

2	390	Slightly more difficult than No. 1. Two good shots.
3	380	Should be difficult and green well guarded.
4	190	Full shot for a good player. May be increased to 210 or 220 yds.
5	320	Iron play. Very difficult near green.
6	500	Test of wood clubs.
7	120	Test of delicacy, accuracy.
8	400	Two good two-shot holes to finish outward half. Length to turn, 3,080 yds.
9	420	
10	340	Within two shots. Difficult, with a trying second shot.
11	410	Two fine shots. Three needed to get on in case of slightest mistake.
12	130	Difficult mashie or iron.
13	370	Two good shots.
14	520	Long hole in. Counterpart of 6th. Difficult near green.
15	180	A severely testing one-shot hole.
16	390	Hard finish. Seconds to be difficult. Total length in - 3,160 yards.
17	420	
18	400	

Faster Green Play

To handle large traffic there should be more usable cup space and easier maintenance of greens. To speed up play we need the opposite of Marion Luke's fast grass. Height of cut should be maintained at 4/16 or 5/16. Larger cup sizes for public courses should be considered. For weekend play, pins should be placed in center. Two hole cups on greens, with players alternating the pin, have speeded up play on Philadelphia public courses.

Traps are often placed to speed up play by preventing balls from going out of bounds, rolling down steep hills or into water hazards.

Hazards in moderation, if skillfully placed and visible, are worth extra maintenance as a factor in making golf an intriguing and fascinating game. If it is necessary on Par 3 holes to speed up play, sod traps but maintain the contours.

Blend With Tees

Fairways should blend with tees, eliminating the rough between as this only penalizes poor players and slows up play. Where possible, to compensate for slicing, fairways should be built on a right diagonal from tees. Plenty of width should be given the fairways.

Roughs should be cut to a height so that the ball will be visible and easily found. Trees should be pruned and underbrush eliminated. Searching for lost balls should be kept to a minimum. Evergreen trees should be planted to eliminate the leaf problem.

Tees should be constructed to drain

slightly from right to left and from front to the back. Tees should be 5,000 to 10,000 sq. ft. in area and constructed to be maintained with gang units. We suggest that markers be placed at the back of the tee on Monday and moved progressively to front by Sunday.

Other Speed-Up Measures

Public courses should be fenced in, spectators barred from course.

Fees on Saturdays, Sundays, holidays for 18-holes only.

Map of course should be printed on back of score card.

Beginners are to register with starter. They should be sent off in twosomes or threesomes, not foursomes.

Winter rules should be played all season.

Have direction flags for fairways and direction signs at each green for carts.

Thin flag poles, that will allow ball to enter cup without moving pin, should be used.

Practice putts are to be prohibited after holing out.

Have ranger with car and loud speaker.

Use retriever caddies at water holes.

Work With Nature In Designing Course

By DAVID GILL

GC Architect, St. Charles, Ill.

Probably the best book ever written on course architecture is a little volume about one-half inch thick by H. S. Colt, and called; "Some Essays on Golf Course Architecture." If there is a bible on course architecture, then that is it. It takes about 40 minutes to read it.

Speaking of greens, this is what Colt said:

"They should be located on sites which providence intended mortals to put them on." He then adds: "I have noticed during recent years that mortals have taken very divergent views as to the intentions of providence in this matter."

Now, out of the 72 strokes on the 18-hole course, 36 are allotted to the green.

The tees, by number of strokes, take second, since you will have 18. They will be divided by the driver (14) and an iron or higher wood.

Fairways and rough account for all the remaining 18 strokes. This is the chance given for the use of each club remaining in the bag.

Mechanical Components

That takes care of the architectural component parts.

We now come to the mechanical component parts:

1. Soil types and climatic conditions.
2. Topography.
3. Natural and artificial features, such as timber, rock, buildings, roads, etc.
4. Available water supply.

These mechanical component parts directly govern local type of architecture. Seaside courses should be at seaside; prairie courses, prairie; mountain, desert and island courses should fit their environments.

Too often, in our feeble attempts to improve on nature, we try to place one of these component parts in a setting that does not fit the locality, making for tough maintenance, unnatural settings and near disastrous results.

Some of the important principles of architecture are the size, shape and contour of the green, and this includes, as stated before, the approach, collar and apron. These are governed by the nature of strokes played onto them and the wear and

Dave Gill has pointed out that Golfdom misinterpreted his GCSA convention remarks (Feb., p. 66). It read: "He questioned whether an architect, unfamiliar with a particular region, can come in and do better than an average job of layout because of soil and climatic factors with which he is not familiar." This should have been added: "... if he is not willing to follow the dictates of nature."

It was not Dave's intention to infer, in any way, that an architect can only work in his back yard. A capable one can work anywhere.

tear they will undergo. There are few things more irritating to a player than to play the approach well and have the ball leave the green.

Entrance to Green

The entrance to the green, whether large or small, rolling or flat, should be constructed so a player can accurately judge behavior of the ball after it lands. This is not the putting surface itself — this is the area in front of the green. Quite often it is a forgotten place.

In connection with the tees, there have been many odd-ball designs and shapes given them. This may be forgiven, however, providing the tee is of sufficient size, is smooth, blends into the landscape and is properly oriented to fairway or green and wind and the sun.

The fairway is architecturally the most difficult to design. Thus, it usually receives the least thought. Too much considera-

tion is given to the whole length and rotation.

Put Nature to Work

The important thing to do is to turn the job over to Mother Nature. She can, in most cases, handle the fairways. Make minor adjustments in her topography and give her a little more nutrition and moisture than she usually provides. That is the way in which you can help her.

In connection with the rough and nature of the hazards, the characteristic requirements of a hazard are:

1. It should be difficult but not impossible to play out of.
2. It should not be a cause of lost balls.
3. Strokes played out should be calculable as regards to strength and direction.
4. The strokes should depend, for their success, on skill and not brute force.

Element of Risk

The object of traps, actually, is to introduce an element of risk and to tempt the player to either play through or skirt them. The penalties and playing should be in direct proportion to one another. The penalty should not serve essentially as something to scare the golfer away.

Now then, a word about landscape. The appreciation of pleasant surroundings is often subconscious. Many golfers are no doubt under the impression that while they are playing, they are entirely engrossed in the game. They do enjoy, however, having something to look at.

A golf course should be regarded not merely as an area for a contest but a property which should be improved in every way. But economy shouldn't be forgotten.

Microorganisms and Nitrogen Release

By WILLIAM MARTIN

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Microorganisms work over nitrogen and effect various changes. Eventually soil microorganisms make nitrogen available to plants.

We have many general purpose soil microorganisms which release nitrogen in ammonia form. This will occur whether soils are good or poor. There are, however, a very few specialized bacteria which release or transform ammonia into nitrate nitrogen. The pH values have to be near neutral and slightly acid. In the soil root