

A TYRANNY OF THE ULTIMATE: SOME CONSEQUENCES
OF PLANT STANDARDIZATION AND THE ROLE OF THE ARBORETUM
IN REVERSING THIS TREND

George Briggs 1/

Abstract .--Landscape architects need plants that satisfy certain design requirements and are readily available from commercial nurseries. For a variety of economic and technical reasons, commercial nurseries are not producing the diversity of planting materials needed by designers. The arboretum can educate the public to the need for increasing the number of interesting and unique plants available for urban plantings. In addition, the nursery industry must learn what new plants can be propagated easily, are easy to use, and have a variety of unique uses.

INTRODUCTION

I appreciate the opportunity of being here and, in one sense, I feel like a fish in a different lake. I'm going to wear two hats during this presentation: One from the perspective of a landscape architect and one from the perspective of the arboretum. Those have different ideas behind them and there are some interesting differences of philosophy between what you've heard already this morning and what I'm going to present to you now.

LANDSCAPE ARCHITECTS AND THE DESIGN PROCESS

Let me give you what I think is an excellent definition of a landscape architect which points up what we as a profession are trying to do in our work. It comes from a British architect and landscape architect named Peter Shepherd:

"The landscape architect is concerned with the existing site, with its character, and with the genius loci, the essence of the character or the essence of the site. Buildings also must of course fit the site and acknowledge its character but the landscape is the site and the landscape architect's work is all alteration of what exists. We're really not creating anything new, but simply trying to embellish what's already there. His first rule must be to let well enough alone, to preserve the natural features in which the character of the place resides. These will be not only the shape of the ground and its vegetation, its trees, ponds and streams, but often old buildings, walls and pavings, which if they can be rescued from the municipal passion for tidiness, help more than anything else to prevent the flight of the genius loci from a scene of drastic change, such as the development of a housing scheme or the creation of a park."

^{1/} Director, Nebraska Statewide Arboretum, University of Nebraska, Lincoln, Nebraska.

To focus on one part of that definition, we are trying as a profession to preserve the natural features in which the character of the place resides. We might also be looking at a site which doesn't have too much interest. Perhaps the genius loci is not particularly appealing, so our design work then encourages the development of a new or revised genius loci. But regardless of whether a landscape architect is trying to revise or trying to create a new situation, the process is basically the same for the design.

The first step in the process is to inventory what's there, to get a good handle on trees and natural features and buildings and problems and opportunities as they exist. Then that information is analysed to try to determine where there are opportunities for improvements to the betterment of the client. And then finally, after we've done that, we try to come up with a concept. This is again making sure we understand what this genius loci is, what the site should be as a concept. Once that concept is developed, we carry out the design and the implementation. That's the design process, whether it's a building or a landscape site or whatever.

PLANTS IN THE DESIGN PROCESS

I want to stress that, in terms of trees in this whole process, the tree that we are looking for is one that fills the mission of that genius loci. If we're designing an urban situation, then a tree that is formal, that is upright, that has a nice regular shape, straight trunk and all those things we've heard this morning that are beneficial for nursery production which create uniformity and so forth, then that's good. But if we're trying to create a natural situation, a tree with those characteristics does not fulfill the need that we have as a designer.

In a nutshell, a tree may fulfill certain needs that we don't see in the nursery industry or in other industries, like the christmas tree for instance. We hear that we need to have christmas trees that are uniform. I had some experience back in Virginia growing christmas trees in the Blue Ridge Mountains. We had a farm near Virginia Tech and it was very frustrating when uniformity was absent because you could see losses in your profit. But the landscape architect sees profit in plants that are different, plants that are unique. We might want a tree that creates a very unusual spacial characteristic. We might be trying to create a space that's very informal, or very lightly lit, maybe one that's very dark and enclosed.

Perhaps we're creating a mood. We might want a festive mood. We worked at the State Fair which is one of the arboretum sites, and we came across the idea that we wanted our plant materials there to be festive, colorful and bright. At another site, Arbor Lodge for example, that characteristic would not be appropriate, so we're looking for different trees to fit different situations.

We might also want to think about design speed, what kind of movement are we experiencing. Design speed refers to how fast we see an object. If we're standing still as we are now and look at the table in front of you, you can see and perceive letters and words. But if you're driving an automobile at 60 miles per hour, your perception drastically changes. Tree character differs from the small scale of a patio to the expanse of a highway. I might conclude the landscape architectural part of this presentation by saying that landscape architects feel somewhat restricted in their pallet of plant materials.

THE LOSS OF PLANT DIVERSITY

One reason for this loss of plant diversity was suggested recently by a person named Michael Zander who works with Kew Botanic Gardens near London. When Kew obtained funding to produce a national inventory of tree species that were present in England, it was the first major attempt to look at an entire country and to inventory the trees. They selected certain kinds of trees, eight families of conifers, and tried to catalog those. They came up with a computer program and now they feel they have a pretty good handle on those plants. But as a by-product of that study he makes this statement:

"After cataloging gardens and setting up an inventory system, we find that there is a general unavailability of replacement stocks of plants from the major nurseries ."

The reason for this is that the economic pinch on the nurseries results in their producing a narrower range of plants. They have to pull in, they have to produce more things that are up the line of what the general market wants. When a rare plant dies, it is usually replaced by a common species or cultivar. He states that the result of this trend is that a certain sameness is beginning to creep into the gardens throughout England. If you've ever been to England you know the gardens there have always been varied and rich in population of plants.

We can see the same thing happening in this country. So that's one reason why landscape architects have felt this restriction, particularly with native and unusual types of plants.

Another fact that makes landscape architects feel this way is the unpleasant side effect of standardization. Standards have been an excellent addition to the nursery industry. We have an American Standard of Nursery Stock which protects the consumer and lets the consumer know what he or she can expect when those plants arrive on the site. But by the same token, that standardisation has done a lot to create the sameness that we are talking about. The trees that we can find are all the same size, the same form, the same regularity. Landscape architects frequently go back to nurseries and try to find those plants as Clark Jensen was describing this morning that have unusual and striking characteristics. Sometimes we try to avoid those that a nurseryman might consider to be an excellent plant in terms of production because of design considerations.

A third reason this has happened is that propagation technology has increased so rapidly - - the tissue culture idea, where we can get the same plant a thousand times over again has complicated the science as well.

And finally, all this has caused what I call the rise of the cultivar. I decided very early in writing this paper that I wanted to call it the "Tyranny of the Ultimate" since in cultivar selections, we are really trying to select the ultimate plant. We try to select the ultimate plant in terms of its form, in terms of its hardiness, drought resistance, etc. I think that this tyranny is good in one sense. It's good in the sense that we're looking for drought resistant plants and plants that are adaptable to sites where we can use them in more places than we could before. We have less problems with longevity than we had before. I think the tyranny is a disadvantage when we're talking about looking for the ultimate form. We introduce this form and it becomes the supreme plant on the market and everything else falls aside. Have you noticed that when a cultivar comes out for a type of plant, the species often loses its value very quickly? That new cultivar becomes the item that is in demand and the old plant, the natural plant, is cast aside. If I am reading landscape architecture correctly, we have come through a period that began in the 1940's when art and abstract composition was a very strong element in landscape design. It started with the California school and it moved throughout the country and to Europe. We're going to find that in time we're going to become more and more conscious of natural landscapes, of recreating natural landscapes. And I think that's going to have an impact on the nature of plants that we need. We're going to rediscover plants that are older plants, that we've given up as not being the "ultimate".

THE ROLE OF THE ARBORETUM IN THE DESIGN PROCESS

Now I change hats. I'm going to get over into the arboretum Spector of this presentation. It's comfortable to be in an audience that has some familiarity with an arboretum. One of my primary jobs with the arboretum is explaining what it is. The term "arboretum" in itself is a very unfamiliar term to the general public. I have a sign that I had made up that says "Arbor-what?" That's what I usually hear whenever I say that I'm with the Nebraska Statewide Arboretum.

An arboretum is a collection of woody plants and an institution which has a social responsibility to present worthy programs in research, display and education and in conservation of plants. An interesting perspective on the arboretum concept, I think, comes from a person named Dr. Roger Ulrich from the University of Delaware; he makes this statement in a recent seminar of the Longwood Gardens Program.

"The benefits of an arboretum accrue only to the visitor who represents a vast minority of our urbanized population. This point coupled with the reality of rapidly spreading urbanization leads to the conclusion that arboreta should take a more active role with respect to the community and should attempt to foster garden and plant esthetics in the urbanized landscape. The garden's traditional role as a passive enclase is increasingly inappropriate."

He's calling for an arboretum to become more community-minded. I see this as I go to meetings in the arboretum field. People are getting more involved with outreach programs - programs that actively promote tree appreciation, and tree awareness to the public. This thrust is a healthy one in the arboretum field. It addresses one of the things that Clark mentioned in his talk - - that there is a great need for communication of what you're doing already. I think it's one thing to say we need to do additional things, but there are a number of things that have already been done in tree improvement that just aren't being sold very well. The more we can get this information out to the public, the more we're going to be able to make this research you're doing much more effective and more widespread. In the same sense, the arboretum has the opportunity to close the chasm that has been present in the past between the nursery industry and the landscape architecture field. As the son of a nurseryman and a landscape architect, I got both sides of the stick. I've always had a hard time understanding why that rift was there.

I think an arboretum has the opportunity to sell the idea of interesting plants to the public and to make those plants available to the nursery industry. If we introduce plants to the nursery industry that are easy to use, that are practical in their production, but yet are unique in various ways, I think we serve a very special function there.

As I see it, the Nebraska Statewide Arboretum is a very interesting concept. If you'll take the concept of an arboretum and visualize, if you will, that an arboretum is typically a site that has plants and collections on it and the public is drawn to that site. They simply have to have visitors come to them, it's that simple. In Nebraska the concept has been to get arboretum sites started in various communities, thereby getting plants and their educational aspects out in front of the public on a local basis.

Too often arboretum collections collect on a similar basis. They collect what's interesting to their clientele and again we get the similar sameness that we talked about earlier. If every arboretum has Bradford pear, red maple, and pin oak, then they're all going to take on the sameness. If we can start looking at different sites as having unique potential and collecting various kinds of native plants and collecting a gene pool of these plants, then we're going to have a longevity in our program that's going to be very beneficial. But if we simply try to repeat the familiar, we're not going to be getting much farther ahead.

You as plant improvers have a function here of letting us know what the diversity is of these plant populations. You have the ability to help us catalog these things, help us to find the source, help us know what the range of distribution is and what the range of characteristics is. I think we have a responsibility to you to help with those collections and to help with recording those bits of information.

So, consequently, to make a long story a little shorter, there are just a couple of thoughts that I want to give you in terms of things that I see as possibilities. Some of these realistically are not practical right now. Others may be and anything can become practical in time. A major landscape trend is the idea of energy conservation, the recognition that plants and plant usage have a great deal to do with how our energy consumption runs. One of the research projects occurring at Virginia Tech when I left was a project to determine what species of trees are best for planting in front of solar homes. You want a tree that's open in the winter and that has a certain shade characteristic in the summer, and you want the foliage and defoliation to occur at a certain time. This project was trying to determine practically what trees are best for this purpose. If tree improvers could work toward developing trees so that the twig density in winter perhaps is less and the foliage characteristic in summer has that correct shade density that is optimum for energy conservation purposes, that would be a great contribution. The Kentucky coffee tree is a tree that comes to mind as an example. It has sparse twigs, very little shade cast in the winter, but it has large leaves, with small leaflets, allowing good air flow through the tree. If we could use those kinds of examples and duplicate the same thing on the walnut species or other nut species, we would create a dual function.

On the other hand, we could also use in the landscape industry some trees that are typically bred for fruit characteristics and for timber characteristics. If you come across a black walnut, for instance, that doesn't have any nuts on it in your work, don't throw it away because we might be able to use it. We need a tree that's not going to drop those rock hard nuts all over lawns and patios and walkways.

Other cultural aspects I might just mention briefly - - A) the taproot problem raised earlier is certainly one that's a problem in the landscape industry, especially in moving larger trees; B) tolerance in root disturbance - there are trees in the oak family, for instance, that are difficult to work around in terms of changing grade. You disturb the landscape too much and you lose the tree. If we could work toward improving that characteristic, a lot of institutional trees would be saved rather than having to be eliminated. C) Design characteristics like white noise, for instance. Wind moving through a tree creates a certain kind of sound. In malls we use fountains that create white noise to drown out many of the harsh noises in an urban environment. Trees do the same thing. Cottonwoods have that characteristic to a certain extent. If we can work toward those kinds of cultural ideas, the landscape industry will be grateful.