shade such a critical area is absolutely essential if you don't want to make some horrible long-lasting mistakes Trees are the third dimension on a golf course. A course without trees would be like a house with just the flat floor. There would be no walls or ceilings. That wouldn't be much of a house. Think about that for a while. Would you like to live in a house where you had no privacy and one room was not separated from the others. You could be sitting in the dining room at the table eating while all other phases of life were going on in each of the remaining rooms. That's not what we would call a picture of privacy.

The trees on a golf course, if used properly, create what the landscape architect calls "a spatial relationship" between man and the immediate world around him.

Picture yourself standing around

J.A. FRENCH, ASSOC.

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talking to other people on a brick terrace during an outdoor cocktail hour. The brick terrace is part of the overall landscape design. Therefore it should have a feeling of an enclosure around it. This enclosure need not be a ten-foot high wall or a complete visual barrier to some other part of the garden. It might only be a hedge or fence, or maybe a wall from two to four feet high. You would now have a feeling that you were in a given area, designed for a particular function. This same thing happens on the golf course when you have trees along the outer property lines and trees between the fairways. These are considered the boundary plantings which give you privacy from the general public. Trees in the areas between the fairways would be considered partitions which would provide at least partial privacy from the adjoining fairway.

Once this was established, the golfer would either consciously or subconsciously have a spatial "feeling" that he was in a purposefully designed space for the sake of playing that particular golf hole. It would give reason to everything there. Such trees would be fulfilling a design function. The golfer would feel that he and his playing group were practically alone in this given space. If you don't get this feeling on your golf course, there is something lacking in the landscape design. As we travel around from course to course, it is easy to immediately size up a tree population as being too few, too many, or just about right.

Most courses have too few trees. We say this with the knowledge that too many trees can slow the game of golf. Therefore we inform you quickly that we are aware of the fact that there are basically three types of golf courses, each serving a particular purpose. We would never place the same number of trees on a public course as we would on a private golf course. The amount of trees on a semi-private course would fall somewhere between the first and the last.

We all know that the object of the public golf course is to get as many rounds of golf through each day as is possible. This is pure dollars and cents economics. However, we also know that if properly selected trees are placed in strategic locations on a public golf course they would have very little to do with slowing a round of golf. Tree selection will be covered in a later article in this series. It is tremendously important. The semi-private club should perhaps have on an average of about 25 to 35 trees per hole. In this particular instance the golfers usually have a lower handicap than those playing the public courses. The private club on the other hand, to really look luxurious, should not be limited by any predetermined number of trees.

Of course, there is all the difference in the world between an old established course (30 years or more old) and a relatively new one. It takes about 20 to 30 years for nursery-grown trees to reach what we would consider early maturity. Naturally, if a tree can grow to be 300 years old, this is not an accurate statement. For functional purposes on a golf course where trees might grow at an average of between 15 to 30 inches in a year, you can see how quickly a tree that was 10 to 12 feet tall at planting time can reach a height of 30 to 35 feet. Any tree that high can already serve its intended purpose on a golf course.

There is a great misconception about planting large trees for a quick effect. The tree that is over four inches in diameter at breast height when transplanted will practically stand still for the first two or three years even under the best of growing conditions. Plant the same tree in something less than ideal growing conditions and it may not make much additional growth for the next 5 or 6 years! However, if trees of only 11/2 to 1³/₄, or maybe even up to 2", in caliper at one foot above the ground were planted under the identical conditions, in a matter of 8 or 10 years they would be way ahead of the much larger trees that we just described. This is simply a fact of horticultural life. Some people when told this will not allow it to sink into their cranium. They will go right ahead and waste hard earned money on trying to get a quick effect with big trees.

We are not against the moving of large trees. They can be moved at almost any size if you have the money to pay for them. We are, however, cautioning you that if your budget cannot stand it, you should not waste that kind of money on large trees.

In key situations, such as on a dogleg hole, where the size of the tree or the number of trees become very important, then we may agree that a larger outlay of money for bigger trees in the beginning would be the wisest choice.

On old established courses where we do course analyses, many times we not only recommend additional trees, but we also suggest the removal of some existing trees. We also frequently call for protecting key trees from lightning strikes. This all becomes extremely important when you understand the function that a particular tree, or group of trees, is supposed to perform for the game of golf as planned by the golf course architect who laid it out.

The entire idea of a golf course analysis was born in our minds many years ago at one of the eastern courses that has been the site of the U.S. Open for quite a few times. This was at a 36hole layouut and the superintendent had keen powers of observation. Dutch Elm Disease was running roughshod over American elms all through New England at that time. The superintendent was also very good at keeping records. His total of trees lost on these 36 holes astounded him one year when he realized he was averaging a loss of 90 large trees per year! This as we said was when the Dutch elm disease was at its peak. Some of you may be in the area where the Dutch Elm Disease is just arriving. You can imagine what might happen on 36 holes if perhaps 50 percent of your trees were American elms.

We were called in to analyze the situation to see what they might do in the future to avoid a naked or halfnaked course. They wanted to know the answers to such questions as -Shall we start our own tree nursery? What kind of trees shall we use? What size would they grow to be? What size shall we buy to plant? How much will they cost? And many other horticultural questions that go along with such a project. In spite of the fact that they were losing so many trees we even called for the select removal of a few more. This may sound ridiculous but it was a large layout and some trees that were separating the two courses were blocking beatiful distant views either from one course into the other or from one course to the mountains that were just above the layout. So you see it is not a case of pure function all the time. Aesthetics also enter the picture. There is an expression function first and the form follows. We like to say function first, aesthetics follow.

As for the function of trees on your golf course, we would say there are basically about ten. The first, and probably most important, would undoubtedly be the boundary plantings. These trees would ultimately give you a sense of privacy from the residential, business, or industrial properties

bordering your golf course. Before WWII this was generally no problem at all since most golf courses were out at the edge of town, or if they were not, the private land around them laid idle. When the building boom started and urban sprawl resulted, many golf courses found that the trees they had assumed belonged to them along the edges of the golf course really were not theirs. When accurate surveys were made and the bulldozers moved in to flatten the landscape for economical building conditions, the golf course members were shocked to find that they were caught so to speak "with their plants down"

Most golf courses in the old days were constructed on at least 145 acres or more of land. Today with the price of land so high, some courses are being built on quite a few acres less than 145. If you have over 150 acres you are in luck. Every acre over 150 makes it even better. If you have more than 150, you can have a rather deep boundary planting of trees in order to assure year-round visual privacy. How close these trees would be placed to each other would depend upon which part of the country you live in as well as the selection of the trees. This might vary immensely.

A second function of trees is that of "partition plantings" between fairways. This, as mentioned earlier, would be similar to the inner walls of a house or building. Such walls would separate one room from the other. However, we don't recommend a solid wall of tree trunks and foliage. Many times large areas are left open so that the view across the course can include interesting scenes. Other times, areas may be left relatively open due to nearness to impact areas from the drives as well as the second shots on the longer holes.

The basic reason for the partition plants is to psychologically and physically separate one hole from the other.

A third function of trees would be in the areas around some of the tees. Too often we see golfers sitting or standing in the boiling sun awaiting their turn to tee up. This is a common site on par three holes where groups can gang up on a busy day. People should have access to shade either partly on a tee or very near to it. Of course, this has to be done very carefully because of root growth and the shade affecting the health and vigor of the turf on the tee.

Another area for trees is at the beginning of certain holes where

sometimes only two trees (but most times a few more) can be strategically located so as to enframe the picture of the fairway ahead from the tee. This is extremely important when it comes to pure aesthetics. All of these thoughts will be expanded in detail in subsequent articles.

The effectiveness of dogleg holes on a course depends almost entirely upon trees. We know there are exceptions to this statement but, generally speaking, the dogleg isn't worth much unless it is guarded at the joint of the elbow with a large defiant or challenging mass of foliage of some sort. Many times the opposite side of the fairway on a dogleg must be strategically designed with trees or traps in order to catch the long ball hitter who fails to place the ball around or beyond the bend.

A sixth reason for having trees on a course is probably the most important both from a functional standpoint as well as aesthetics. This is the one that is most often absent. It is namely to



course. They will be discussed in future articles.

At various places on certain courses there is a need for planting some trees to insure the safety of the golfers on the course. This usually occurs when the course is "tight" due to a lack of acreage or due to terrain features that practically demand that some of the tees and greens shall be very close to each other. In other cases a green or tee is very close to an impact area of hooks or slices from the tees. You must know the history of the course and the general flight of the balls plus a great amount of knowledge concerning selection of the



creat a suitable and attractive background for as many greens as is possible. Of course the ideal would be to have enough nonplay area behind all 18 greens so that every green could be as a jewel in a perfect setting. However, as anyone can see when travelling from course to course, this is almost never true. You will probably have to have or own close to 180 acres for 18 holes in order to properly develop a suitable background for all 18 greens. When we say suitable we mean one with plenty of space to do the planting. Frequently we can build a background for a green but it is of necessity a rather shallow planting.

Many courses have at least one water hole on them. This is still another place for the effective use of trees. Many times flowering shrubs can be used near or in conjunction with the water hole because part of the shoreline is usually in a nonplay situation. You may have noticed that we have not mentioned anything about shrubs or flowers on the golf proper trees for such protective tree plantings. One thing can quickly be said here without going into any great detail and that is always try to avoid a straight line of trees in these tight situations. If you think hard enough you can usually avoid such stiff lines.

Off the playing area you find other reasons for using trees. These areas include such amenities as the main entrance from the public highway and then, of course, the driveway up to the clubhouse. Trees can also screen the parking lots. The clubhouse, ideally, should be framed with trees to be seen by the guests as they drive up the main entrance. And then too, we must include the tennis courts, paddle courts, swimming pools, picnic areas, etc., etc.

Last of all, but certainly not least, we should not overlook the superintendent's work center. No amount of money in the budtet can keep these areas looking like a well groomed part of the course. Therefore, the next best steps that can be taken are: (1) build an adequate, as well as an attractive, work-building complex and; (2) provide an effective planting screen so that the entire area is practically hidden from view.

You have mounds of soil, sand, gravel, etc., to deal with. There are vehicles that must be parked outside for long periods of time due to the fact that housing for these is too expensive. Add to this the piles of brush and debris from your regular working process. All of this is essential to the proper maintenance of a golf course. No matter how neat this work area is kept we do feel that the golfer should not be able to see it from the golf course.

This article, a first of a series, is written not as a "how to do it" project but instead as an inspirational piece to awaken you to a new awareness of your complete golf course. If you are not a fair golfer then much of what follows in succeeding parts of this series may not seem too important to you. It is absolutely necessary that anyone, either a professional or amateur, who wants to do landscape work on a golf course should not only be a good golfer but also a real student of the game. If they are not then they can make horrible mistakes that will last for many generations.

We also urge all superintendents to visit and play as many different courses as possible.

Jeanne A. French is a Landscape Architect who operates out of her office in Princeton, New Jersey. She was the first female to graduate from the Department of Landscape Architecture at Rutgers University, the State University of New Jersey.

Ms. French has practiced Landscape Architecture since 1963 covering a wide spectrum of landscape projects. She also has taught golf course Superintendents in Landscape Maintenance and Management at the famed Rutgers Short Courses in Turf Management.

R. P. Korbobo graduated from Rutgers University in 1939 as a Landscape Designer. He put some years in with New Jersey landscape firms and in 1946 joined the Cooperative Extension Service at the College of Agriculture at Rutgers as an Extension Specialist in Landscape Design.

In his long and varied career as an Extension Specialist he has accomplished much and has made many friends across the nation. However, the game of golf and the golf course itself intrigues him most of all at this phase in his life.

The authors have helped to improve the landscape appearance on dozens of golf courses and at the moment almost all of their practice is with golf course analyses.





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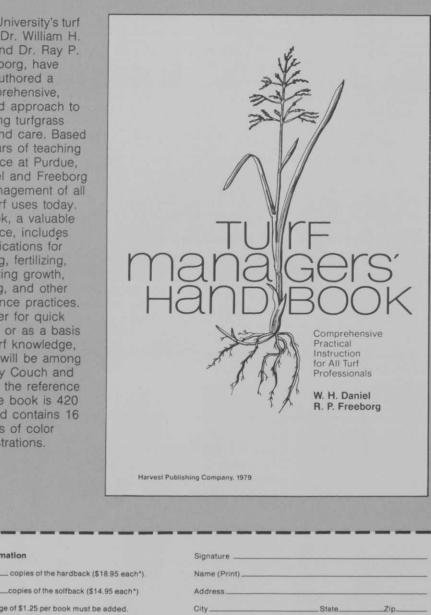
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Designer's forum

By Michael J. Hurdzan



Michael J. Hurdzan, Ph.D., is a partner in the golf course architectural firm of Kidwell & Hurdzan, Inc., Columbus, Ohio. He is a member of the American Society of Golf Course Architects and the

American Society of Landscape Architects. He is currently writing a book on the history of golf course architecture.

Welcome to DESIGNER'S FORUM. I trust that your visit into the world of the Golf Course Designer will be both entertaining and informative. Since this is a trade journal, the emphasis will be on the informative. The subjects discussed will always be topical, tend to be technical, and undoubtedly at times, be controversial. In the material that I submit I will be personally candid within the bounds of professional restraint. Additionally, Ron Morris, Managing Editor of GOLF BUSINESS, has consented to publish the rebutting point of view on those sensitive issues. In fact the entire spirit of this feature is to examine all issues related to the golf industry, both pleasant and disturbing, with the ultimate goal of improving and ensuring the longevity of golf. To reinforce the idea that this column, complete with disclaimers, is one of printed dialogue about subjects that may be ignored by the popular golf magazines, I have suggested that the feature name include the word forum. As you know, the forum was the public square of the ancient Roman cities where political and social issues were openly discussed. Your readership and written thoughts will always be welcome in the FORUM.

With that preface, I'll fire the opening round by giving my view of the current state of the golf course design profession.

The profession of, and the market for, golf course design is constantly changing in response to new technology, environmental, wage and zoning laws, and available money. A decade ago when the majority of golf course clients were resort and housing developers, there existed a mentality that resulted in what I call the Hollywood Era. The then prevalent attitude was to build something more colossal then the next guy and "don't worry about cost, the homeowners or guests will pay for it." The Hollywood Era produced golf courses with lots of tinsel and glitter with little thought given to cost, long term maintenance, or future golfing markets.

Then, in 1973, the Arab Oil Embargo shocked America with talk of gas rationing, fertilizer shortage, and scarcity of any synthetic product. The cost of building a golf course soared as a result of threatened shortages of fuel and building materials, accelerating wage increases, and climbing interest rates. All of this was confounded by the philosophy of design set in the Hollywood Era. Predictably, the number of new golf course starts fell sharply, for now the cost of construction was beyond the means of most individuals, developers, and corporations

These events produced a time of austerity that was only slightly buoyed by increased activity of governmental agencies and the Bureau of Outdoor Recreation (BOR) funding programs. The golf course designer was forced to adapt to a less exotic market. Now, more than ever before, most of his clients are governmental agencies who expect financial responsibility and carefully engineered plans and specifications. The modern Golf Course Architect must efficiently utilize technical principals founded in fact not fancy. No longer does the Golf Pro or Superintendent, no matter what his ability or expertise, possess the knowledge and skills to efficiently build a golf course with limited time, tight budgets and extreme accountability. The Golf Course Architect has evolved into a blend of technician and artist concerned with both aesthetics and long term maintenance. In recent years, the American Society of Golf Course Architects (ASGCA) has initiated a program of formal seminars on design-related subjects to insure members continue to offer the most professional services in the industry.

No longer is the professional Golf Course Architect simply an earth sculptor attempting to build something more grand than anyone else (although a few are still of this persuasion, they are in the minority). The competent architect is sensitive to budget limitations, the projected golfing patron, and long term costs of labor, interest and money.

The competent Golf Course Architect is well versed in such subjects as aerial photography and mapping, surface and subsurface drainage, golf course irrigation, the theory and physics of interior greens construction, latest turfgrass cultivars, earthmoving equipment and its' limitations, pond and lake construction, the game of golf as played by all classes of golfers, and has a strong working knowledge of golf maintenance and agronomy. Further, members of the ASGCA are guided by a set of ethics that are above reproach, and a deep concern for the history and future of golf.

The modern professional designers are men who have devoted their life work to studying, contributing to, and innovating golf course design. They do not practice golf architecture as an avocation or just one of many services offered, but rather they are committed to a full time pursuit of excellence in design and constructions. As in the past the future of golf course design will be a response to existing economic, social, and physical influences. The professional Golf Course Architect will adapt his design philosophy to accommodate the restrictions and requirements placed on him.

Since the beginning of civilized bartering, the axiom has been "Buyer Beware" and, if anything, this truism becomes more valid with increased civilization. Choosing a Golf Course Architect must be done with the same serious thought that you would use to choose a surgeon. Interview several and scrutinize them for present skills and knowledge and not just for performances done in a different climate of money, machinery and people.

The opinions expressed in Designer's forum are those of the author and not necessarily of GOLF BUSINESS. We welcome opposing viewpoints and will print them, reserving the right to edit material to our standards.

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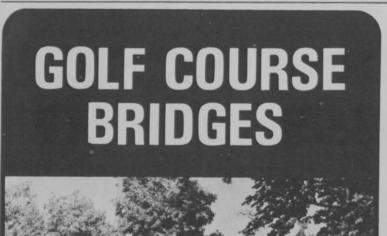
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Viewpoint



GOLF BUSINESS is changing. Two new monthly columns were added in the September issue: Notes from and Conference previews. Notes from will be reports on regional conditions (not necessarily weather) from Superintendents. My phone number is 216/651-5500 extension 563. Call me collect. Conference previews will tell you what a conference holds in store for superintendents, specifically. This issue has a new monthly column written by Mike Hurdzan called Designer's forum. Mike will air his opinion on many issues of concern to superintendents. I hope that if you disagree, you will take time to write your opinion so that the column will, indeed, become a forum. We have more in store, so as they say on TV, don't go 'way. Read on as two superintendents have taken time to write their viewpoints.

Con Monis

Superintendent's image: Where is it?

For several years, the concern of many golf course superintendents has been how to go about improving their professional image in the golfing world. The fact that they did not receive the level of recognition that they believed was their justified entitlement either caused them to leave this profession or "live" with the situation. Those living with it were sometimes engulfed in states of either disgust, frustration, bitterness or envy. Others have just accepted their "calling" with whatever level of esteem or image was theirs at a particular location of employment.

Let's discuss this aspect of the golf industry which was briefly mentioned in the Roundtable discussion (GOLF BUSINESS, MARCH 1979) of which I was privileged to participate. There is no doubt that within the golf industry there is a hierarchy. Within this hierarchy, especially in the United States, the golf course superintendent languishes. This is as a profession, not necessarily as an individual. Two distinctly different aspects, although the latter can have a definite effect upon the profession, from a positive or negative standpoint. In the early days of golf in Britain and America, the Greenkeeper profession was at the top in the hierarchy, if there was a hierarchy at that time. Nevertheless, the Greenkeeper was held in high esteem. Many were superb players, some of the best of their time.

Americanization of the game and media glamourizing the golf professional shoved the Greenkeeper into the shadows. A few feeble efforts have been made in an attempt to try and upgrade or improve upon the image. Changing the name certainly did nothing for the image except make a few individuals "feel better". The word "superintendent" lends itself to the "blue-collar" and we're all aware that a skillful manager is not a blue-collar worker, not that many foremen are not good managers, but they are still foremen. I am not sure that anything can ever be accomplished which will place or move the golf course superintendent profession into the same level of esteem as the golf professional. I am not implying that organizational or individual efforts should cease. but I am pessimistic about the profession ever attaining the level of esteem which it definitely merits and desires. As individuals, it is an entirely different matter.

Without question there are many golf course superintendents which hold higher esteem within their organization or club than the golf professional and the club or even general, manager. This is achieved strictly by the image which that individual possesses of himself. If you really don't like yourself, the employment situation, or the profession, don't expect to receive the respect which you know one of your fellow superintendents possess. Your appearance and attitude play a major role in the respect and image that your employer has of you. There is probably a considerable number of superintendents who dress like a farmer, ditchdigger or blue collar foreman, in their "club furnished" uniforms, who maintain golf courses at the highest level of turf management. They can be known throughout the area as "Super Sup" but never be accorded the level of esteem that they want so badly. Others in this same situation could care less if they ever attain more than their present status. Then there are those whose appearance is right out of the "pro shop" and that's the only thing about them that's manicured, because their golf course certainly isn't and clothes do not make the man. The other category is the superintendent who looks like a bum and so does his golf course. These last two flit from job to job and can never figure out why.

The superintendent who has it all together is the one that dresses like the professional manager that he is and produces a smooth running operation and a fine golf course. Why did I mention the word "operation"? Recently, I received personal first hand knowledge of a superintendent who drew an above average salary, presented himself well and had an acceptable golf course and then moved on. The club was faced with a sad operation where everything had been held together with baling wire. To justify the salary, the club was saved money, but is now faced with a heavy financial burden due to an inadequate budget.

The "total" golf course superintendent who expects ongoing prestige, esteem and "the image" must, first-of-all, possess personal integrity. Gossiping and being seemingly glad of another superintendent's misfortune just sets you and the profession back a little farther. Those with personal integrity which equates to job integrity take a major step toward the objective of all superintendents who love the game of golf and turf management. This is where IMAGE is!

Authors Note: Regretfully, I have not renewed my membership in GCSAA. My job does not solely direct itself towards the Superintendent profession. As the Supervisor of Golf for a large Metropolitan area, my personal objectives had to be reoriented. My prime objective is promotion of the game of golf for golfer development. Without the golfer where would the golf industry be? I will remain an ardent and positive supporter of all occupations within the golf industry, speaking out on the issues when deemed necessary. The above article has been on my mind for a long time even though it has been six years since I have been an active golf course superintendent.

Gene Burress, CGCS Supervisor of Golf Cincinnati, Ohio

Wilt is wilt . . .

It is a relief to have a reputable plant pathologist like Dr. Houston Couch prove once more with valuable evidence, that we superintendents have always been right ... wilt is wilt on Poa annua when high temperature stress occurs and anthracnose is mostly peculiar to oak trees, sorghum, wheat, oats, barley and rye. This appeared in a recent quote ... "to date no research has been reported in which inoculation experiments were carried out to test whether or not this particular fungus (Colletotrichum graminicola) can actually infect annual bluegrass." Those of us who might have been influenced by recent articles by plant pathologists who haven't done their homework, should now write a letter of thanks to our good friend Dr. Couch for his objective look into the subject of anthracnose as well as other turf problems. His recent two superb articles, "Heat Stress, Not Anthracnose Is Scourge of Poa Annua", WEEDS TREES & TURF, June, 1979, and THE CANADIAN GREENMASTER, and the one about nematodes not being the primary cause of fusarium blight which appeared in GOLF BUSINESS (July, 1979), should be read by every conscientious superintendent in the country.

In this inflationary period of sky high chemical prices, superintendents should only rely on reputable research data gathered by reputable plant pathologists who have done years of research on our turf problems and not by neophytes who spend their time writing misleading articles based on hazy research. For the ill-informed, this can be wasteful and costly misinformation.

Paul N. Voykin Grounds Superintendent Briarwood Country Club Dearfield, Illinois Cincinnati Recreation Commission