TREE CARE IN SCANDINAVIA

by Klaus Vollbrecht

History. Scandinavia includes Denmark, Norway and Sweden. It extends over 16 degrees of latitude which gives a wide range of different climatic conditions. Because of the Gulf Stream, many tender plants can survive, which is impossible in other parts of the world at the same latitude. For example it is possible to grow Araucaria in Bergen on the west coast of Norway and Ginkgo is doing fairly well in Stockholm on the east coast of Sweden.

In pre-christian Scandinavia, trees had a great emotional importance for the people. In nordic mythology the ash tree "Yggdrasil" was the keystone of the whole Universe. Trees were credited with magical and healing powers. People sacrificed in the sacred groves. The respect for trees was much greater in earlier times than it is today.

A well known fact is that growing trees and caring for them is an old tradition in Europe as well as in Scandinavia. At the time when Columbus was travelling westwards, the care for trees at abbeys, castles and manorhouses was highly developed. Even in villages and at farmhouses the planting of trees was common. These trees were and still are the main link between generations. To damage and to cut such a specimen implied misfortune.

The swift change from rural to urban society has resulted in more people living in cities and densely populated areas. The demand for green areas and trees increased very rapidly. Thousands of acres were converted into public parks and recreational areas. The heavy demands of the building industry often had devastating effects on the land reserved for green areas. Trees and shrubs were planted in severely compacted soils. There were many trees planted 15 to 20 years ago that live today in a hostile environment. At this point there was no relationship between the number of trees planted and the human resources to take care of them. The lack of professional maintenance for young trees will give us many problems in the future.

More and more of the ground in the cities which is not built upon, is used for streets and parking places. For many of the old trees this resulted in a harmful reduction of space both above and below ground. Harsh pruning or lopping, (which can only be described as vandalism), soil compaction, root damage by digging trenches, air pollution and deicing salt, are factors which make it more and more difficult for our city trees to survive.

Gardeners perform tree work. Formerly tree care was carried out by the gardeners in castles and manorhouses. Most of the tree work is still carried out by people with a horticultural background. The concept of Arboriculture is virtually unknown, lying as it does between horticulture and forestry (both of which have a long history in Scandinavia). Thus specially educated arborists are few and far between and mostly imported from abroad. Cities and municipalities do most of the tree care with their own staff. Landscape gardeners often perform tree work (pruning) as a fill-in job during wintertime when other work is impossible due to weather conditions. In Scandinavia there are today five companies that offer tree care as their main service. Tree work is

Fig. 1. Our old trees deserve the best care, but the day comes when they have to give space for a new generation. Photo by Birgitta Liljekuist.

mainly carried out from ladders and skylifts. Safety regulations throughout Scandinavia have precluded the climbing of trees for normal tree maintenance work. Only people with the correct training so far have been allowed to practice so-called "free climbing" and this means only foreigners due to the lack of educational opportunities in Scandinavia.

Influence on tree care procedures. Tree care procedures have been greatly influenced from abroad. Germany with its old traditions in gardening has always had a strong effect on how plant material is handled. Generally this is for the better. But there are situations to the contrary. The so-called German school of tree care has elements that no longer are accepted by many people as good arboricultural practices. Cavity work, where all infected wood, including the trees own defence system is taken away, has never really gained wide acceptance in our countries. This also includes the overuse of hardware. As a matter of fact the German school in reality is an import from the United States. In the 30's a man from Germany learned tree care in the States and then brought the methods back home. Research and experiments in the USA have influenced modern opinion in tree care with far reaching effects. We are thankful for the openness and hospitality that we have always received in the USA and, in this connection, we will give the name Alex L. Shigo prominence. His work on the now widely accepted concept of trees and tree biology is changing and improving tree care in Scandinavia and the rest of Europe.

Fig. 2. Once a beautiful avenue....Now vandalized by incompetent people. Photo by Inge Larsson.

Education. There are still no courses available in arboriculture, either in horticultural or in forestry schools. People who work with amenity trees can receive their education through seminars which are held sporadically. The information disseminated is not yet coordinated and is sometimes contradictory. In Sweden the institute of MOVIUM at the University of Agricultural Science has in the past years offered municipal authorities intensive courses for a fixed price. Specialists from MOVIUM visit the park departments of cities and hold tree care seminars for the whole staff. This provides an opportunity to discuss special problems and is, in a way, also a consultation. These courses have been very much appreciated and 90% of the attendants have given them the highest marks. This is a more effective and less costly way to educate all the workers than arranging central seminars. Up until the present day, MOVIUM has educated about 1000 people. This work will, of course, continue and expand.

Research. Scandinavian research programs are concentrating on soil problems for city trees. The care and maintenance of the soil is today regarded as the most important field of tree care. New ways of developing suitable planting pits are one of the projects. The goal for the future is to create continuous planting beds instead of restrictive planting pits. This also can be achieved with overlaying concrete bridges, which allow for optimum air circulation over the loose soil below. To loosen compacted soil in established tree planting areas, the new system from Terralift is undergoing tests. The Terralift machine is loosening the soil by means of compressed air and can, at the same time, add material to improve the biological activities of the

soil. Work carried out in Germany with this machine has provided evidence that this is one of the best methods of improving the structure of damaged soil on a long term basis.

Tree work and problems. For the most part pruning is the only tree work practiced. The pruning of the trees in cities, parks and churchyards is often incorrectly done and harmful to the trees. The complaints of tenants and homeowners about too much shade is the principal reason for the butchering of trees by lopping. The reason the trees around churches and in cemeteries are being pruned so badly, is because of the desire to see the building from a distance in the landscape. The saddest thing is that many people copy the mistakes made by so-called professionals, when they work in their own backyard. Visitors from abroad are surprised when they learn of the lack of tree care. After all, we are famous for our extensive forests and high quality timber. But it is precisely this abundance of trees that has blinded us to the value of individual amenity trees. In effect this psychological block that allows such bad pruning can only be relieved by such legislation as tree preservation orders. We are then forced to treat trees with the respect and care that they deserve, even if we think of them as an unlimited natural resource.

Pollarding of trees in the countryside, around historical buildings and churches has long been a traditional practice. Pollarding was carried out for socio-economic reasons in order to provide fuel and fodder for livestock in rural areas. Sadly pollarding is now synonomous with lopping.

Unfortunately for a short time the flush-cut was incorrectly taught as the right way to remove a branch from a tree. It was, on the other hand, very easy to convince the majority of people of the negative consequences of this pruning method. So the flush-cut is nearly dead.

Wound dressings have been used for a long time. But when it was proved by research and experimentation that the available sealants had no adverse affect on the development of decay, most people stopped using them. This is a wise decision which also saves money. Many regard wound dressings today as only cosmetic.

Injections and implants in trees are very seldom used and then only for experimental purposes. Control of Dutch elm disease has been attempted with implants of Trichoderma but without acceptable results. Injected/implanted trees from experimental plots have been felled and dissected after one or two years. All the dead tissue around the drillholes is convincing evidence that injections and implants must be done with great care and in moderation, if at all. All methods which result in deep drillwounds and that have to be repeated often, must be rejected.

Spraying of trees on a scale as practiced in the USA is totally unknown and forbidden except in the cultivation of fruit trees and nursery stock. Environmental objections and the strict control of pesticides leave the arborist without the chemical tools to combat tree pests and diseases. This is,

Fig. 3. Pruning and caring for our young trees is the most important work. Photo by Birgitta Liljekuist.

however, probably showing a great respect for the environment.

Road salt is also a problem in Scandinavia, especially in the southern parts, with the rapidly changing weather patterns. Many trees suffer when melting water mixed with salt gets into the rootsystem. In Denmark, street trees are protected during the winter with shelters made of reed.

The future. Most important for the future is that we give our trees a secure place in our society. Today trees are squeezed in between all other activities and interests. We have to give the trees both space above and below ground in order to optimize their development. We have to make the right choice of tree for the site in which it will grow. Trees should be of the correct provenance and with the genetic capability to form strong boundaries against decay. These have the best chance to survive. Today most of our young trees are imported and of a inappropriate provenance. In the future we also must make higher demands concerning tree quality. Trees of low quality cause problems later on. Costs should not be the prime consideration when choosing a tree. Planting must be done with great care. We must not just prepare the hole and then forget the surroundings into which the roots will grow. Most importantly, after a tree is established, the crown must be pruned correctly and checked constantly. When pruning is carried out early in a tree's life, small operations will have a great effect on its future size, form and health, with the advantage of a small pruning cut and rapid closure of the wound.

What we need is more knowledge and the will to put this knowledge into practice. I am hopeful that the establishment of the ISA chapter in Scandinavia will contribute to the spread of sound information and a better attitude towards tree care in the future.

Tradgardsingenjoren & Arboristen
Kockumsvagen 8
232 02 Akarp, Sweden

Abstract

RAY, BOB. 1987. **Save trees before construction damage hits.** Am. Nurseryman 165(4): 88-90.

New roadways, drainage areas and utilities are a part of modern urban development. However, many property buyers assume that the builder or developer has taken care so that the trees won't die. They realize their mistake when it's too late and the trees are already declining. When I tell owners that their trees are dying from soil compaction, earth fill and gas caused by decaying vegetation left on the original grade, the disappointment they feel is often devastating. Many times clients purchased their property primarily because of the existing trees. I have seen several customers sell their homes as a result of tree loss. It is my opinion that construction damage kills more trees annually that all insects and diseases combined. I am convinced that this type of tree loss can be prevented. Had I been called before construction began, my advice could have prevented the problem altogether.