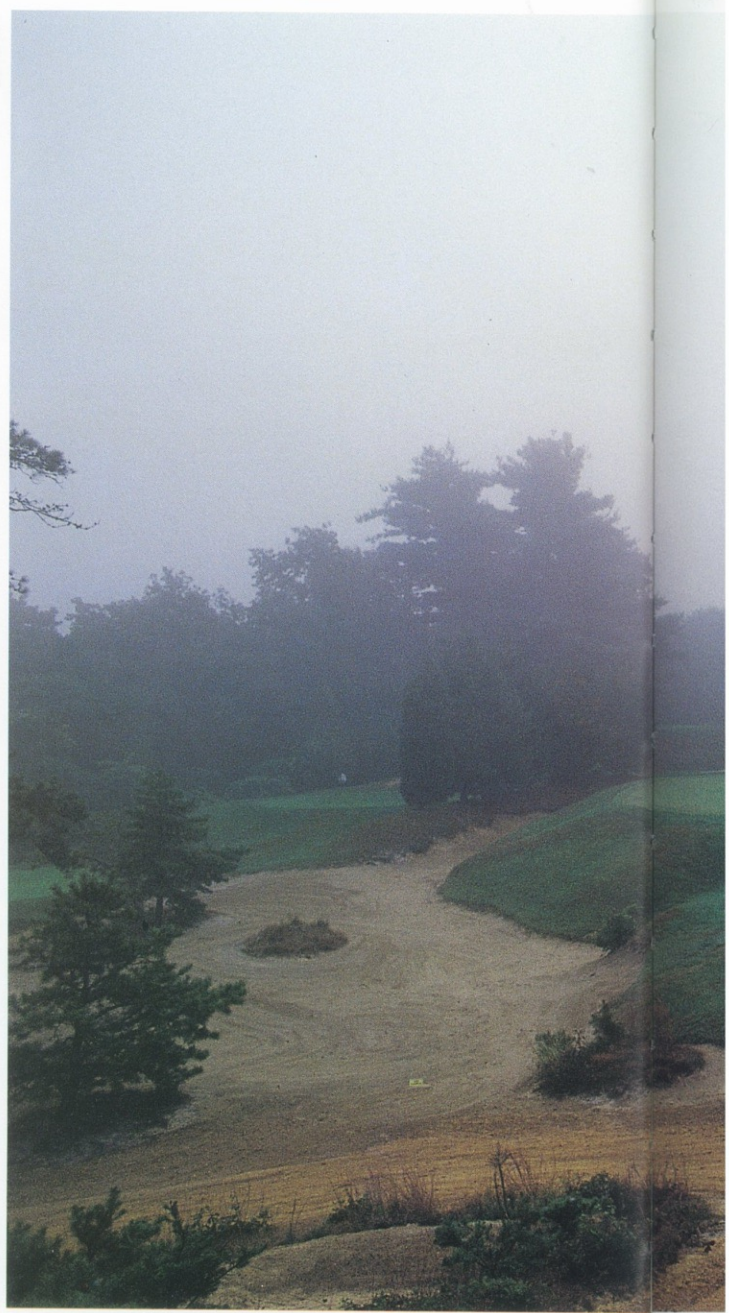
courses were determined by locating the best patches of turf on which to hole out, then finding the path of least resistance from one "green" to the next. Indeed, before the age of tourism and competitive golf, golfers of different towns evolved different styles of play based on their home courses—the St. Andrews man had a long, free swing because the wide course did not punish free swinging, while the North Berwick native had a short, wristy stroke conducive to playing approaches to its small and tricky greens.

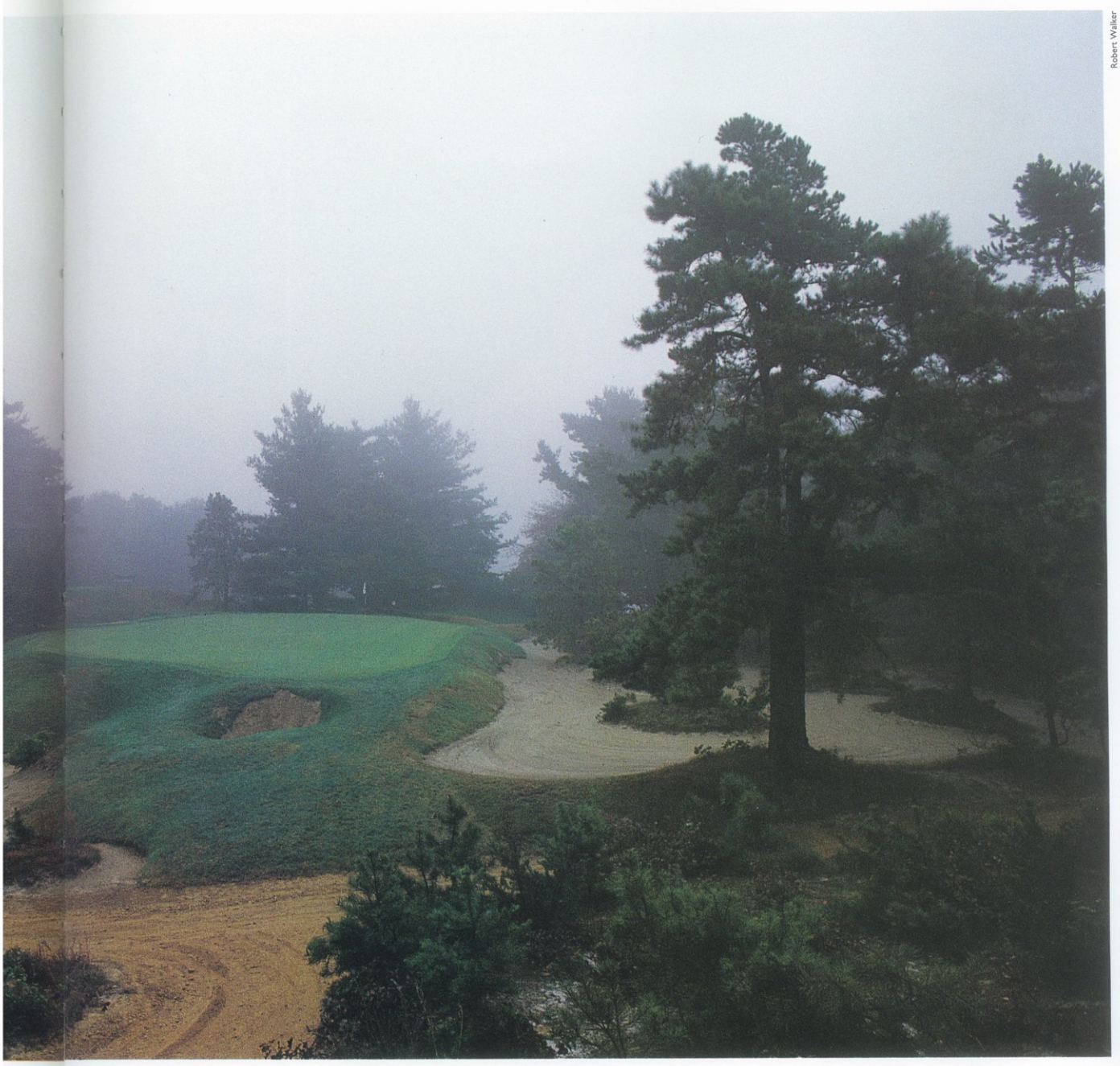
As golf's popularity spread from Scotland to England and then overseas, at around the turn of the century, courses often had to be built on land that was not ideally suited to the game. Accordingly, the terrain was adapted to the architect's vision of play. As a result, America's great playing fields—from Augusta National, with manicured turf almost everywhere, to Pine Valley, where the New Jersey Pine Barrens encroach on every tee and every fairway—have personalities as distinctive as those of the men who shaped them.

One of the most colorful personalities in the field was Alister Mackenzie. A veteran of the Boer War, during which he learned to appreciate the native art of camouflage, Mackenzie built courses from Moortown, England, to Royal Melbourne, Australia, distinguished by their bold and beautiful bunkers and rolling greens that blended into the surrounding terrain.

Before pursuing his avocation of golf-course design, Mackenzie had practiced as a medical doctor in Leeds, England. He justified his change of profession on the basis of his "firm conviction of the extraordinary influence on health of pleasurable excitement, especially when combined with fresh air and exercise." To follow through with this noble goal in his golf-course designs, he sought to provide "the greatest good for the greatest number of golfers," in terms of enjoying the course. Late in his career, Dr. Mackenzie collaborated with the peerless Bobby Jones on the design of Augusta National.

Jones later elaborated on their shared philosophy. "There are two ways of widening the gap between a good shot and a bad one," he observed. "One is to inflict a severe and immediate punishment upon the bad shot, to place its perpetrator in a bunker





Robert Walker

The architectural use of timber supports is nothing new. Witness these revetments at the fifteenth at North Berwick in Scotland (top, left), built in the 1870s.

Set among the Pine Barrens of central New Jersey, Pine Valley Golf Club (above) has often been judged the world's best golf course. Holes like the par-three tenth severely punish inaccuracy.



Robert Walker

or in some other trouble demanding the sacrifice of a stroke in recovering; the other is to reward the good shot by making the second simpler in proportion to the excellence of the drive."

The latter philosophy of golf-course design—the one espoused by Mackenzie and Jones—came to be called the "strategic school," as opposed to the "penal school," which directly punished bad shots. It represented a revolutionary change, because up to that time most golf architects had come from the ranks of celebrated golfers—former Open champions like Willie Park, Jr., and James Braid and successful amateurs like Charles Blair Macdonald and William Fownes—for whom it was only natural to believe that a bad stroke deserved to be counted against one. Fownes summed up this philosophy nicely as he set about designing the Oakmont Country Club near Pittsburgh, Pennsylvania: "A shot poorly played should be a shot irrevocably lost."

Unlike their predecessors, who simply placed bunkers left and right of the line to the hole to catch off-line shots and cross-bunkers for topped drives, Macdonald, Fownes, and company did seek to introduce optional routes of play into their designs to create tactical interest; but the penalty for a misstep was usually severe. Macdonald explained his sternly moralistic reasoning to Grantland Rice in 1924: "I believe in leaving a way open for the player who can only drive one hundred yards, if he can keep that drive straight. But the one I am after is the golfer who thinks he can carry 180 yards when 160 yards is his limit. . . .This helps to make

Pull your drive left on either the third or fourth holes at Oakmont, and you'll find your ball in William Fownes's infamous "church pew" bunkers (above).

In Augusta, Georgia, the pine-studded Fruitlands Nursery was converted into Augusta National by Bobby Jones (below, with site plans) and Alister Mackenzie. Jones wanted the course to epitomize the strategic school of architecture.

The final hole at Augusta National (right) is all uphill; fairway bunkers penalize a drive too far left, and greenside sand swallows short or pushed approaches.



Acme Photos

LEADERS
Leonard Kamsler



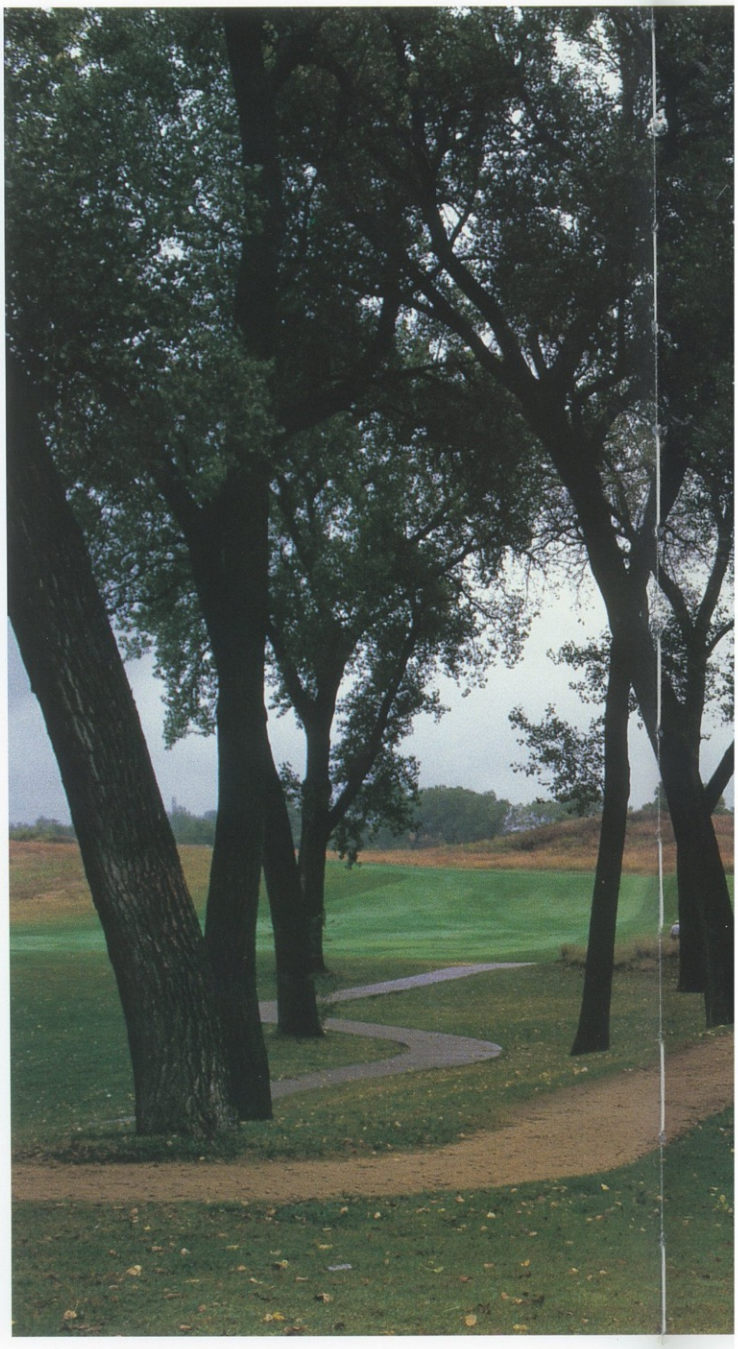
John Biever/Sports Illustrated

a man know and study his limitations, and, if he is inclined to conceit, he will find his niblick has drawn a hard day's work."

Whatever their differences, practitioners of both schools share a deep understanding and love for the game. It is almost impossible to design good golf courses without a profound appreciation for all the shots in the good golfer's arsenal, because the success of the course is defined by how it plays. And penalists and strategists agree on a number of points. Mackenzie and Macdonald codified the essentials of an ideal course in their respective books on the subject: Both maintained that good land for golf was paramount; that artificial features should be naturalized to the greatest possible extent; that there should be the greatest possible variety of one-, two-, and three-shot holes; that any hazard was fair as long as an alternate route was provided around it for the weaker player; that walking between greens and tees should be minimized; and that the greens should be gently undulating in character and perfect in condition.

Although the architect must appreciate these and other aspects of good golf, he does not need to be able to play all the shots himself. Seth Raynor, for example, Macdonald's most successful protégé, refused on principle to play the game, because he believed his courses would get too easy if he worried about the average player. "The golfer must learn to play the ideal links," he declared, "and the ideal links should not come down to the playing ability of the average golfer." This, of course, speaks volumes about the force of his mentor's personality. So, too, does the fact that Raynor, a Princeton-educated engineer, took Macdonald's notes of famous British holes and, without ever having seen the models for his work at first hand, reproduced them on sites from Fishers Island in New York to Waialae in Honolulu.

Raynor was an exception. Most architects play as often as they can and, as might be expected, have tended to build courses along the lines of their own game. C. B. Macdonald's first layout for Chicago Golf Club had out-of-bounds to the left on all eighteen holes—just the opposite of his beloved St. Andrews, where the boundaries are nearly all to the right—but Macdonald tended to fade from the tee, so it was only natural for him to punish





Larry Perrillo

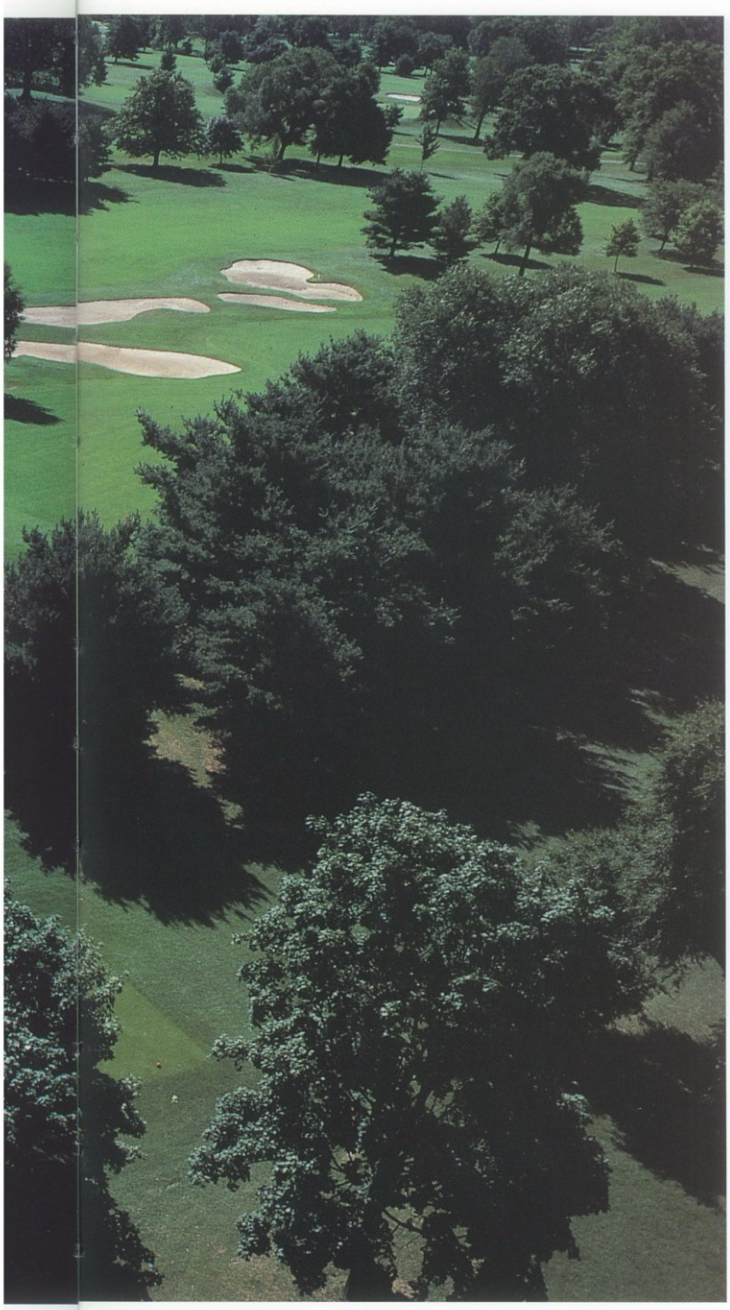
The 485-yard, par-five thirteenth (top, left), ringed by azaleas, bunkers, and Rae's Creek, is the climax of Amen Corner, the three holes in the far reaches of Augusta National.

Prairie Dunes Country Club in Hutchinson, Kansas (above), a Perry and Press Maxwell design, is reminiscent of links-style courses.



If players want to hit the green at the 535-yard par-five twelfth at Winged Foot's West Course (above), they had better be straight; A. W. Tillinghast's greenside bunkers are deep and penal, and the putting surface is narrow.

Rules expert and former USGA president Richard Tufts (top right, on left) and Donald Ross of Dornoch, Scotland. Ross, a legendary architect, served as pro at Tufts's Pinehurst Resort and Country Club until his death in 1948.



Leonard Kamsler



Courtesy The Tufts Archives

the hook, which he saw as a wild and uncontrolled shot. Jack Nicklaus's long par-three sixteenth at Muirfield Village in his hometown of Columbus, Ohio, can be attacked only with a high, soft fade with a long iron—a shot on which Nicklaus the player developed the patent—and his severely divided greens on several courses in the 1980s emphasized tee-to-green play by making it very difficult to get up and down once a green had been missed. It seems safe to assume that Mackenzie and Perry Maxwell, the designers of severely contoured greens, were good chippers and putters; and that Albert W. Tillinghast, who declared during the building of Winged Foot Golf Club in New York that "the surest test of any man's golf is the approach to a closely guarded green," prided himself on his iron play.

NEARLY EVERY PRACTICING ARCHITECT HAS SERVED TIME AS an apprentice before hanging out his own shingle. Both Donald Ross and C. B. Macdonald, for example, learned golf-course design by spending time with the pioneer architect Old Tom Morris in St. Andrews during the 1890s—Ross as an assistant professional, Macdonald as a student at St. Andrews University. Dr. Mackenzie collaborated on his first efforts with the respected English designer Harry S. Colt. And contemporary designers Joe Lee, Bob von Hagge, and Tom Fazio can trace their fondness for sprawling, intricately shaped bunkers back through Dick Wilson and William Gordon, to Gordon and Wilson's mentor, William Flynn, who as construction superintendent at Merion in 1911 had spread white bedsheets where proposed bunkers might be so that designer Hugh Wilson could visualize the finished product. Ultimately, all golf architects' "family trees" spring from a seminal figure like Robert Bruce Harris or Desmond Muirhead, if not Old Tom Morris himself.

In the last thirty years, the profession has become very much a family business. Twenty designers practicing today are second- or third-generation golf architects, from Dan Maples, whose grandfather worked on construction crews with Donald



Ross, to Rees Jones and Robert Trent Jones, Jr.

It was the senior Trent Jones who developed golf architecture into the high-powered business we know now. Though Ross and Mackenzie were highly sought after in their time because of their reputation for building high-quality courses, it was Trent Jones who made the designer's "signature" a valuable commodity. A shrewd businessman, he recognized that modern developers were trying to sell housing lots or hotel space even before the course was completed, and cultivated such status that golfers would be attracted to a project on the force of his name alone. His trademark large and contoured greens were usually built well above the surrounding grade instead of subtly blended into it, making them easily recognizable. This greens style afforded plenty of opportunity to show off the flashed-sand bunkering that Trent Jones and Stanley Thompson had made an art form in the twenties.

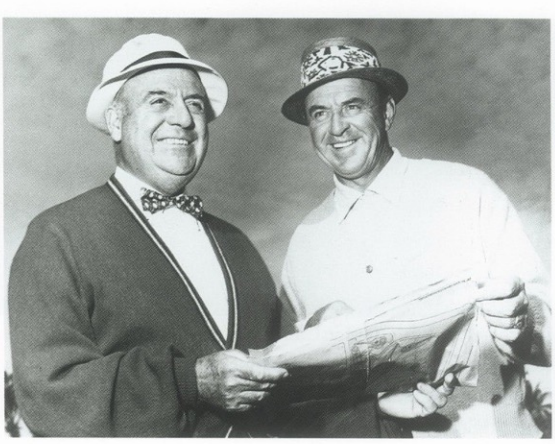
Jones's successor at the pinnacle of the business was one



USGA Collection

Robert Trent Jones's revisions of Ross's Oakland Hills layout for the 1951 Open prompted eventual champion Ben Hogan (above, shown teeing off at the par-three seventeenth hole) to dub the course "the Monster."

For his work in toughening Open sites during the 1950s and 1960s, Trent Jones (right, with Sam Snead) earned the moniker of "Open Doctor."



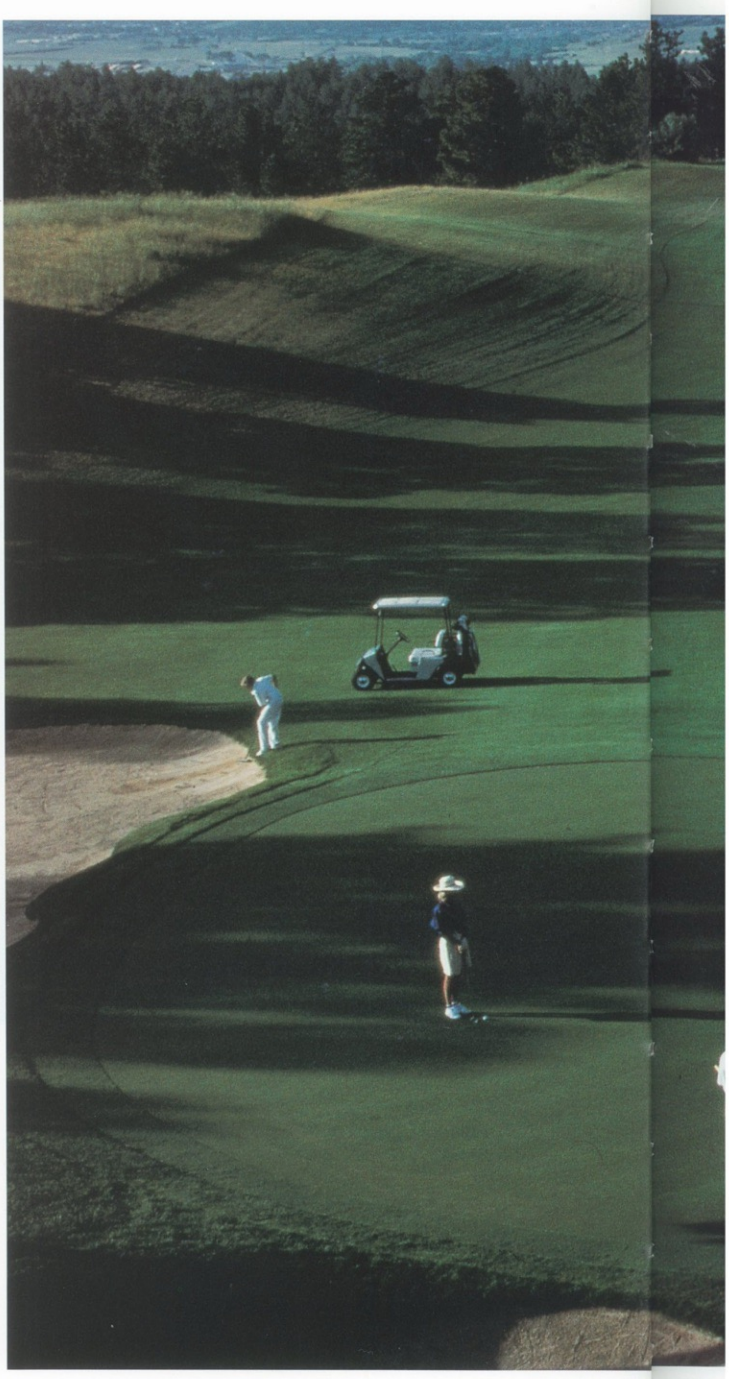
Ron Whitten Collection

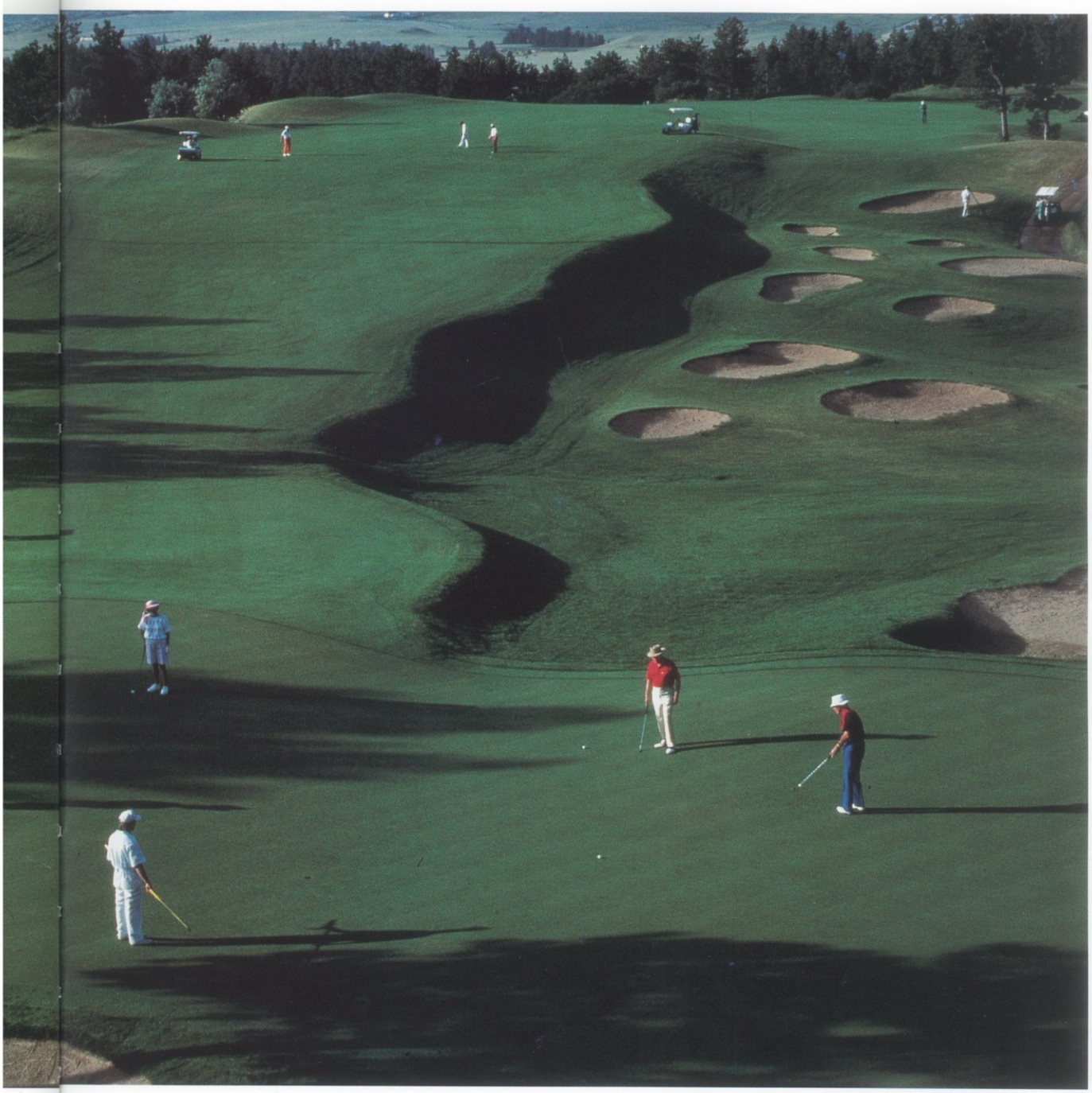
of the champions who had criticized his work—Jack Nicklaus. As a golfer, Nicklaus distinguished himself from others of his generation by his methodical and precise approach to the game. His approach to architecture was no different. His designs, starting with Muirfield Village, became celebrated for their fine visibility of target areas and hazards, high-quality construction, and immaculate, spare-no-expense maintenance. In contrast to many Tour professionals who lent their names to golf-course developments, Nicklaus insisted on approving every aspect of every one of his designs before the courses were seeded.

Nicklaus's method of operation, which made use of the latest technology—from computer graphics to faxed Polaroid photos, to keep the designer abreast of progress at his courses around the world—differed radically from that of his early mentor in the business, Pete Dye. Dye insisted that, no matter how good the plan, the finished product would be no better than the man who adapted it to the site and the earth. He prided himself on being a throwback to the early amateur architects, like George Crump of Pine Valley and Hugh Wilson of Merion, who spent every day nurturing their masterpieces.

Compared with the large companies of Nicklaus or Robert Trent Jones (which worked on a dozen or more courses at one time), Dye's business was very much a mom-and-pop operation. While Pete was spending most of his time watching the bulldozers and the shovels and rakes at work, his wife, Alice O'Neal, a gifted amateur player, ran much of the business end—handling phone calls, sorting out the best potential clients, and offering a second opinion on every phase of design, especially in regard to the placement of alternate forward tees for men and women. In recognition of her contributions, Alice Dye was belatedly elected the first female member of the American Society of Golf Course Architects in 1987.

Pete Dye designs often featured railroad-tie bulkheads, large "waste bunkers," and spectator mounds for tournament play. And his methods were decidedly unorthodox. At Harbour Town Golf Links in South Carolina, where Dye first collaborated with Nicklaus in 1969, one of Jack's contributions was to hit a bucket of balls with his nine-iron from the fifteenth fairway so Dye could draw a circle around the better ones to determine the size of the green. Dye refused to prepare detailed drawings of his designs, because he liked to change his mind as he watched a hole evolve during construction, and he didn't want clients to come back to him and complain that a hole wasn't being done according to plan. (A rare exception to his rule was the island-green seventeenth hole at PGA West in California, the final drawing of which was done on the back of a doorknob room-service order form from the La Quinta Hotel.) Indeed, Dye confided that some of his most original and popular designs were the result of construction screw-ups or misunderstandings, and he sometimes let his young shapers begin on a green site with little or no advance instruction,





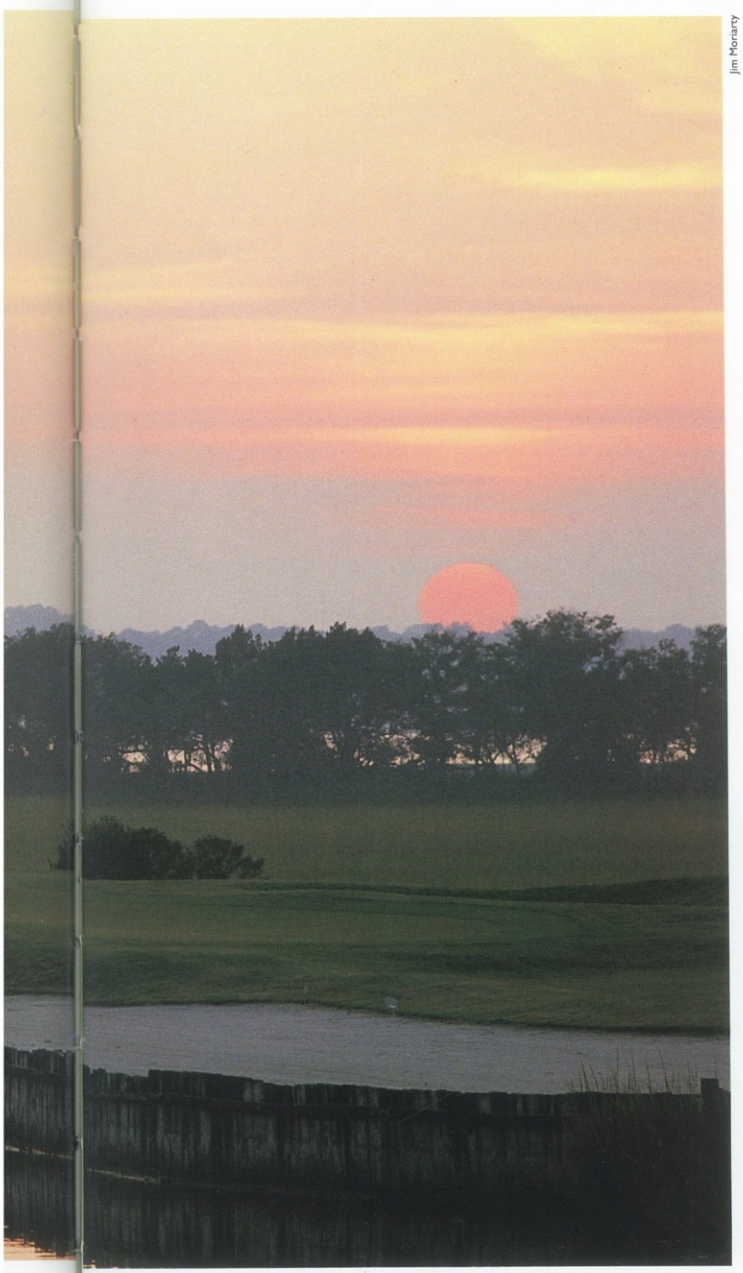
Slim Aarons

Jack Nicklaus's architectural style, exemplified by the eighteenth at Castle Pines in Colorado, sharply delineates safety from trouble.



Among the marshes and pines of South Carolina's Low Country, architect Pete Dye fashioned one of his finest efforts, Harbour Town Golf Links on Hilton Head Island (above).

Dye takes the hands-on approach (right) during the routing and shaping of his courses.

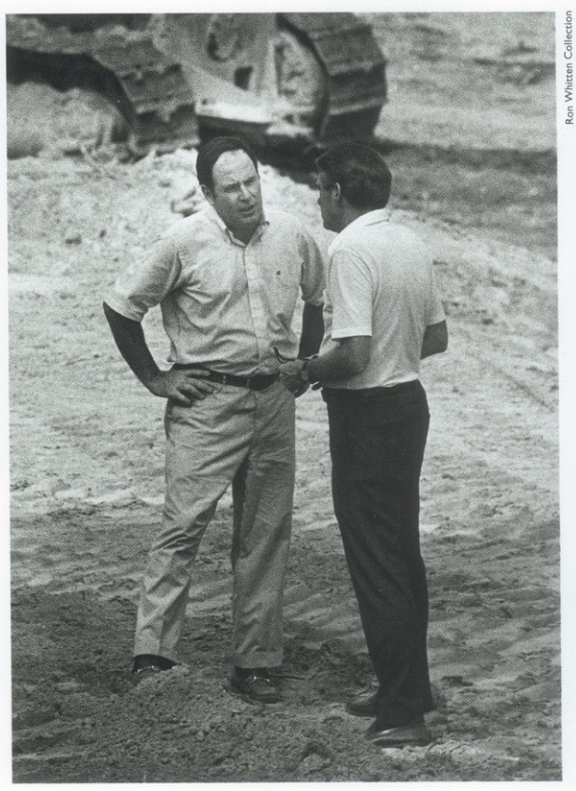


Jim Moriarty

simply to give him something other than a blank canvas on which to design. This adaptability was a great asset in the modern era, when poor sites seldom suggested design ideas.

Golf-course architecture calls for inspiration. Herbert Fowler, the English designer of Walton Heath, surveyed his property from on horseback until, in a burst of creativity, he had his routing plan, leading Bernard Darwin to write, "I think his clients thought, quite unjustly, that he had not taken sufficient pains, because he could see so clearly and work so fast." Stanley Thompson, according to Trent Jones, did most of his designing at a drawing board in the company of "a bottle of Scotch and a good cigar." C. B. Macdonald confided that when he was stuck for ideas on contouring his greens, he would sprinkle some pebbles at random across a plan of the green and place the undulations according to their fall. And Alister Mackenzie liked to tell a yarn about a contractor who was praised for building greens with natural-looking undulations; when asked his secret, the contractor replied that he "simply employed the biggest fool in the village, and told him to make them flat."

WHILE GOLFERS AND CRITICS TODAY TEND TO BELIEVE THAT the modern method of design was invented by Trent Jones, Dye, and Nicklaus, a closer look at the past shows that things have not changed quite as much as it appears. It was



Ron Whitten Collection

Donald Ross, not Jones or Nicklaus, who first employed draftsmen and engineers to mass-produce his designs, way back in 1915; and it was Macdonald, not Dye, who first attempted to produce an artificial links course from swampland, at the Lido Golf Club on Long Island in 1917.

Today, as Ross explained in 1929, "the idea is to mold nature just sufficiently to give the greatest golf possibilities." Only the resources available to the architect and concern for the environment have changed what can be built. Today's architects are much more sensitive to ecological concerns than were their predecessors. To cite one example, whereas Dick Wilson's Doral Country Club was created thirty years ago by dredging and filling a swamp, totally obliterating the wetlands ecosystem, Pete Dye's Old Marsh Golf Club in south Florida installed an elaborate drainage network of plastic tile and artificial lagoons to recycle all its irrigation and run-off water and protect the surrounding marshes from the possibility of chemical or nitrate infiltration.

Meanwhile, golf architects have been constantly on the lookout for changes in the game itself, especially changes that might affect how all golf courses are played. Of special interest has been the liveliness of the golf ball. Architects from Nicklaus back to Donald Ross have worried that a newly developed "super ball" could make the game obsolete. The USGA listened, adopting dimensional standards for the modern golf ball in cooperation with the R&A in 1921. A 1930 advisory committee, chaired by architect/developer William Fownes of Oakmont, made additional recommendations. Further restrictions were adopted with the Initial Velocity Standard, set in 1942, and the Overall Distance Standard, adopted in 1976.

Ask any great golfer of the previous generation what has been the biggest change in the game, however, and he'll probably point to the improvement in course conditioning. The USGA has been at the forefront, founding its Green Section for turfgrass research and advisory services in 1920 under the auspices of Dr. C. V. Piper, at the United States Department of Agriculture. Today the Green Section has an operating budget of $2.5 million for providing its advisory service to courses across the United States, and an additional $1 million per year in researching improved turfgrass cultivars for use on courses.

The impact of turf research on golf courses and architecture has been enormous. Consider, for example, Donald Ross's masterpiece, Pinehurst No. 2. It had greens of oiled sand until the 1930s, when technology finally reached the point that good bermudagrass surfaces could be maintained. The technology of the 1980s permitted these same greens to be rebuilt to modern



Lido Golf Club on Long Island, a Charles Blair Macdonald creation, was sold during the Depression, but in its heyday, it was good enough to host qualifying for the 1925 Open. Here, a crowd follows Bobby Jones down the fairway.

The Bettmann Archive



At Pinehurst during the 1930s, the greenkeeping crew mows a swath (above).

In 1918 a worker sets out stolons—grass plant runners used to propagate new plants—on a green surface (top, right).

USGA agronomists (bottom, right) examine a test plot at Arlington Turf Farms in Virginia. The site is now occupied by the Pentagon.



Courtesy The Tufts Archives



USGA Collection



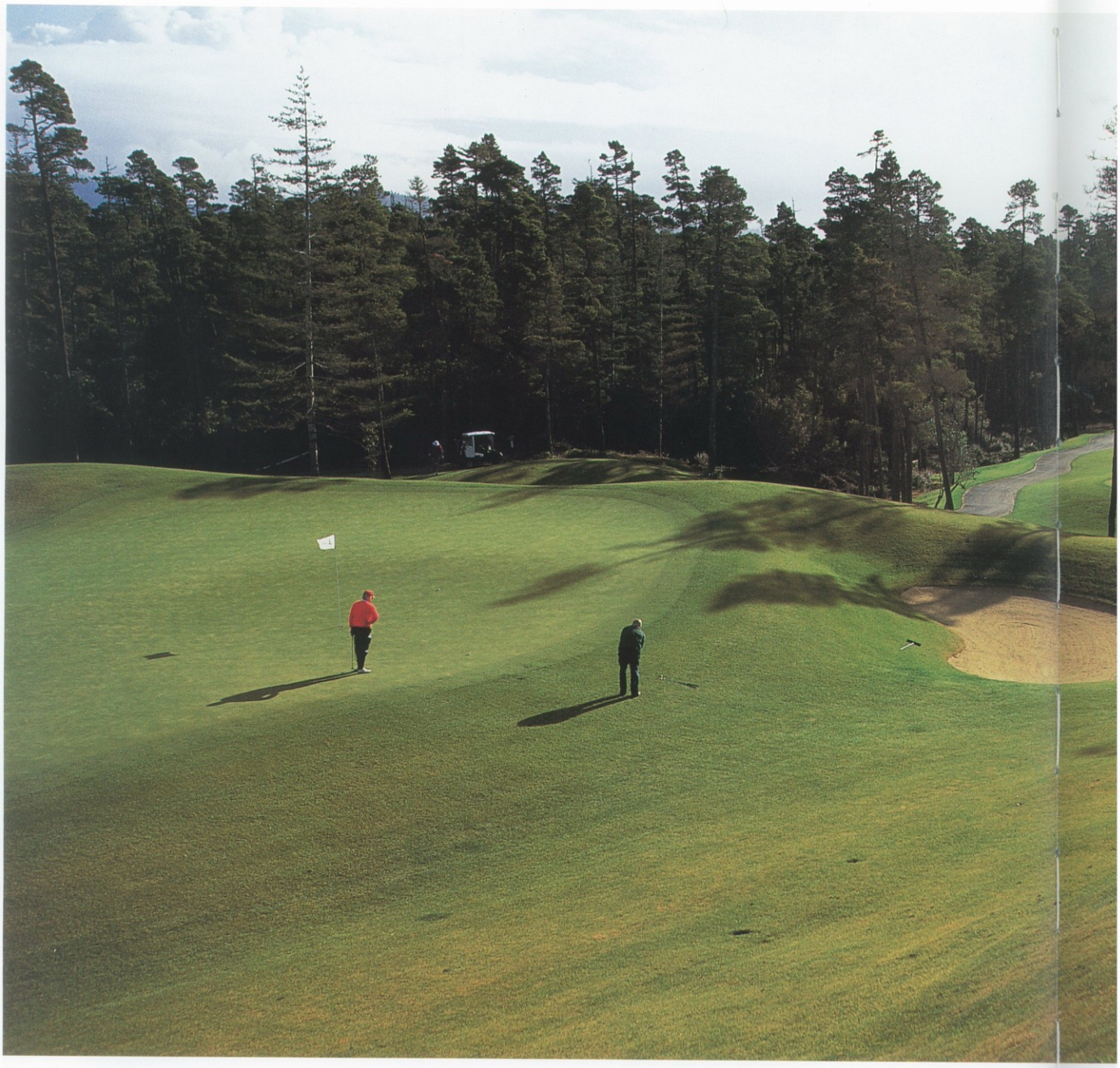
USGA Collection

specifications, their contours precisely replicated after computer mapping, and then resurfaced with a new cultivar of bentgrass bred specially to survive the heat of the Carolina sandhills.

Pete Dye, who served as a volunteer on the committee of the USGA Green Section before turning to golf architecture, credits much of his success to his use of different grasses to define the boundaries of the course. "What made Harbour Town such a success was the contrast in the grasses," says Dye. "Until Harbour Town, there had never been a course in the Carolinas with different grasses. The contrast in grasses has as much to do with the beauty of a course as the bunkers, the water, the rough, the trees."

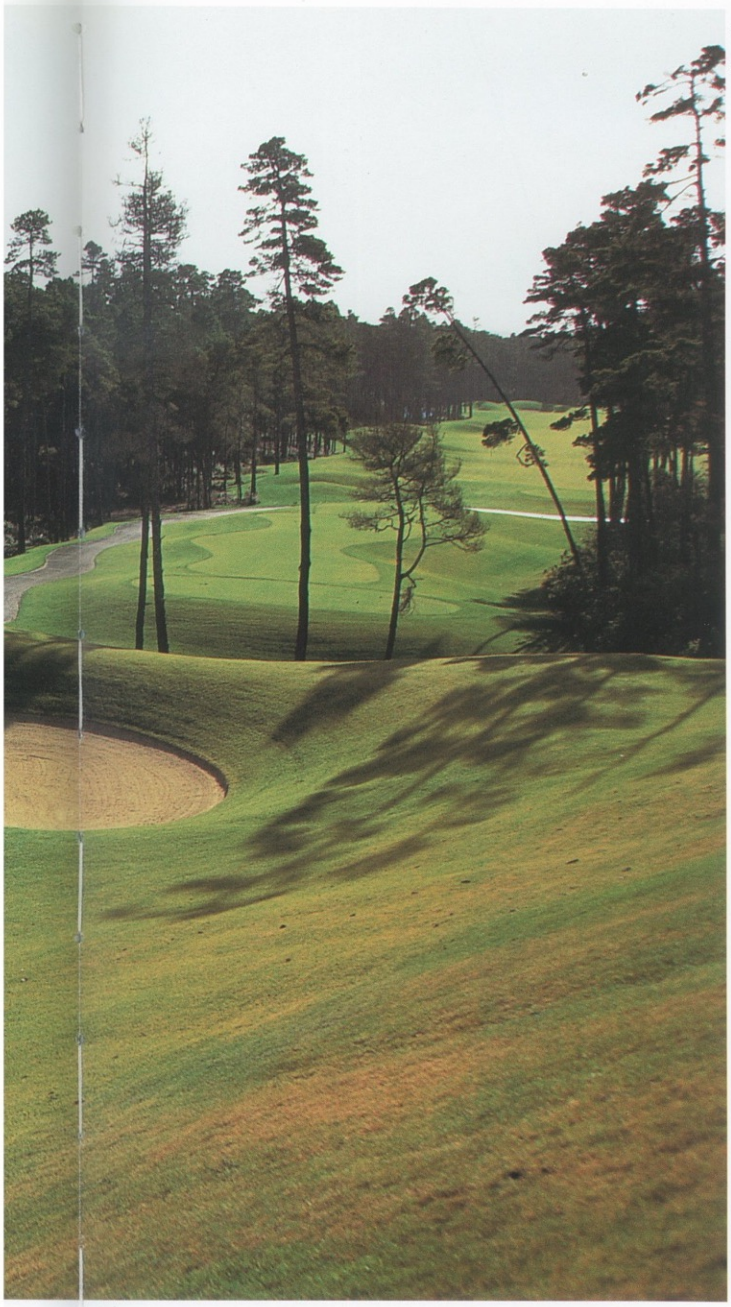
The course superintendent must also be given his due. Indeed, most architects would agree that the golfer would prefer a poorly designed, well-maintained course than the reverse. Like the golf architect's, the superintendent's profession has evolved radically over the past hundred years, from making the best of natural conditions to relying on advances in science to maintain grass in hostile environments. This transformation is the result of the average golfer's never-ending desire for improved conditions, which he hopes will transform his game.

Unfortunately, though, the old-timers who remind us of all of the "improvements" in course conditioning have another

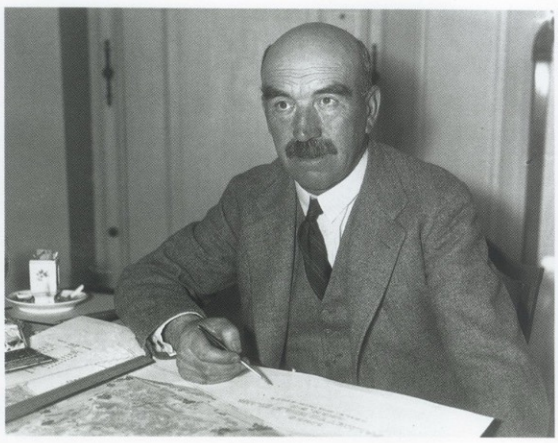


Rees Jones's Sandpines (above), a spectacular Oregon public course opened in 1993, received rave reviews from the moment the first ball was struck.

Dr. Alister Mackenzie (top, right), a camouflage expert during World War I, played a leading role in the Golden Age of golf architecture.



Aaron Chang



Bettmann/UPI

his skill is great enough, he will of his own accord go for a strategic hazard to gain an advantage just as the tennis player will go for the sidelines of the court."

This freedom is the essential appeal of golf and of the golf course. The object of the game is to get the ball in the hole in the fewest number of strokes, but there are no compulsory exercises along the way—we may do it with whatever shots we have mastered, or try others at the risk of failure. If we score efficiently, our method is beyond criticism. Furthermore, it is up to each golfer to measure success on his or her own terms.

More than this, the esthetic appeal of golf is in the freedom of the pursuit. The golf course is a beautiful landscape over which we roam freely. We can hit the ball anywhere we want, but we will have to go and extricate it from wherever we find it. This appeal is lost if the architect imposes his will excessively by placing so many hazards that the strategy becomes contrived, or so that the golfer has only one way to play the hole correctly. That is why the designer tries to minimize the penalties of water, jungle, or out of bounds; and why Dr. Mackenzie talked of eliminating the need to hunt for lost balls. Freedom of movement should not be inhibited.

In a country that celebrates freedom above all else, that is a very good reason golf will never lose its appeal.