Heritage Gardens….Inspirations from our Past.

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Author Profile and Dedication

I have been a gardener with a fascination for plants, soil and seeds for as long as I can remember. In 1988 I moved from being a Chief Naturalist in Alberta to being a Chief Interpreter at *The Grist Mill at Keremeos* site in B.C. with an invitation to plant a heritage garden. Naively assuming all research was in place, I accepted. I arrived at the site to discover there was no research on anything, let alone the gardens of that time. A new door opened for me and I stepped into the world of Victorian agriculture. After the 1880s era at *The Grist Mill*, I had the pleasure of researching Hudson Bay garden design for Craigflower Farm, Victoria in the 1850s as well as the late Victorian era 1890s for Fort Steele Heritage Town, B.C. In 1998 I researched 1908 garden designs for the posh suburb Highlands, in Edmonton.

I am also a heritage seed conservator, curating an orphanage of heritage wheat since the early 1990s. I've been an advisor to the United Nations on genetic resources for food and agriculture and have a wonderful resource library on period gardening materials. I work with immigrants and their traditional crops and planting practices as well as organic farmers and community seed banks.

I am a generalist in my training. In 1989 I graduated from the University of Alberta with a B.Sc. Agriculture degree (that took 15 years to complete!) and in 1992 I completed my MA Conservation Studies*, Institute of Advanced Architectural Studies*, University of York, England focusing on heritage garden and landscape conservation. My thesis work dealt with collections policies for living collections of plants.

Since 1998 I've worked on various projects and managed a non profit organization called *The Garden Institute of Alberta.* I continue to do heritage garden consultation work whenever the opportunity arises, write and create new project ideas.

This book is dedicated to gardeners of all time who have tried to create beauty and harmony in their little Edens. May we be able to respect their visions as we attempt to represent their spirit in our garden restorations.

Sharon Rempel, 2002

Introduction

Welcome to the wonderful world of heritage gardens and heirloom seeds, a much neglected but delightful part of history. History is far more than memorizing dates of battles and names of kings and explorers. Think of the people who lived day to day, putting food into their bellies and growing gardens, using plants for healing, shelter, fiber and pleasure.

Historically the gardeners are rarely remembered. The designers might be noted by not the head gardener, under whose hand the landscape became an artist's canvas and the plants the paints. The beauty of old gardens, their designs, their color schemes and the plants (seeds) are a critical part of history that is alive and worth preserving. For it is the cultural diversity of humans and plants that gives this world its vibrancy and life.

Each culture has nurtured various plants for spirit, mind and body. The plants that have been selected over time have become a part of each culture, through art, music, food, ritual, healing, landscape and legend. When settlers first came to Canada they brought with them seeds of their homeland. They brought their visions of paradise as well as their comfort foods and plants. Some of the seeds died, not able to adapt to the different climate. However, many survived, and were passed along generation to generation and shared with neighbors and friends. As new immigrants arrive in Canada they bring with them their visions of the gardens and plants of their homeland.

The style of garden has also varied with each cultural group. The romantic view of the Victorian kitchen garden and the formal British landscape has been the predominant vision of garden history, however not all gardeners were from upper middle class England and not all gardens looked like the visions of the past presented in garden books and magazines. The gardens and plants of the various cultural groups that make up our rich social and physical landscape deserve to be researched and interpreted.

Finding archival information and then finding the appropriate period plants can be a great deal of frustration and fun. You will experience the rush of adrenaline when you make a find, and you become addicted to this 'hobby' and it might change your life. You might decide to visit heritage gardens during our holiday and see how other people express the past with plants.

We all need to work at conserving history, and not let our egos overcome the respect for the spirit of the place and the past. We are simply curators of a rich living history. No one owns it yet we all own our visions and our past. Life is very beautiful. We are stewards of the land for a brief period of time. Food must nourish our bodies as well as our souls. Plants are far more than commodities in a shop or on the international

marketplace.

I hope you will become excited with the seeds that lie in your soul, your own cultural identity. Hopefully you will discover the foods and flowers that really make your spirit sing. You may have seeds that have become part of your culture and you may have tools or a garden that you wish to use to express your individual history. You will then become curious as to how other people gardened and begin finding joy in the diversity of life and people. There is no right or wrong in gardening, for each gardener follows their bliss and paradise results. The results may be considered tacky or tasteful by the critics but it is indeed a form of art as well as history.

Old plants and designs are part of our human history, and it is up to you and your children to ensure they survive, in a dynamic and living sense into the next millennium. They will not be written into history books nor glorified with wars and battles. It is up to you to ensure they are passed along.

This book is dedicated to gardeners of all time who have tried to create beauty and harmony in their little Edens. May we be able to respect their visions as we attempt to represent their spirit in our garden restorations.

Respecting the spirit of the place

Landscape architects and designers are taught to express their egos through design. Good intentioned ideas of restoring someone's messy garden to something more orderly comes to mind when we visit other gardens.

******However conservation of gardens and landscapes requires that the ego be put secondary and the "spirit of the place" always honored. Discovering the spirit of the place is what helps develop the theme or essence of the design. *******

Sometimes good intentions actually destroy the spirit or integrity of the original garden. For example, one historic site board decided that the garden was just a jumble of plants and one summer hired students to dig up the plants, make Latin name labels and put them into tidy compartments in the garden. The man who originally loved to collect plants and conserve them in a jumble fashion was replaced with the modern curators' vision of what the garden should be. The spirit of the garden was destroyed with good intentions.

Gardening is more than technical skill; it is an attempt to make something beautiful, based on the tastes and definition of beauty of the garden planter or designer. It is a way of bringing nature back into life and it is a very nurturing and satisfying activity. Visiting gardens is a growing leisure activity and buying garden tools, books, ornaments, plants and gadgets is keeping millions of dollars circulating in Canada.

****Find uniqueness and integrity to make your garden special****

I visit a great number of places in my travels around the globe. Gardens are like the local foods and they must be sampled to be appreciated. Many gardens leave me asking 'why are they bothering to keep this place open?' I can't find the uniqueness or spirit of the place. Perhaps it is due to a lack of signage or information about the plants or garden, lack of a gift shop with distinctive items and books and lack of a place to enjoy a refreshment are all reasons that I walk quickly through a site. You can't copy someone else's garden success; you must research and find the uniqueness for each site.

The plants of the past are not necessarily those of today, nor are the designs. Often restoration projects compromise and fill beds with modern petunias and marigolds and let costumed interpreters tell of the hard times of the days gone by. Times have

changed. However the spirit of the garden has not changed despite overgrown plants and modern intrusions. Finding that spirit, that essence and energy will allow anyone to develop a garden that respects the spirit of the place and gives the visitor the feeling that they belong in that place. It is something like 'intuitive archaeology' at times; using the inner sense of proportion and respect for beauty to feel where someone of the past might have put a garden and how it might have been designed.

Tacky or tasteful?

People continue to fill their yards and gardens with 'things' that they find interesting. Some of these yards look rather cluttered and junky and others too plain. Taste is subjective. Remember as you do research that you never really what the trends REALLY were, because garden writers always inject their own taste into evaluation of design and style.

Gardens are much more than a collection of plants. They include statues, water devices, wood, metal, plastic, cement and other materials shaped into untold ornaments. Some additions to the garden are steeped in folklore and are a very important part of the 'cultural identity' of a garden space. Ruth of Ellerslie Gift and Garden in Edmonton calls this 'garden jewelry'.

Imagine that a bomb fell and two hundred years later archaeologists dug up your garden. Would that be a 'typical' garden? Exactly what is typical in your neighbourhood? Now put that perspective into evaluating the past. Would your garden be 'the' typical 2000's variety of garden? How would a garden historian interpret your designs and garden jewelry? Keep this in mind when you are asked to try and figure out the 'logic' and way another person might have thought decades or centuries ago; you must do this when attempting a heritage garden project.

Keep your objectivity and sense of perspective in all aspects of this type of work.

Wise words and quotable quotes

Aldo Leopold "Examine each question in terms of what is ethically and esthetically right… a thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise." 'Essays on the Land Ethic', *Sand Country Almanac*

Cyril Hume, Victoria garden researcher, " There is room in all gardens for an expression of individuality and personal style but there is an overriding need for gardens to fit in harmoniously with their natural surroundings. There is room and

value in looking outside of oneself in the immediate neighborhood. The ideas is to steep yourself in where you live and interpret that through your personality, formally or informally. Why is there such a lack of plant materials used in the 'institutionalized landscape' you get the same half dozen shrubs being used over and over again. Perhaps we could be more playful and take some of that great western gardening tradition of collecting different plants. What's wrong with trying to recapture some memory in your home space and teaching it to your children?" " Vancouver Sun, July 3, 1993. Page D19.

Christopher Dingwall, Scottish garden historian, "More gardens should be open to the public as there is a low level of awareness among the public of garden history and conservation. Little attention is given to the interpretation of the historic aspect of hardens or their conservation. Educational values of gardens need to be recognized to foster awareness among young people in schools. Objects conserved usually express a relationship between people and their environment and which provide them with their spiritual identity. Often the object isn't important but the ideas and values it represents are. Only recently have gardens been recognized for their cultural heritage contribution. The public must be informed and understand the values of landscapes and gardens. As with a foreign culture where we do not understand the language we depend a great extent on the skills of the interpreter, or someone who explains the significance or meaning of what we hear and see. Through interpretation, understanding; through understanding, appreciation; through appreciation, protection. From : 1988 MA Thesis, Christopher Dingwall, Scotland.

Gertrude Jekyll, late Victorian garden designer, "Often when I have had to do with other peoples' gardens they have said 'I have bought a quantity of shrubs and plants, show me where to place the' - to which I can only answer, that is not the way in which I can help you - show me your spaces and I will tell you what plants to get for them." 1900

Edwin Lutyens "A garden scheme should have a backbone - a central idea beautifully phrased. Thus the house wall should spring out of a briar bush - with always the best effect, and every wall, path, stone and flower bed has its similar problem and a relative value to the central idea". 1908.

Martin Seeger, curator of Maltwood Gallery, Victoria, "Perhaps perpetuating the living habits of colonials throughout the tropical and subtropical British Empire, the distinction between interior and exterior space was somewhat blurred and gardens were seen as an extension of the living space of the house not mere ornaments to the external structure. The successful garden was a mix of aesthetic and functional considerations. The use of physical and visual screens to open and close vistas or shield fragile flowers from the weather." Synopsis of the Buildings of Samuel

MacLure". 1989. Sono Nis. Victoria, B.C., page 175.

Painting Pictures with Living Colors: "In this troubled world of too much work or not work, senseless hurry, dangers and defeats, the garden is our refuge and our strength. We go into the garden for peace, for beauty, to recreate our bodies and our minds for the struggles of the days to come. In his garden man is truly free from the trammels of perplexing modern life. He is in complete control of the situation. He can plan his garden to suit himself and none may say him nay. He can create and he can change; he may preserve or annihilate. He holds the power of life and death over thousands of his subjects, from weeds to roses. Of all forms of gardening there is keenest pleasure in growing things from seed. Enjoyment begins when the seeds are selected and purchased, for that is the time when plans must be considered and the main decisions made. Then comes the impatient waiting for the spring, until the frost and the wet have left the ground, and the new sun and the soft winds have made the soil ready to receive the precious seeds." Steele Briggs, 1934 catalogue, page 1.

Landscape and garden concepts and terminology

Landscapes show the impact of human presence on the land. Their survival into the present represents a continuity of past and evolution of the present. Landscapes provide an understanding and appreciation of the fragility of the environment. The continued survival of historical and cultural landscapes demands knowledge of stewardship committed to conservation.

Landscapes reveal much about the human relationship with the natural world. Vegetation, topography, circulation paths water features, structures, furnishings and other objects comprise the landscape. The quality of spatial organization includes vistas and views; they are combined collectively into the concept of landscape.

Barriers and links such as fences and water features define spaces in the landscape. It is imperative that all the landscape features be considered collectively. When a tree is removed spatial and vista relationships are altered as well as the vegetation. Vegetation may derive historical significance from horticultural or genetic value, aesthetic or function. Characteristics include color, shape, texture, smell, fruit, flower and form. These features change seasonally and grow, mature and die.

A Maintenance Plan will help ensure that the spatial relationships remain consistent over time.

A garden is also a collection of different types of features such as plants, water features, buildings, views and animals. These features are important on their own and as well as being a part of the larger landscape picture. The relationships between all the components form the “character” of the garden. Gardens and landscapes can be conserved and restored using similar principles.

Urban neighborhoods and rural areas also contribute to a landscape’s character. High values on landscape include: wilderness, diversity, intimacy, familiarity, surprise, historical and cultural association. Water systems may be functional or just aesthetic. Climate and site specific microclimates cause variation in natural vegetation and have an effect on the landscape.

A detailed inventory, land survey and documentation of the existing landscape should be undertaken when beginning work with a landscape or garden. With the survey and the historical record, the garden’s change over time can be analyzed.

Conservation efforts for a plant, garden or landscape are very different from the conservation of a building or object. There are few people in the west trained in the conservation of living artifacts. Intuition is often used by landscape conservators and architectural models do not fully address landscape considerations. The less tangible aspects such as historic use, context and design intent are very important but not covered under architectural constraints.

Landscape preservation concepts must be broad enough to deal with ecological factors, maintenance consideration and ongoing use. The greatest challenge is expanding the context and understanding local, regional and national landscape significance. It is imperative to begin to share a common landscape preservation language and adopt consistency in preservation and conservation goals federally, provincially and locally.

Landscapes reflect trends and fashions of human interventions. Determining the period of significance that a garden will illustrate is compiled through analysis of archival and other records. General trends are possible as well as the details that are determined from research and observation.

For example, The 19th century Industrial Revolution contributed pollution, slums and railroads to the landscape. In contrast, the 'City Beautiful' concept of the 1890s was an attempt to bring classicism back to designs, with civic centers, boulevards with trees and city parks. This extended into the early 1900s with gardening being a soul cleansing occupation and morally strengthening exercise.

Landscape and Garden type Terms

Some concepts prevail through landscape terminology and design. These are taken from *Clues to American Garden Designs*, by Fogle and Mahan. 1988.

Kitchen Garden: Variable designs and house orientations with varieties from the old country and plants exchanged with the neighbours. Flowers may have been grown in the kitchen garden depending on the cultural background of the gardener.

Alpine Garden: In the mid 19th C. romantics looked at the mountains as things of incredible beauty and out of this grew the love of alpine gardens or rockeries. Gnome statues first appeared in a rock garden in the 1850s.

Greenhouses: Also called hothouses, orangeries or greenhouses. In the mid 1700s wealthy people were building greenhouses and Palm Houses were very important in the late Victorian era. The middle class began to have greenhouses during the

Industrial Revolution, mid 1800s.

Bedding out: Victorian architecture and gardens were somewhat exaggerated in size and larger than life with the belief that nothing succeeds like excess. Bedding out used a large number of the same type of plant grouped together in a mass of color. Colors like orange and blue were used together in 1850-1870 although this was considered distasteful by the 1890s by some critics. Bedding out is still used extensively in cities throughout North America today. It is high maintenance to maintain top show quality.

Herbaceous border: William Robinson in his 1883 *The English Flower Garden* popularized this idea. Gertrude Jekyll hated the bedding out system and brought the herbaceous border to life in the late Victorian era (1880s, 1890s). The placement of plants was critical and there was ordered scale and color, a variety of leaf textures and length of bloom of the plant were all critical elements. The border ideally faced south, with brick or soft colored stone behind with a grass or stone path in front.

Perennial border: The Perennial border was a herbaceous border but without annuals.

Urban park: Early parks were an oasis of wilderness and a place to commune with nature, and by the last half of the 19th C urban parks offered natural scenes surrounded by man-made objects (the city) and noise and ugliness. Open spaces were provided for people to meet, walk through and play within. Parks attempted to represent the natural environment. Cemeteries were often designed with the same purpose in mind.

Wildflower gardens: The natural garden revolution of the late 18th C is now expressed in wildflower gardens. Nature is not bare, but methodically controlled nature as was the rule of the 18th C. Modern gardeners try to recreate a habitat for plants that look spontaneous but everything is tightly controlled in order for the garden to look 'natural' and not allow natural succession of species to dominate the garden.

Topiary: 'Topos' is the Greek word for place and 'topiarius' the Latin word to mean the man in charge of the place. Trees and shrubs are manipulated into shapes and designs, and require careful management for many decades. Topiary is centuries old.

Historic recreation: The ugly industrialized world of the late 19C turned many to yearn for the beauty, tradition and peace of the past. This idea still survives and 'old looking' efforts are not always accurate but romantic and beautiful. Intellectual honesty has grown and facts are replacing speculation with some garden work but speculation and guess work is cheaper than research for accurate restoration.

Conservation and restoration of historic landscapes, gardens and sites

A garden or a landscape that is in need of conservation work can be treated in a number of ways, depending on the condition of the site and the intent of the conservation work. There are several terms used in the heritage conservation community that can apply to buildings or landscapes. They include the following concepts and jargon used by landscape historians and heritage garden conservators:

Preservation maintains the property's distinctive features and spaces and convey historic significance without extensive repair.

Conservation involves active intervention to prevent further deterioration of the site.

Rehabilitation is chosen when alternations or additions are planned that recognize and retain historical character Modern and historic elements must be integrated sensitively.

Restoration is prescribed when the design or historical significance during a particular period of time outweighs the potential loss of materials, features, spaces that characterize other historical periods and when contemporary restorations are not planned a restoration period should be determined and a plan developed.

Reconstruction is when a modern interpretation is required to understand the historic value, including recreation of missing components, and when sufficient historical documentation exists to ensure accurate reproduction. This needs extensive research to obtain accuracy.

Reconstitution is a symbolic representation of plantings of the past when there is no historic merit for having a period planting on the site. Broad historical research is needed to establish character and pattern to be reproduced.

If a garden is going to represent a moment frozen in time period then site specific planting lists needs to be made, including maintenance practices; remember there were no lawnmowers before 1850.

In researching a garden's history, it is very helpful to know the literature of the period, as well as the literature read by the person who's garden you are attempting to restore.

You must try to learn the socio-economic status of the person too, and as a much about individual tastes and preferences as possible.

Then, you can try and track down the appropriate period literature, though various sources which we will deal with in the next chapter. Sometimes there is little information available, and you have to make an educated guess at the appropriate design. It is imperative to document your rationale!

Modern cultivars might be used which require less maintenance but honestly you should somehow justify your actions in honest representation of the plantings stating the historic rationale for color and plant selection and then mentioning use of new and more hardy material is being used to create a representative garden. Sometimes the old varieties are no longer available.

Plants on Site

The plants that remain on a site may or may not be those that grew on the site during the time period of the historic era you choose to represent. To remove or not remove, that is the question.

Recognize that the original plant listed in a diary or photo may have been removed, and a seedling or vegetative offspring may still be present on the site, or it may have been replaced by another cultivar.

Plant artifacts are alive and continue to increase in size over the years. The size of the plant may give some idea of the age of the plant and the climatic conditions of the past years. What will you do with modern materials on site? Will you cut down a huge shade tree because it is not 'period appropriate'?

First of all, a site inventory should be done as a point of reference in time to determine tree size and age, vegetation diversity and density, and identify potential weed or plant problems. Contact a botanist to help you identify plants accurately.

An estimate can then be made of the life expectancy of site plants and trees and it is wise to begin new plantings so continuity of the feel of the place will be maintained. You will need to understand the growth habit of the plant and let you mind zoom ahead to try and imagine the way the landscape will look in the future. Computer programs exist now for those imaginations have become stagnant.

Plant identification

Part of any restoration project includes understanding what survives in the garden. Making use of regional and provincial specialists and their expertise in plant identification is critical. There will be people at the local university or botanical garden who know someone who is an expert in lilies or apples or wheat or whatever you are trying to identify or measure.

You may end up having to track down an expert a province or state away and being able to provide as much information as possible saves them time and energy and makes it more likely you will get an answer to your inquiry.

People who are interested in a particular plant family have a lot to offer in the way of resource books, materials and information. It is important to remember that they often donate their time in helping out so don't overburden them. Try and find out if they need photos of the plant during various stages of the flowering or fruiting cycle, or if they need a herbarium sample sent to them.

They may offer to visit your site and help you identify the plant 'in situ'. Learning how to prepare a herbarium sample will allow you to mail someone a sample of your plant. Photographing the plant during its flowering stage is useful, too.

Modern biotechnology advances including DNA fingerprinting techniques are helping with identification work however this is costly and one usually has to find a lab with someone with expertise in the plant family of interest. Old style taxonomy is great, and knowing someone who has familiarity with the family of interest (valid for people as well as plants) is invaluable.

Sometimes a plant is known by one name in one locale and another name in another part of the country; noting the Genus and species (botanical name) and its variety is important. Common names can be confusing and there may be 'synonyms' for plants (see Heritage Plants).

The basics of a garden

If you aren't a gardener and are involved in a restoration project it is very wise to get help from someone who has planted and tended plants. If you are just learning about gardening there are some good correspondence courses around, including the University of Alberta, "Home Gardening Course". Contact the Faculty of Extension, University of Alberta, Edmonton, Alberta T6G 2G4. Used book stores are filled with

inexpensive ‘how to garden’ books and libraries and photocopy machines are useful resource tools.

It takes three to five years to turn a piece of compacted dirt into working soil. Patience is something gardeners learn to cultivate.

Rempel’s gardening myths

I teach organic gardening basics as well as restoration courses. I’ve found that there are several Rempelism myths that are worth considering:

Myth 1: *All plants were created equal: what is a Weed?*

A piece of soil and a will to make something beautiful is the beginning of a garden. Even if you do nothing but watch, seeds that are in the soil will germinate. Sometimes we call these plants weeds, but they are actually plants growing where they are happy and you are not. Weeds often are considered flowers if they are growing where a human desires them to grow. One garden’s weed is another garden’s flower.

Myth 2*: The plant won’t get much bigger; plants continue to grow until they die.*

You may have an existing plot of land with established plantings. Gardens, soil and plants are living entities and change their form through time. The tiny plant of the 1950s might well be an overgrown mess by now; ever notice how many huge evergreens are right next to a house foundation? The little tree the kid brought home in grade one grows up and now threatens the foundation and the gutters of homes in neighbourhoods throughout the country.

Myth 3: *All gardens were planted the same and carrots are carrots so it doesn’t really matter how or what we plant as long we have a garden.*

We recognize that garden styles change over time so what Time element do you want your garden to illustrate? Social, cultural and economic considerations are vital before an attempt can be made at any restoration work. We also know that there are many different varieties of all plants on earth.

Myth 4: *That photo doesn’t show the fence here now or that tree so we have to pull the fence down for our restoration work..*

When restoring a garden to a certain period or to illustrate a photo remember that the photo was taken at one minute in the garden's life. Was that photo a 'before' or 'after' photo? We don't know. It takes a lot of work to have a garden remain 'stable' and continue to show just one minute of its life. It is like wearing makeup or a nice cotton shirt; looks good for the first hour and after that a little touch up is going to be needed to maintain a perfect veneer.

Myth 5: *Just plant the garden and it will care for itself.*

Nice gardens don't look like that on their own and labor is a big consideration. When deciding the 'look' for the garden consider the amount of labor that will be required to maintain the image you want. It will help you decide where to compromise and where to be luxurious. In the past, labor was cheap. The Head Gardener would have many junior gardeners and labor units. Today, machines often do the work of many people. The conflict for heritage restoration work and interpretation is faced when the cost of modern labor is compared with the cost of historic accuracy. A compromise must be reached.

It takes time and energy to plant, maintain and harvest a garden. Realistic estimates should be made before beginning a project. It takes a lot longer to weed a garden in a period costume and corset than in work clothes; a weed eater is fast but can damage sign posts and destroy garden plants if not handled very skillfully.

Myth 6: *Sure I remember what I planted last week/year/decade. Why write it down; I'll remember it next year. Or, I'll ask Mr. Jones what his family planted in the garden in 1923; he's got a good memory.*

I can't remember what I planted last week. Lucky you to have such a wonderful memory! However, if you are planting a garden on a public site you really should be keeping good garden records. Think about a garden historian of 2020 finding your records and cursing you for not writing down your seed sources, variety names and rationale for planting. Using Mr. Jone's memory for documenting a garden may or may not be accurate and should not replace documented resource material.

Myth 7: *Let's just collect what we like this year; planning documents are a good idea but aren't worth the time.*

If each garden was planted at the whim of the curator or with the easiest plants to grow we would not be able to really have much integrity with the idea of heritage gardening. A well laid out Master Plan will help you identify your method of managing your site

work. Trial and error will tell you if you made the best decision. Unfortunately there has been little coordinated work between botanical gardens and historic gardens and there is a great deal of material that is not being collected.

Background reading

There is a profusion of garden literature on the market. If one could go to a major horticulture library, and look at the writers from the 1990s and the writers from the 1950s and the 1930s and the 1890s one would find remarkably similar information. It often possible to find entire paragraphs passed along from book to book, through decades. However, garden writers are attempting to convey their passions and visions about recreating Eden. The modern picture books are beautiful however I no longer find much that I've not read from earlier literature.

When looking for information on various periods of horticultural thought, it is useful to read both the original materials as well as the synopsis provided by various current writers. I have reviewed a great number of these books and find them somewhat useful in doing restoration work and very entertaining. Book summaries are included in the Appendix. They give an illustration of how to 'read' and 'record' useful horticultural information for future use.

There are a number of magazines with 'Victorian' in their title; they present the romantic vision of the era and certainly entice the reader to explore the past. However, these are not the same as reading journals where writers will reference their work. When you are researching, it is good practice to note the source of the material so you can back up and retrace steps when you need to. Often you will find contradictory information.

Seed catalogues are great reading. A few seed firms will have archives with their old catalogues. Others will have deposited their old catalogues in an archives. Most of them have thrown the old catalogues away or a fire wiped out the collection five years ago. Sometimes the seed firms have some old books though as might the elderly lady down your street. Libraries might have a special section on old catalogues.

Researching the history of the garden or gardener

After a general introduction to gardens you might now be ready to tackle more detailed research about a particular site or era or plant. This involves research. I've never worked on a project that had what I needed easily accessible or compiled. Setting up a research plan and methodology is the best way to approach the project. Please remember that these are only generalities and no rule is rigid during research work.

Archives are places that store unpublished materials and **libraries** usually store published materials. Archives are like second hand stores or flea markets, you never know what gem you'll find. In these places, or repositories, you will find catalogues and resource staff. Letting the staff person know your area of interest is most useful; some facilities have specialists in various subject areas. Talk to that person; they will be familiar with the collection and may save you time and energy starting your search.

It is very difficult usually to find information specifically on gardens and agriculture. But there is ton of material in every museum and repository that might be useful. Time and money limit what you can look through. If you are really lucky, you will go to the local museum, find a file on the person you want, with a planting list and photo of the garden for the time period you want. That is bliss. It never happens to me, though.

The closer you can stay to your locale, the more specialized the information should be. There are many popular books out for every era on how to garden. You will need to know the cultural and social background of the people you are researching to make proper use of the generic material in books.

Make use of the electronic mail and fax for obtaining research information. Most museums will have a contract researcher who you can hire for a per hour rate to photocopy and research something for you. Put your request into heritage magazines and see what response you get. The network grapevine is still a fine and 'fruitful' way to do business. Remember that researchers get paid to find material and a good researcher remembers that time is money.

Never assume that what you need isn't there just because it is not listed as such in the catalogue. If the subject was easy there would be lots of published books on what you were looking for! But enjoy the sleuth work of following an intuition or a lead. You never know what garden path it might lead to.

Research sources

Primary sources

- Government records: surveys, ordinances, bylaws, property records, census, government operations

- Public records: Directories, newspapers, periodicals, reports of non government organizations, promotional literature, catalogues

- Private records: diaries, journals, letters, business records

- Oral: interviews

Secondary sources

- Landscape literature: may give patterns, garden histories, urban histories, agricultural histories, general period histories

- Local histories: regional, provincial or state, municipal, family

- Biographies and bibliographies: designers, landscape gardeners, plantsmen

Seed catalogues of the time, general horticultural periodicals and monographs, and detailed references from other areas can be primary or secondary sources depending on how specific you can find references to their use by the person you are researching.

First person references are useful however the element of subtle skepticism should always remain with the researcher. Popularized history or stories that may have become fact after repetition could be very misleading if used as the sole reference source.

Sample research search

Here's a practice research question. If we were trying to find information on Mrs. Gwen Cohen, the German born gardening wizard of the 1890s town of Black Jack in B.C. I would suggest searching as follows:

1. Local sources. Archival material on her or her family. Archival material or photos of houses in the town between 1885 and 1900. Is there any record of what Mrs. Cohen read, the magazines she took and places she travelled to and might have influenced her ideas on gardens? What did her friends and neighbors read? What was her social, cultural and historical background? Who were her peers? Was she innovative or a follower of a local fashion trend? Usually it is difficult to answer these questions, but they should be in the back of your mind when looking for information.

I would check headings including agriculture, horticulture, gardens, farms, food, landscape, buildings, flowers, machinery, clothing, seeds, nurseries, vegetables and Cohen. When items are being indexed or catalogued it is at the discretion of the person doing the work on how something is filed. The best archives have cross referenced systems where a man and a woman have both looked at the item and put in various details. Some of my best finds have been least likely places, such as an obscure last name or maiden name added onto the end or a nickname.

Check the local history section of the museum and pray there is an index. Local histories are rarely useful when doing heritage garden work. They rarely mention variety names or gardens in any detail. However, they are not to be disregarded. Rarely will there be any references cited in these works making it difficult to authenticate information. Indexes are rare too, so one has to wade through them. They are fun if you know the folks but tend to be tiring otherwise.

2. Regional or provincial archives. Any materials on the Cohen family? Any other people of her area of the same time period? Same title headings checked as in #2.

Contact local and provincial horticulture associations. Do they have any archival material such as seed catalogues or show prize lists? Doubtful it will be on computer, so you may have to visit the collection if it sounds promising.

3. Contact major national repositories to see if Cohen, or the time period is represented in seed catalogues or garden publications 1885-1900. If they respond positively, you can always hire a contract researcher in the town for an hour to copy material for you. Well worth the money if it gives you what you want quickly; the facility will have a list of researchers on hand.

General research tips

1) If you watch a movie or listen to an oral history please do a transcription of the important details and leave a copy with the archives. I've sat through hours of talking to have a half page of useful references. You will understand this

concept if you think of watching hours of someone's home movies with hopes of finding details on their house design. Save someone else time and deposit what you find with the local source.

2) Check out the local agriculture, horticulture, landscape design, architecture, anthropology and history departments of colleges or universities. Ask around if anyone has worked on garden history in the area. There may be information in thesis work or unpublished class work that an instructor might know about. Do it soon; materials are thrown away every day. Ask them to deposit information into the local archives, not throw it away.

3) Contact your regional Department of Agriculture as well as Department of Cultural History and find out who is involved in keeping old photos and information that might relate to gardens. Chances are no one but you might ask if there is anyone in the department with an interest in old seed catalogues; I found a great personal archives by asking that exact question. Help them publicize their collection and if it is in danger, help to find it a safe home in a repository somewhere.

4) Keep a notebook of all the people you call, and who they refer you onto. You will quickly have a good regional contact list. Think about putting your request for information into the local history newsletter. Write an article on heritage gardens and try and stir up interest. You might end up with an informal garden history society forming with a few others who share common interests.

5) Don't become discouraged because as all researchers know a real gem may show up with the turn of the next page.

6) Be open with librarians and other reference people. Give them your business card and ask them to contact you if they happen upon something after you've gone. Garden history is still a rather new field and your enthusiasm will go a long way in inspiring the staff to assist you.

7) Can you remember what varieties you planted in the garden last year? Do you think that a person 80 years old can remember the variety name of the carrot that their grandmother planted? Doubtful. I find oral histories limited in the information they can provide. However, if there are plants in a garden that need identification, a site walk with a family member can be invaluable. Also, for identification of plants from a photo.

8) Don't take anything as gospel or absolute truth because someone told you it or you saw it in a publication. Note the reference and source always so you can backtrack if you need to.

9) Do not assume that all people are the same. Social status, education level and economic environment all influence the style of garden planted and type of plant chosen.

Repositories

A person's papers or diaries are not always in the location where the person lived; this makes finding personal archives somewhat difficult. Fortunately archives are going 'on line'; talk to your local archivist and see if he or she would be willing to put your request through the electric network. Pretend you are developing a network for that person; think of all the possible connections that they might have had in social and business or religious dealings. You may find their materials through associates and the archives where they might have lived or died. Yes, I recognize it is complicated and a maze but that is what makes research work so much fun.

The Royal Botanic Garden in Hamilton/Burlington in Ontario has Canada's best collection of seed catalogues. RBG's website is http://www.rbg.ca/index2.html. Oregon State University has an outstanding collection of seed catalogues. These are the two best collections I've found in the west. I've copied many of the catalogues for pre 1920s and these are in my private archives.

England has some good horticultural repositories. The *Royal Horticultural Society* (RHS) in London has a wonderful library, as does *Kew Gar*dens and the *Natural History Museum*, Botany Library. *The Rural History Center* in Reading is a truly marvelous place to visit. Librarian John Creasey is near retirement (2002), and how that collection will be accessed without his wealth of knowledge is a mystery. RHC, University of Reading, Box 229, Whiteknights, RG66AG, UK.

There is also the *Center for Garden History* run by Peter Goodchild, *Institute of Advanced Architectural Studies*, University of York, York, YO1 2EP England. Peter is one of the world's keenest garden historians and has a library collection that is truly enviable. The Institute's library isn't bad either. If you come across a designer's name and are looking for other gardens he or she might have done, drop Peter a line.

People like myself often have private reference collections. I always try and help people out, but I also expect to be honored for my knowledge, resources and time. Be prepared to offer reimbursement costs for time, postage and copying of materials if

you find what you are seeking in someone's collection. Always be respectful of that person's materials; return them promptly and in exactly the condition you found them in. Always say thank you and source them in your published work.

It again is good to work the 'grapevine' of local and regional contacts and find out who might be eccentric enough to have what you are looking for.

Education and courses

In the United Kingdom and other parts of Europe gardeners and landscape architectural historians are paid occupations. Gardening is not considered an occupation in Canada, but a hobby, and not even considered in the league of sports like hockey, fishing or football. However, gardening is the number one hobby in North America now.

In England the University of York, *Institute of Advanced Architectural Studies* offers a Masters degree in Conservation with a Historic Parks and Gardens option. This is where I studied in 1991/2. The student population comes from around the world, most with training in landscape architecture or as formal gardeners in large estate gardens. I went with a background in museum collections work, interpretation and a degree in agriculture. The program is taught in modules ranging from one day to two week courses. Non MA students are able to take courses and combined with experts in various aspects of plant and garden restoration this program is still a wonderful opportunity.

The University of Victoria offers a ten day course in heritage garden restoration; this course includes a field exercise surveying the plant material of a garden as well as good background on the concepts behind garden restoration work.

I teach courses and this book is now a unique contribution to 'home education' study in heritage garden design.

Documents for managing a plant collection, garden or historic site

Providing continuity is a goal when writing a management document. One attempts to convey the importance of history in all decisions and provide a vision for the future. Documentation is really important and having people read and adhere to the policies equally important. A Master Plan, Landscape Management Plan, Maintenance Plan and Interpretation Plan will provide continuity through staff changes. It is useful to think of the manager as a steward in trust of the garden for a brief period in time, a navigator who uses these documents as directional charts.

One of the primary reasons for having these documents is a safety net when dealing the touchy issue **Preservation versus Profit**. The future is sometimes not given the value it rightly deserves but in reality we are only stewards of a piece of land for a short time, however difficult that is for our egos to accept. Some historic sites have gone onto a permittee type of management which means each year a new person could be running a historic facility or planting a heritage garden.

Continuity and conveyance of message of the visions and goals for the site are imperative to provide integrity and consistency of quality of product for the visitor yet how will the vision of the site be conveyed without proper documents?

Staff satisfaction is also important. Without documents and enforcement the whim of the annual manager can quickly take over, with the reality of profit being the guiding light. It is terribly frustrating for a gardener to see hours of work destroyed by careless and preventable action.

To quote an anonymous gardener on a historic site, “if only the management had better impressed upon the new site staff and contractors the significance of quality historic interpretation and the safeguarding of the collections and vulnerability of the grounds the stresses and strains between us all would have been reduced too!” The era matters not, the words repeat time and time again.

Master Plan components

Master plans are visions for management and planned maintenance through a period of time to achieve certain defined objectives. The plans are a set of good intentions. They show where the garden came from, where it is now and where it is going for the future. They are briefing documents and develop a common base to work from. Management plans are made in a series of stages beginning with a desire to change the present

situation because of an opportunity or a problem.

When planning, it is useful to think of the carrying capacity of the land as relates to number of people, animals and plants that the land can support. This helps determine what impact large numbers of any living entity will have on the landscape. Management must step back and view the site as a visitor sees it; it will help you see the equipment left lying around and other things that give your visitor the wrong message.

The British have a model for long-term (100 years) vision. They develop a strategy, state why the site exists keeping the spirit of the place in constant view and then project a long-term vision. Then, they develop the Resource Plan, which is a shopping list of improvements. Ten years is average for the Resource Plan which is something this generation can see and hopefully will become involved knowing they are part of a continuum of land stewards. The Strategy objectives recognize the historical importance of the garden for its original layout and for the cumulative layers of history.

In 1978 a visionary document for Stourhead was prepared by the National Trust - the document was a 100 year plan. The writers formulated a policy based on historical background to ensure future maintenance and planting would consistently follow the right principles. They prepared a policy and plan aimed at the long-term preservation of the original 18th C. conception and design of the Stourhead gardens taking into account subsequent developments. The implementation of the committee's recommendations was expected to take several decades. The document contained a brief historical outline as well as development principles that governed conservation practices. The document was totally complete with sixty pages including maps and charts.

For your site and your documents, define your site **boundaries**: no dogs, no smoking in buildings, no Frisbees or balls in the garden area, and explain why picking flowers is not an aid to seed saving. You will find most people will respect your boundaries and teaching staff to be firm yet diplomatic is a worthwhile part of your training program. It is REALLY frustrating for a gardener to watch children playing tag over a freshly planted flower bed.

Collections Policy

All collections including a backyard garden can be better managed with a Collections Policy. Gardeners are known for their ability to cover every inch of earth with plant materials. Anyone who collects objects will know that it is impossible to care for and

house all the objects one would like to have in their collection. It is necessary to develop a priority list. Caring for a collection of living artifacts is a big responsibility because anyone working in the public domain is caring for public artifacts for the public good.

Having this document also gives a site the opportunity to decline gifts; if the site is an 1880s farm it does not need the well intentioned gift of 1920s Tea Roses. Sometimes the donor is an influential person and at risk of offending them, having the document is a safety net.

In order to assess a collection, identify resources and manage a collection, a series of questions must be asked to help define the scope of the collection and the role it will play in regional and national conservation efforts. Ideally a Collections Committee will be composed including the site manager, the owner and the Head Gardener and these people will go through the following list of questions to draft the Collections Policy.

Hopefully potential problem areas can be identified with foresight. The answers to these questions will become a collections policy. These questions are from my MA Thesis, *Strategies for Conserving Living Plant Collections, Global and Local Action Plans.*

Questions for forming a collections policy (from Sharon Rempel's MA thesis, Strategies for Conserving Living Plant Collections; Global and Local Action Plans)

1. Why have a collection of plants? Is it important as a regional tourism strategy or an integral part of the display, or is it simply 'trendy' to have a garden?

2. What are the goals of the facility and how does it relate to the plant collection?

3. How large should the collection be? Will it be limited to a few species or type of plant or an era of plants? Can you identify the scope of the collection through your Master Plan document?

4. Can the collection be cared for with the current budgets, staffing and space? What modifications must be made to the scope of the collection or the facility?

5. How will the collection be used? Will it be a propagation nursery, seed saving garden, public display education place or simply ornamental?

6. Can you identify other facilities with similar goals and interests? Can you become part of a regional or national strategy for conservation and preservation? What data system will you use to record and share information? Is this compatible with other facilities with whom you might wish to exchange information?

7. What information is required for the records: growing conditions, seed longevity, accession information?

8. Who can accession materials into the collection? What are the criteria for accessions/ What documentation will be used?

9. Who is allowed to deaccession an item from the collection? What criteria will be sued for taking a plant or seed from the collection? What documentation will be used?

10. Who is responsible for the collection, including the daily management as well as the overall continuity of the collection? Is the Site Manager responsible with the Gardener responsible on a day to day basis?

11. What will be collected? Specifics can be a saving grace later on when an influential board member or significant other offers an item to the collection that simply does not belong in the collection.

12. Can gifts and donations be accepted and who will be responsible for accepting them? What paperwork will be used?

13. Can you care for the items that you accept? Will you accept illegal items or items that might become 'weeds' in your area? Who will you call upon to verify a plant's identity and health of the plant? Will you accept political gifts at the risk of losing the integrity of the display and collection? Where will you store gifts?

14. Where will seeds be stored and where will new plants go for an isolation period prior to introduction into the collection? Do you know your local agronomist, botanist and research station people; allies are very helpful when identifying a plant and determining the health of a specimen.

15. What is the value of the collection for insurance and replacement purposes?

16. Who will provide daily, monthly and long term stability of the collection? Who

will care for the collection:?

17. Do you have a detailed maintenance manual? Does it specify how to care for the collection including pruning, propagation, flood management and fire prevention? Does the grass mowing schedule conflict with interpretation programs or watering schedules? Will the site be managed organically and using ecologically sound practices? Will you save seeds?

18. When will you call in an expert or consultant? Will you rely on staff to do everything?

19. Will you provide training for yourself and staff to care for the collection? Who will care for the collection when the site is closed? Will you encourage staff to care for the collection when the public are around as part of an ongoing public education program? Will you train all your staff in the rationale of the plant collection and overall conservation goals?

20. Will you have separate seed saving areas or will the public have access to everything? Who will be allowed to cut materials and dig up plants? Who will be allowed access to seed storage facilities?

21. How will you interpret the collection? Will you share your collection and the agency's goals with the public? How will you become part of a regional and national conservation strategy? How will signage enhance the collection? Will you have interpreters working with the collection or will they simply be maintenance people?

22. Will you include a Glossary of terms used in the document? What you say may not mean what you thought in the next generation nor by another facility.

Interpretation Plan

It is our duty to excite others about plants; empowering people to take an active role in plant conservation is something we all have a responsibility to pass on to visitors. Various methods exist for providing interpretation of the garden or site.

All staff should be aware of the **Interpretive Messages of the Site**. If you have fifty seconds with a visitor and an opportunity to change that person's view of the world through something on your site, it is a waste of time to chit chat about the weather or 'where are you from' politeness. All interactions with a visitor give a staff person an

opportunity to share the site messages with the visitor. It is possible in fifty seconds to change a person's view on life and history; when these 'golden moments' happen, it makes all the daily drudgery of sign washing, trail maintenance and ironing the corners of the shirt you are wearing all worthwhile details. They didn't distract the visitor from the message you were giving him or her.

Interpretation can assist a visitor in a keener appreciation of the object or area. It can help achieve management goals promote public understanding of the agency's message and minimize impact on the land resources. Interpretation provides a meaningful link between the visitor and object.

Interpretation can include costumes, puppets, 'first person' or 'living history', signs and or leaflets of explanation or verbal messages through interpreters in uniform, working in the garden or doing work on site. Interpretation also includes exhibits as well as silent messages: leave site meticulous, pick up cigarette butts, vistas, etc.

Garden Manual

This is a simple tool that should be given to all staff members and used; it can contain the following type of information:

1) Garden Rationale such as why have a garden on the site? The garden enhances the historical perspective for the visitor by providing the visitor with a modern/historical point of reference. It adds to the interpretive message. It provides an opportunity for the interpreter to impart a wide range of information in a less formal setting than inside a building. The garden can provide a very accessible multi-sensory experience for a large number of visitors. One can see, feel, smell and taste the difference between historical and modern varieties.

2) Garden interpretive messages such as the preservation of old varieties allows the site to participate in helping conserve the world's seed gene pool. The garden provides a point of contact between the site and other agencies involved in conservation practices.

3) Staff and early gardeners on the site

4) Garden Layout - historic and modern interpretation plantings

5) Plant variety descriptions, sources of the seed and historical and cultural information

6) Use of garden produce; it is important to clarify who on staff is responsible for picking plants on site. The cook may well want a plant that is being saved for seed

purposes. Not all staff should have removal privileges. For historical purposes it is helpful to understand how food was kept year round through the use of root cellars, canning etc. These arts were survival skills.

7) Seed Saving activities may dictate having seed saving gardens separate from display gardens. If you are trying to save seed of Brassicas for example, you need to use mesh bags to prevent cross pollination. Also, rare and beautiful plants such as Moon and Stars watermelon might be too tempting for a visitor. Some sites in the East have experienced theft from their gardens; I never had that problem.

Landscape Plan

The Landscape Plan indicates where vegetation, architectural elements and utilities are located on the site. Vegetation includes plants, trees and flowers. Architectural elements include structures, roads, fences and garden accessories. Utilities include irrigation, drainage and power supplies. The Landscape plan includes vistas and other landscape features. Viewpoints provide continuity and are a base for communicating impressions to others. Look from within the landscape and the views also into the landscape.

Site Inventory

A site inventory can be a part of this plan as well as the Master Plan. It is an inventory of existing plants on site. How to do this way discussed earlier in the document. Some things happen quickly and others over generations and then some things don't happen as one plans. Monitoring and reviewing the progress is imperative. The time scale for modifications should be estimated too which helps you draft a labor cost and time allocation.

This plan allows the development of long term plans for vegetation including maintenance task list, methods and procedures. Identification of habitat includes species lists, the niches filled by various plants and animals in an ecological relationship, and the succession phase the ecological area is in at the time of assessment. The end process of growth is called a climax community.

Zoning

It is a useful exercise to separate the site into various zones which will provide clarity in writing the maintenance guidelines. Zoning allows different maintenance regimes to happen simultaneously and different treatments for different areas. Areas can be rated for priority for new work and the justification noted.

Views and Vistas

The visitor's experience is made up of a collection of views during a walk around the site. Create, clarify and improve the views. I recommended that in vista and view presentation they:

1. Consider long and short views, separately and together and develop aesthetically satisfying moments and interactions. From any view point consider both the far and near elements in their aesthetic and interpretive contexts. Strive for satisfaction in both vista and close views at the same time.

2. Look at the same view line from both directions to see that elements make sense from more than one view point if they appear in other views. All new and old plant material must be viewed from all sides to determine landscape impact.

3. Focus views. Ensure that the major view has a focal point and that all elements contribute to it. It may be a long or short view. Identify the focal point and the character of the view.

4. Consider the sequence of the view experiences as one walks around the site. Plan for contrasts, predictable changes and surprises. Identify the effect desired at each moment and enhance it with all possible means to clarify the experience. Think of the walk as a drama with peaks and valleys of emotional and aesthetic experiences. Insure that distractions are not introduced into peak moment locations.

Paths and paving materials

Paths are directional and lead the eye and foot to somewhere. They also control the progression around the garden enabling certain views or features to be seen from intended positions. The character and maintenance of paths influence the quality of the garden. Paths are seen, felt and heard. Handicap accessibility to your site will require consideration of path width and fill.

It is important to understand the meaning, structure and value of an existing path and that a careful assessment is made before deciding what improvements will be made. Consider when the path was constructed. What phase of the garden does it relate to? Is it important to the overall design? Is it typical of the period and that locality? Was it particular in design to an owner or designer? Where does it lead to and from? What was seen on the way? How did it relate to buildings and other paths? What traffic did it carry? How frequently was it used? How was it constructed including original width, depth and drainage? What was and is the quality of the workmanship and materials?

Where did the materials come from?

Pictorial evidence is useful for comparative widths, type of edging and surface appearance. Garden archaeology gives information; a trench across the path to the full depth of the construction and about 300 mm either side will usually show the method of construction, dimensions and drainage.

The present function of the path is important. Does it serve its original functions? What traffic uses the path? Is the traffic heavy? How frequently will it be used? Is it a primary part of the overall design? Is it rare or unique in design? Is it critical to visitor circulation? Can you access it for repairs? Will pick up on shoes cause damage to building interiors? What is the present level of surface in relation to adjoining surfaces? What material adjoins the path? Is the surface unsightly or dangerous? Site and weather conditions will determine path slope and choice of surface materials.

Paths should be kept dry, even, weed free, clean, safe, continuous and consistent with a determined width. They should also meet all local and national regulations for handicap accessibility and safety standards.

Edgings have been in and out of fashion, depending on the time period. Edging is indispensable between soft granular paths and cultivated borders. In the 19th C a variety of decorative terra-cotta glazed and unglazed tile edgings became popular as they were cheap and easy to use.

Organic or not?

I believe that our earth has had enough chemical fertilizers, herbicides and insecticides for another century. My personal philosophy supports organic farming and gardening as well as lawn, home and site management. More and more people are becoming sensitive to chemicals in the environment; a ‘green’ site is definitely a healthier site and making decisions to reduce, reuse and recycle makes sense economically and ethically. Offering healthy alternatives is a good visitor attraction too.

Historically lawns were cut with animals or scythes and manure and crop rotation to enhance soil fertility. There is a lot of wisdom in old practices.

Every library has books and videos on organic gardening and often local people who are more than happy to share information on the fine art of organic growing. The biggest disappointment for most converts is trying to replace a conventional product

with a so called more organic substitute.

Snake oil salesmen come in all sizes and shapes. I found in the mid 1980s that various products were popping up around town, with testimonies and claims of being the answer to organic growers. Often the products were no better for the soil or plant than the conventional chemical products. It is wise to build a healthy soil system and it takes three to five years to get an organic garden 'working' well. It shouldn't cost a fortune to keep a garden healthy. Buyer beware when it comes to any commercial product on the market.

There are few regulations governing the use and enforcement of the terms 'organic', 'natural' and 'biological' so again, buyer beware. Read labels and ask for product information.

Lawns

It still is a sign of affluence to have soil covered with lawn. Lawns are nice places to walk and definitely enhance the garden, however city lots full of grass and no gardens are to me a waste of money and energy. Lawn mowers are noisy especially if they are used as recreation devices at 5 am on a summer morning. Fertilizer and herbicide run off are a major pollution problem in our water systems. Lawns are nicer to walk on than pavement though and with proper attention to the type of grass you choose, can be managed organically and need a minimum amount of cutting.

Start out right and choose the right grass mixture for your area. Different parts of the site can require different types of grass. For sunny dry areas a grass mixture that is drought tolerant will probably include some type of Fescue grass as well as the standard Kentucky Blue Grass. Kentucky Blue is a good shade tolerant grass, but not the thing for prairie lawns, or ecoscaping.

Organic management of lawns is very possible. Do not apply too much fertilizer. At *The Grist Mill* we used to make up a spray tank full of kelp and fish fertilizer and spray all the lawns in the spring. This was usually adequate to keep a lovely green lawn that grew slowly. Kelp and fish can be bought in powered form from various horticultural firms. This mixture is my answer to all gardens; it is like a spring tonic for all plants. I've never found a tank that didn't leak, though, and there can be a twelve hour time where the lawn and anything in contact with the spray smells of fish. Don't do the spraying the night of a special event at the site; it is best to spray in the evening or morning when it is cool. Don't spray during the heat of the day either.

Weed eaters can do a lot of damage very quickly to sign posts, heritage buildings, trees

and plants. So can lawn mowers. (see Cemetery Maintenance for some ideas).

There are many books in the stories and library that give good advice for keeping your lawn off drugs. Check out the local horticulture club for recommendations on companies that practice organic lawn maintenance.

Maintenance Plan

Maintenance is the day to day operation which ensure the short-term objectives drawn up in the Master Plan. The philosophy of maintenance includes goals and objectives and general directions. It is a process of dividing up the site into zones and ensuring that each zone is cared for properly. This involves identification of time and costs of all procedures in man hours and identifying the highest standards of maintenance ensuring tasks are done at the right time with the right tools.

Imagine the garden season and divide it into periods of intense and moderate work. Spring planting and soil preparation and fall harvesting are usually the most labor intensive times. Maintaining, watering and weeding are not as labor intensive. Mowing laws is labor intensive; the trick is keep the lawn looking nice but don't over fertilize it. Who wants to cut a lawn twice as many times as it needs to be cut? It is a waste of time and energy.

Documentation includes concepts such as:

Aims

A statement of the policies which will underlie the management of the land, including the intended balance to be achieved between the various land use issues and interests.

Survey

What is on the landscape now and how it is being managed. A vegetation survey should be done every five years with annual weather reports and garden reports and plan. These help form a baseline for analysis and a statement of objectives.

Analysis

A combination of aims and the survey component. This examines the options for management of the land and interrelationships between existing and potential land uses. Potential problems and conflicts are identified and various interests weighed.

Management objectives

Specific statements on how the Aims are to be pursued in both the long term and short term. This includes an overview of the work required and resources needed to achieve the objectives. Monitoring and review are required as a record and assessment of management achievements together with proposals for periodic review.

When planning, and during daily operations, it is important to have all staff members become visitors on the site; each day the site should be looked at through the eyes of the visitor first coming to the site. The visitor may have visited many historic sites during his or her lifetime and may or may not have a specific reason for visiting the site. Are the messages that you want the visitor to see, know and feel really clear? Does the place look clean and inviting? Are cigarette butts picked up telling them you don't want butts ground into the gravel?

Focus on little details. When putting up structures, build something well and historically accurate in the first place and it will compliment the spirit of the place. Build something in haste or with modern additions and it will detract from the total experience of the site. I have visited over fifty historic sites in North America and untold sites in Europe and the South Pacific. A spirit and energy and love that goes into the site is apparent to me as soon as I arrive at the place.

I want to see that the site respects environmental concerns in every aspect of site presentation. I do not want to find Styrofoam and plastic but real dishes and cutlery. I do not want to eat potato chips on a historic site. I want a touch of the past in everything I do on the site.

I respect Victorian manners from all staff and feel that I deserve to learn something from my visit. I hate to miss anything and it is up to the site to manipulate me to the views and objects that are significant and don't waste my time with generic trivia but excite me to learn more about what is unique and special about the site. Give me benches to sit on to contemplate what is in front of me and remove as much of the modern as possible. Screening is a valuable tool.

In no circumstance should treated lumber be used on historic zones. Wood can be treated to delay rotting by charring the wood and applying an oil over the area to seal

the wood. Square nails and old style hardware are available.

I recommend that staff should be provided with written instructions and supervised by the Head Gardener when adding or removing plants from the site. The Collections Committee should approve all additions or deletions and this consultation process will eliminate the problems associated with one person making a decision without the long term vision of the site in mind.

Finding a consultant or contractor

There comes a time in every project when outside expertise will save money and time and often help the project develop. Knowing when to call for help is the sign of a wise person. I always call for help in pruning, although I know all the basics. I can spend days pouring over old seed catalogues in an archives, searching for a name of a plant, but am bored after the first ten minutes up a tree cutting out branches. To each their own.

Make an inventory list of who you know and their skills and talents. You will be amazed what you come up with. Then, start asking at local garden centers and agriculture and garden clubs for people have outstanding skills in various things, including pruning, design and creativity. You cannot judge a product or service by price alone, nor do you always get what you pay for. A big name can command a lot of money, but a local person who is aware of your climate and soil and plants can often do as good a job for a half the cost. In England, having a big name can fetch you lots of money, and even better if you have a book out, or know Prince Charles.

In North America realize that the field of heritage gardens is very new and there are few people with the awareness and scope of skills that you will need. The guys on the gardening shows don't necessarily know anymore than you do about finding historic plants or repositories for old seed catalogues. Hire the best you can for your money.(Advertisement - hire Sharon to do this work!)

It is often easier to train someone with a keen eye and creativity than to hire someone who thinks they know it all and is afraid to ask for help and advice. You can't afford to loose a tree or plant to keep someone's ego intact.

Try to keep your money circulating in your own community. These days it is tempting to buy at the big chains, but remember that the guy at the local hardware store struggles to survive, and where do you turn when you can't get the emergency plumber on a Sunday of a special event? The local hardware guy of course. Same thing with local contract work; if they want to have a good word of mouth then they will care

about customer satisfaction. Maybe you can get the local blacksmith to make you some replicate tools, or the local fix it man to design you a little machine to thresh out your heritage wheats. We found untold treasures in the Keremeos community and usually ended up with life long site friends from getting community people involved in site projects.

It is always worth making a written contract to make sure that both parties are aware of the expectations and obligations and liabilities. It is wise to specify the work time; if you are running special events at your site you cannot have a pruning saw running. Ambiance is destroyed. Explain your rationale and the idea of ambiance to the contractor; don't assume he or she understands the concept. I worked with a family who mowed the site lawns and they never really caught on that bringing their dog to work, and coming ripped clothes and bare feet, and mowing during a concert distracted from the site presentation. A contract would have solved the problem.

Vandalism

Cuyler Page, Site Manger at *The Grist Mill* has taught me much about keeping a site free of vandalism. He explained that in each human being is a fiber that recognizes beauty. The goal of maintenance is to ensure that the site always looks fresh and makes the visitor feel like he or she is the first person to visit the place. Keeping sign surfaces freshly painted and clean helps. Also, training staff to stop and pick up a piece of garbage or a cigarette butt. Also, not leaving tools and equipment laying around unattended. It looks untidy.

Making a place look loved truly helps it stay free of vandalism. Training all site staff to keep a watchful eye out for potential trouble is worth all the repair work in the world. Cuyler used to leave very precious artifacts out unguarded and never once was anything taken. His displays showed love and respect for the artifact, the building, the site and the visitor. I would expect that rationale works for most things in life.

Teaching local people about the significance of the site will pay off as generations of kids grow up. They will grow up loving and respecting the place as something of their own.

Tools and equipment

Trying to find a Victorian garden tool in North America is not easy. However, finding one in England is easy at "Clifton Little Venice" in London. Visit the tool room and see a row of authentic hoes, rakes, spades and other tools. Or a glass cucumber jar. However, these are not cheap.

The tools at Lee Valley are good quality but they look modern. They will not work if you are attempting to recreate living history in a period garden. It is better to search out second hand stores and buy well worn older tools than buy new. However, it is very sad to see old tools break during heavy labor. Use the modern Lee Valley tools for heavy work, and keep your old tools for ‘show’.

I never let anyone use my good shovel. Non gardeners do not understand this, but too often I’ve found my tool left up in the field. Not only are unattended tools potentially dangerous for a visitor or other staff member, it looks unsightly and is an insult to the equipment. Tools are meant to be cared for, and used and then put back in the tool room. Ideally the dirt is washed off the shovels and hoes but that is not always realistic. However, good garden tools are indispensable to garden work and are worth caring for. Roll up hoses when they aren’t being used as they will look neater, and will last longer. Never leave tools including wheelbarrows unattended for safety and aesthetic reasons.

Cemeteries

Many cemeteries originally developed as family graveyards on farms or adjacent to rural churches. Gravestones may have been moved from the original site to the center to simplify maintenance. Scrape marks caused by maintenance equipment, especially weed eaters, will hasten deterioration of gravestones and markers as well as heritage trees.

Abandoned cemeteries are a problem: landscape evolution and decay and overgrown trees, roots push out gravestones, lichen and algae growth. Urbanization changes the setting of the cemetery. The physical connections to a village or church may be obscured or is gone. Each cemetery site is unique. Education and training of maintenance personnel is imperative to increase awareness of the vulnerability of gravestone and markers to maintenance equipment, herbicides, fertilizers and poor drainage.

Maintenance

Use equipment suited to the task; small scale equipment including small weed eaters should be used with care. A plywood shield will help to protect fixtures. Fit lawn mowers with rubber bumpers made from discarded tires; mowers should be fitted with blade guards to stop sticks and rocks from being thrown. Chemical reactions can occur from herbicides and fertilizers and damage headstones. Do not compromise site integrity to facilitate management ease and machinery use!

Cemetery plantings have changed with time, too. In the1860s turf was used with bedding plants and a few trees. In the1870s there was a reaction against clutter and ornamentation of the preceding years. By the 1930s exotic species plantings were rejected in favor of more natural effect including massed shrubs and evergreens.

Old Tree Avenues, Arboretum Trees and Specimen Trees

Most avenues are planted with a single species. This can be vulnerable to disease, such as Elm Disease. Sometimes a change of species is dictated by disease.

Trees have different life spans. Trees in senile phases of growth become costly in maintenance compared to trees in their growing phases. Don’t become a tree butcher and ensure you care for trees with care and respect.

Once or twice a year examine the canopy, branch structure, main truck and rooting area. Record stress, dieback, weakness. Determine the action required and draw up a priority list for maintenance activities.

Replacement planting is a great idea for keeping the look of a boulevard intact. Same thing with specimen trees. Don’t wait until they are dead before considering their replacement.

Agriculture History

All heritage garden courses focus on the ornamental and it seems almost a social blunder to mention the word vegetable in a landscape course. There aren't any courses to study how the common person planted a vegetable garden in the Victorian era. The recent BBC series on "The Victorian Garden" targets the upper middle class British garden design and philosophy and gives people generalities on planting styles.

Agricultural history is a neglected yet most necessary aspect of history. Food provides nourishment for the body and the spirit. People generally try to cook and eat the foods that come out of their cultural, ethnic and social backgrounds. Today we can go to the grocery store and buy foods that are 'not in season' and have been transported from far areas of the globe. Many people do not even bother to garden anymore; it is cheaper to buy food than grow it. However the tastes and varieties of the past deserve to be experienced first hand whenever possible.

Food plants come from around the world. The concept of Centers of Origin as described by Vavilov target areas where plants are found in great density and diversity. Nikolai Ivanovich Vavilov, born in Russia 1887. As well as many other plant collections he found 26,000 strains of wheat from 1923-1931. His comprehensive study of the world plants and animals developed the concept of Centers of Origin and Centers of Diversity of species. Stalin put him into a camp for his 'radical' thoughts, and he died in 1942, probably of starvation. Scientists in his Leningrad Gene Bank starved to death but kept the precious seed intact during the food shortages of the War.

Today, the Gene Bank is threatened due to lack of funds after the collapse of the Soviet Union. Each day, one assumes, a precious seed dies in a Gene Bank somewhere due to lack of finances to grow out the seed and keep it viable. It isn't just the one wild species dying every 18 seconds that we need to be concerned about, the agricultural and horticultural crops are equally at risk. In any living population there is variance and mutation for survival of the species and natural hybrids can occur. As the world was explored, plants and seeds were collected and taken home and introduced into new areas of the world. Sometimes these new introductions became 'weeds' in the new area; the Scotch Thistle was a novelty in the mid 1800s in England and was brought to Victoria B.C. as an ornamental. It is now an invasive problem in fields.

Looking at old cookbooks gives some clues as to what people ate during a particular era, which links directly to what they would have had in their gardens. Cookbooks for poor people surfaced in the 1850s. At any table, anywhere in the world, the social status of the host is enforced through the offerings on the table.

Heritage Plants

The term heritage or heirloom are often used interchangeably, however there are some experts that define '**heritage'** plants as follows:

Bernard Jackson, curator of Oxen Pond, Newfoundland: 'plants defined here as a clone of a plant that has been there prior to 1940'. P. 8, Landmark, October 1990.

Roy Forster, retired curator of VanDusen Gardens, Vancouver: 'is defined as being worthy of conservation, and having been introduced prior to 1940'. P. 23, Landmark, October 1990.

Roger Vick, retired curator of the Devonian Botanic Garden, Edmonton: 'plants now, or at some time, under cultivation in this county; plants that have been selected or developed through breeding to fill a need in time'. p. 24, Landmark, October 1990.

Ina Vrugtman, retired librarian RBG Hamilton: 'heritage ideas of conserving and preserving gene pools are entirely against the nurseryman's movement which wants new stock every year'. p. 25, Landmark, October, 1990.

The Horticultural Heritage Committee of Canadian Plant Conservation Programme: 'a clone of any introduced ornamental plant species or cultivar, traceable back to a specific plant in use before 1920. Also, all ornamental cultivars developed in Canada'. Landmark October, 1990.

Sharon Rempel: 'a plant that has importance for a person due to cultural, spiritual, culinary or other personal reasons; seed may have been passed down generation to generation which means it is open pollinated; includes all plants, not just ornamentals'.

Old varieties of plants will generally be open pollinated, which means they breed true to form generation after generation. Some plants cross pollinate easily allowing great numbers of varieties within a plant group. When attempting to find old varieties of plants it is necessary to trace the plant back through the various places it might have travelled and eventually check out its center of origin. Taxonomy, the branch of science concerned with the description and nomenclature of different species has received less funding over the last decade and it is becoming more difficult to find taxonomists. There are cases where a plant has become extinct in its original range but may be thriving in a garden and it is imperative to identify a plant correctly before removing it. It will take a coordinated effort between amateur conservators, like yourself and more professional people, like gene banks and botanical gardens to ensure

that treasures are no longer lost.

Hybrid versus open pollinated

It is vital to understand this terminology when dealing with plants. Hybrids are a result of a cross between two varieties. It might be a natural cross or human induced, or now with genetic engineering it might be done between two or more different species. Saving seed of hybrids will be risky; seed may be sterile or will begin reverting back to characteristics of the breeding parents. Evidently not many of the old hybrids survive naturally unless they are preserved in gene banks.

Many hybrids are now being produced that are dependent on chemical fertilizers to produce yields. Many of the old open pollinated varieties grow well without chemicals. Biotechnology is allowing hybridzation between species that are not related; there are ethical, environmental and nutritional concerns that have not been tested over long periods of time with transgenic plants. See the section on Biotechnology in the appendix for suggestions of good books to give you information on this subject.

Open pollinated plants breed true generation after generation as long as a few simple guidelines are followed to ensure proper fertilization. Cross pollinated plants have pollen that travels great distances; some examples are corn and beets. Other plants are self pollinating such as wheat, tomatoes and many ornamental flowers. All our heritage plants are open pollinated or produced by vegetative reproduction such as cuttings or tubers.

Finding heritage plants

Once you have done your research and have ‘want list’ of plants then the task to find the seed or plant becomes a task for a good networker.

1. Contact other sites that are using plants of the similar time period than yourself. They may have found sources for various plants.

2. ALHFAM (Association of Living Historical Farms and Agricultural Museums) has a plants and seed committee. As the committees are volunteer run, they change so best to visit the website http://www.alhfam.org/welcome.html for current contacts.

3. Contact plant societies that specialize in the family of the plant you are seeking.

Someone might have it or know who does.

4. Contact your local botanical garden and they might know who has the plant.

5. Put a 'wanted' notice in the "Seeds of Diversity" newsletter. P.O. Box 36, Station Q, Toronto, Ontario M4T 2L7. Web site www.seeds.ca

6. Consult a copy of *Gardening by Mail.*

7. Contact a consultant who works in period gardens for a suggestion; they may charge you an hour of time to assemble a plant list and save you days of time searching.

Seed Catalogues

Seed catalogues have always tantalized gardeners with color pictures of the 'newest' and 'best' flowers and vegetables. Seedsmen of the early 1800s didn't have color catalogues but they described the rapidly expanding selection of seeds with great verbosity. The early settlers brought the seeds of their culture with them; these foods nourished their palates and spirits in the new country. Sometimes these seeds adapted and sometimes they were forced to try other crops and adapt the recipes. And, being gardeners they ordered a few' new ' and 'improved' varieties through the mail.

In the late 1840s mail order became popular with lower postal rates. In the early 1800s seed catalogs reflected the needs of typical customs, self-reliant farmers who grew all their food and fiber and medicine. After the Civil War an economic boom happened. More leisure time and public's growing interest in natural history. Collecting dried and pressed botanical specimens was a popular hobby.

The seed catalogs in the US and Europe between 1870 and 1900 mirrored these social and economic changes. Hundreds of species of ornamental plants were featured. Selections of medicinal and herbal plants shrank. The 1880s gardeners were tantalized by more elaborate seed catalogues and they could order from the U.S., Eastern Canada and Europe. The railroad brought the world to the west. And plants held great value; it was very prestigious to have something exotic in a plant collection.

According to Robert Becker (Hort Science, Vol. 19 (5), October 1984 p. 610, 772) "the first commercial seed house in the United States is believed to have been David Landreth who started his business in Philadelphia in 1784. The Shaker communities in western Massachusetts and eastern New York entered the vegetable seed business in

about 1790 and the community at New Lebanon, Yew York became know for high quality seed. By 1819 Shakers sold only their own seed. The Shakers developed the paper seed packet which facilitated retail merchandising.

Several methods were used to sell garden seeds in the 19th Century. The wooden seed box filled with rows of paper envelopes was common. Peddlers sold seed door to door in rural areas and mail order catalogs became popular after 1825. At first seed catalogues were plain but after 1870 increasing attention was given to cover design and engraved cuts were added to illustrate cultivars. The last part of the 1890s and early 1900s were the golden age of seed catalogue art. The writers and illustrators were not always concerned with truth in advertising and exaggerated claims were not uncommon.

In the Lower Connecticut River Valley onion seed was produced as early as 1750. The towns of Wetherfield and Southport gave names to onion cultivars still around today. Almost all domestically produced seed was grown in the east until after 1875 when the industry shifted westward to dry climates".

Market gardeners often raised their own seed to assure quality and variety purity. They developed strains to suit their local growing areas. "Early Jersey Wakefield" cabbage was selected from the English cultivar "Early Wakefield" by the Neward, N.J. gardener Francis Brill.

When new cultivars were developed the prefix that identified the line with the company or the name of the company farm was often attached, such as Bloomsdale for the Landreth company. Sometimes the town of origin or the individual who developed the plant was mentioned.

Synonyms are different names used for a common plant variety and this was a very common practice throughout the Victorian era. Tracing old varieties through common names can be exciting and frustrating. These can be very misleading because 'common names' can change from company to company. To further complicate matters a modern variety may bear of the name of an older unrelated variety. The "Acorn' squash of the 1800s is a different species than the modern variety of the same name. The old Acorn is now called Turk's Turban.

Thomas Jefferson started keeping records of his gardens in 1776; his records show a great deal of material introduced into North America through his Montecello garden during the sixty years of his life. His book relates how important swapping seeds between friends and neighbors was for gardeners of the time. As inexpensive seed

became available, the custom waned.

Weed Catalogues

The companies competed to see who could offer the most exotic selection of plants. Some of the plants are some of the most persistent weeds now. The water hyacinth came in 1884 and this plant has now become a major weed outside of South America. Dried flower arrangements dispersed weeds too. Jointed goat grass is a problem in parts of the country and is a close relative of wheat. Johnson grass for grazing hybridized with sorghum to a weedy offspring.

Barberry was (and is) a problem as it carries wheat stem rust fungus and it was popular in the early Victorian era. Common barberry was planted all over the Midwest threatening the wheat crop. Diffuse knapweed invades rangeland and there are many more stories in each community of introductions becoming invasive weeds. Hemp was used for fiber. Bird seed helped introduce hemp, canary grass, corn poppy and rape.

Moral of the Story

Wildflower mixtures must be carefully scrutinized before planting Ask for a complete listing of plant names in a mixture before buying or planting. Do not plant anything that you cannot verify contents; don't bring noxious weeds into your garden or area. Check with the local District Agriculturist or Horticulturist if in any doubt. One area's pretty flower is another area's noxious weed.

Historic integrity versus modern agronomic hazard. Finding the balance isn't easy.

Cultivation and husbandry practices

Just as tools, clothes and varieties have changed, so have attitudes towards plant cultivation. Each era has 'preferred' crop rotations, land cultivation practices and equipment. Modern agriculture supports monoculture, high input high out farming, with huge machines to do the work. The weather determines when to plant; the machines cannot get onto a field or garden when the soil is wet.

There are museums full of old farming equipment. Old farming and gardening books expound on the techniques of the time. It is very important to adopt these techniques if you are attempting to recreate history in costume on a site. Most sites attempting to grow old varieties do not realize that old practices go hand in hand with seed.

It is most useful to look at Farmer's Almanacs from both England and North America. The contain the scientific trends of the time as well as the accepted folk lore.

Folklore and traditions around cultivation go hand in hand with the plants.

Heritage fruit

According to Dr. Aleck Hutchinson (in Ontario Museum Association, Quarterly, Autumn 1979, Vol 8 #3, p. 7-10) "the Hurons of Georgian Bay and the Neutrals of Niagara had well developed agricultural systems in the 1500s. The native Canada plum (*Prunus nigra*) was used for prunes. Apple orchards planted prior to 1800 were seedling orchards and quality was mediocre. The early wild peaches were brought to Mexico and Florida by the Spaniards. From 1700-1800 the most common form of apple was used for cider."

In 1859 The Fruit Growers Association of Upper Canada was formed and in 1800 20 acres were used at Guelph as a fruit testing station.

Over 8000 apple varieties were grown at one time and now the big four, McIntosh, Spartan, Delicious and Golden Delicious dominate world fruit stands. Sometimes Granny Smith and Gala make it with the big four. None of these apples taste great to me, but I've tasted some specialty heritage varieties and my mind remembers there is diversity on the branch somewhere. The marketing agencies and big chains dictate what will be grown and kept in cold storage through the winter. and the fewer the varieties the easier to regulate the market and for retailers to stock and sell.

The same goes for soft and berry fruits; there is a great deal of diversity around. Historical fruit societies seem to survive throughout many countries. Fruit attracts more attention than cereals or vegetables; it must be glamorous to many.

In most areas there are local people who are good at identification of varieties. These folks should be sought out before a tree is cut down. Often old abandoned trees are a source of unique genetic material. Taking a cutting or budwood at the right time can ensure the survival of the variety.

"Strawberries are one of the most popular soft fruits. The French crossed *Fragaria chiloensis* x *F. virginiana* for our modern strawberry. Chile x Scarlet (1824). The English produced *F. ananassa* which started breeding work in Europe and America.

In late 1700s-early 1800s varieties of *F. virginiana* the Scarlet strawberry were popular in England. Thomas Andrew Knight from Herfordshire was one of the pioneers in breeding work." (George Darrow, 1966. The Strawberry, Holt, Reinhart and Winston, New York, p. 75).

Heritage cereals

Documenting early varieties of wheat is very difficult. "Red" and "White" prefixes are often used with the name of a person or location. There were dozens or local selections in England and it seems logical to think that settlers brought their local varieties with them. With DNA work we will one day be able to trace lineages accurately.

The first commercial variety in Canada was 'Red Fife' selected by farmer Fife in Ontario in 1840. Fife received seed from Danzig that was sent via Glasgow. 'Red Fife' was grown all over North America by the 1860s. 'Red Fife' was crossed with an Indian landrace wheat 'Hard Red Calcutta' to produce 'Marquis' in 1895. By 1910 'Marquis' had put the Prairies on the map as the Bread Basket of the World. In 1935 'Marquis' crosses became 'Thatcher' and many countries have used these three relatives for their early wheat breeding programs. That means there is a very narrow genetic base for the world cereals, leaving us very vulnerable to a disease.

Wheat is a globally important crop and there is a great deal of old material still around but it is not catalogued or evaluated. DNA analysis will assist us greatly in determining the evolution of wheat. There are archaeobotany samples of wheat that are 7000 years old; there are surviving samples of thatch in houses in England from 1300. The wheat history is just starting to unravel and the next decade will give many clues as to what was grown in the past.

It is easy to keep the rusts and smuts off the wheat using a tea made from horsetail (*Equisetum* sp.) and sprayed on the foliage after a period of stress such as rain or cold. Older wheats were replaced with new and improved wheats to keep ahead of the diseases rusts and smuts but also to sell more seed. Hybridization and patenting of plants is another modern way of ensuring the customer must buy fresh seed from the seedsman.

To make horsetail tea. You need a handful of the plant, boiled in a kettle of water for about four hours, then about a ¼ cup of that liquid added to a 5 gallon backpack sprayer and sprayed fresh onto the plants. Use within 2 days of preparation.

Wheat is a spiritual food in many cultures including the West. Bread is used in Holy

Communion and in many rituals. It is a beautiful crop and deserves to be grown in any garden.

Everyone loves a good loaf of bread and a good number are thrilled by a field of ripe wheat and a few of us get really excited when we find an old variety. I curate a collection of Heritage Cereals and Ancestral Grains. Visit http://members.shaw.ca/oldwheat to visit my website about old wheats and our growing network of organic farmers growing heritage wheats.

A historic site partnering with an organic farmer to maintain regional varieties of heritage grains can be a win/win situation for all concerned. Contact your local organic farming group or visit the website mentioned above. There are thousands of old cultivars around and most haven't been considered for nutrition or taste. They were replaced by 'new and improved' varieties. In Canada it is illegal to sell a variety of wheat that is not 'registered' by the Seed Act and approved by the Wheat Board. Modern varieties were taken into poor countries during the 1960s; this Green Revolution displaced a great deal of local biodiversity.

The Heritage Wheat Project can put you in touch with researchers and farmers working with heritage varieties. Website: http://members.shaw.ca/oldwheat

Heritage ornamentals

This synopsis sums up the story of the vast array of ornamentals. There are untold books on the market for various heritage varieties of everything from Roses to Zinnias. The following comes from an article by Tony Lord, January 1992, The Garden Flora: An Outline of the History of Plant Introductions and the Development of Garden Plants. Class notes, U of York. (Remember that these dates are for introduction into ENGLAND)

"The character of gardens is determined largely by the plants found in them. They have changed greatly over the past 400 years as plants from different origins have been introduced and varieties of difference appearance introduced. Plants were not simply the decorative furnishings of the garden but the reason for the garden. The garden design was often carefully contrived to provide the best conditions for cultivating and enjoying the current plants.

We should not assume that plants that were available were popular or widely grown. The Romans are credited with the introduction of the walnut, Spanish Chestnut, domestic plum, apple and pear. The Normans brought *Dianthus caryophyllus*, the forerunner of the carnation and wallflowers. By the mid 16th C. most plants were

grown for use rather than ornament. The second half of the 16th C. saw the arrival of flowers, lavender, bearded iris, tulip, French and African marigolds, Crown Imperial and first North American plants such as bulbs, tubers, succulents. Plants with short lived seed such as American oaks, hickories and maples arrived in the 17th C.

The founding of the first Botanical gardens enabled new plants to become established in cultivation. Pisa was the first (1543-44), then Paudua and Florence, Paris in 1597, Oxford in 1621 and Edinburgh in 1680. Between 1560 and 1620 there was a large influx of plants form Turkey starting with the tulip, then muscari, scilla, fritillary and narcissus, cherry laurel, horse chestnut, common lilac and mock orange (syringa or white pipe). Plants from America often arrived via Spain and were called Spanish or Indian; early introductions included canna, helianthus, tobacco, tagetes and potato.

The tulip arrived in England in 1577; narcissus tazzetta, opuntia, anemone and helianthus by 1596 and lilac by 1597. In Elizabethan times many purely decorative plants began to arrive, to be set in formal gardens with both culinary and decorative plants mixed together. Hedges would be of 'quickset' (common thorn or common privet, as hedging privet was not introduced until 1885), and bed edged with box or rosemary."

Smythson's 1609 plan of Wibledon House shows separate flower and kitchen gardens, William Lawson's A New Orchard and Garden of 1618 was the first publication to advocate this separation and specialization.

1600-1800s

From 1600-1830 there were many changes in garden fashion. Often it was impossible in the grandest gardens to display a wide range of plants; the design was the main consideration. The mid 17th C. saw a wish to imitate the Renaissance gardens of Italy and then the gardens of France. The flowers assumed less importance as the scale of the gardens and the grandeur of the overall design increased.

Sir Thomas Hanmer in his Garden book of 1659 wrote how coziness (which he called nookiness) was being replaced with spaciousness. Borders were no longer hedged about with privet or rosemary and the florists' flowers were less used in the gardens of grand houses. The plants that Rea, Worlidge, Hanmer and other 17th C gardeners loved were what we now call florists' flowers. They were grown for the perfection of their individual blooms, flowers were formal, symmetrical, often intricately striped or banded and included the auricula, polyanthus, carnation and the pink, hyacinth and the now extinct show ranunculus. The years of Tulipomania ended in 1637. Oranges in tubs were the rage, overwintered in orangeries."

Henry Compton, Bishop of London 1675-1713 had plant hunters working for him in North America and they sent back Liquidambar (sweet gum), Liriodendron (tulip tree) and Scarlet Oak. Mary, Duchess of Beaufort was an important collector of plants and introduced from South Africa the forerunners of the modern geranium.

In 1685 William Temple wrote The Garden of Epicurus and explained French and Italian gardens needed to have air circulation so airy parterres and splashing fountains were part of the design, where as in cool countries like Holland and England they tried to trap the sun in walled enclosures.

Stephen Switzer is credited with the invention of the first lean to greenhouse in 1717. By the late 1700s landscape gardens incorporated a wide range of exotic trees and shrubs in the landscape. Humphry Repton in 1788 allowed more use of plants in shrubberies and gardens devoted to a restricted range of plants such as rose, Chinese or American gardens (composed of lime hating plants, not necessarily of American origin).

1800s-1900

The 19th Century saw a flood of new plant introductions both from plant hunters and hybridists. David Douglas sent plants to England from the West Coast such as Sitka Spruce and Douglas Fir, also Clarkia, Eschosholzia, Antirrhinum, Godtia, lupins and *Mahonia aquifolium*, *Caultheria shallon*, *Garrya elliptica* and *Ribes sanguineum*, the flowering currant.

The first half the 19th C saw the ascendancy of many nurseries. Lee and Kennedy's introduced the first fuchsia in the 1820s. Dahlias, first introduced by princess Augusta to Kew from Mexico via Spain in 1789 were used to create new hybrids. Pelargoniums, used by Hoare of Stourhead from 1783-1838 were used to create hybrids and for bedding.

John Veitch's nursery at Killerton in 1808 influenced British gardening. It sent out collectors such as William Lobb who sent back *Berberis darwinii*, Wellingtonia, *Nothofagus obliqua*, *Eucryphia glutinosa* and the Western Red Cedar, *Thuja plicata.*

There was resentment of the Chinese and Japanese towards westerners so plants could not be exported. The invention of the Wardian case in 1829, a small portable greenhouse, allowed plants to be transported without much loss of moisture and China opened up in 1842 and Japan in 1858. Robert Fortune went to China in 1844 and collected Japanese anemones, weigela, Winter Jasmine, *Cryptomeria japonica* and tea plants that were used in North India. Some of his original plants exist in the China

Garden at Biddulph Grange.

Fortune sent plants back from Japan in 1860 as did John Veitch for the family nursery. The plants of China, Japan and Himalayas most excited gardeners through the late 19th C. Rhododendron were sent back. In 1927 Harold Comber chose high altitude plants form Chile and Tasmania including *Olearia phloggopappa.*

There were so many varieties of plants that specialization became almost essential. A wide range were suited for bedding, the fernery, the rock garden, the pinetum. The beauty of foliage was appreciated too. Each garden could have a specific effect with the chosen plants. Jekyll showed how a herbaceous border could be planted to give aesthetically pleasing effect, texture and form and color.

Roses changed very rapidly; the roses of the 1860 garden were very different from the 1880 and that again of 1900. Up to 1800 roses hadn't changed much and included ancient varieties such as *Alba maxima* (Jacobite Rose), *R. gallica 'Versicolor'* and *R x centifolia*, the Cabbage rose. Hybrids of these varieties comprised the bulk of the roses. The arrival of the repeat flowering roses from China gave rise to the Bourbons and Hybrid Perpetuals. Towards the end of the 19th C. the Austrian Briar, *R. foetida* was used to produce strong yellow roses and Austrian Copper Briar *R. foetida* 'Bicolor' to produce oranges and scarlets which are so dominant in the modern Hybrid Teas and Floribundas. Hybridists were also at work on peonies, lilacs, rhododendrons and phlox so each age has its characteristic range of garden hybrids which should be used to recreate the feel of that age. Old cultivars do not always perform well.

According to Stuart, Paxton style parterres were found in most 1830s gardens. By the 1850s gardens had verbena, calceolarias and showier geraniums. Some of the old flowers were brilliantly colorful, like the cross-of-Jerusalem, *Lychnis chalcedonica* but flowered for only a few weeks so the old mixed borders were a continual sequence of different colors. This made planning color schemes difficult. Plant height was a problem.

The new parterres, picturesque bedding, subtropical bedding and the subtle splendors of carpet bedding were based mostly on plants that were all Victorian additions. Verbenas, calceolarias, geraniums and lobelias constitute the four main genera with a secondary group of petunias, dahlias, ferns, chrysanthemums, camellias, rhododendrons, roses and azaleas. (Stuart, Dave C. 1989. 'The Garden Triumphant'. Viking, Toronto, P. 148

Heritage vegetables

George Washington and other country gentlemen including those at the Hudson's Bay Company posts planted and consumed vegetables that would have been considered exotic by the average person of the time. Greens, fresh peas and beans, cucumbers and melons could only be obtained 'in season' which was short in Canada and Northern United States. Dutch cabbage, turnips and carrots were the staples of the early 1800s Canadian diet.

The Victorians loved diversity. Diversity was also a logical step towards survival and if one potato variety failed, there was another to try. There were 600 varieties of potatoes listed in the "Synopsis of Vegetables" 1855 from Scotland.

There are now 2200 varieties of beans in North America. Watermelon comes in red, pink, white and yellow flesh, with some that can store in the basement as 'Longkeepers'. There really is no reason why a garden cannot have period appropriate vegetables with the great selection still around.

Please note that the following list is by no means exclusive, and we recognize new research material that has been complied since Bob did his article in 1979. Robert Becker from Geneva New York was a pioneer in heritage vegetables and heritage gardens. He taught many of us about heritage vegetables. (See Ontario Museum Association, Autumn 1979, Vol. #3 p. 7-14 for a list of Fruit and Vegetable introductions).

Vegetable Varieties Grown Prior to 1850 still available.

Bean: Pole. Scarlet Runner, prior to 1800; Caseknife, early 1800s; Cutshort or Cornfield or Corn Hill 1835; Genuine Cornfield or Scotia early 1800s; Red Cranberry prior to 1822; Lazy Wife 1810; Wren's Egg 1825; White Dutch Runner 1825.

Bean: Bush. White Kidney 1822; Navy or Pea Bean from the Indians; Dwarf Horticultural is one of the oldest; White Marrow or Marrowfat pre1800; Black Turtle Soup or Turtle Soup 1800.

Bean: Broadbean or Windsor or Fava is native or Europe.

Beet: Early Blood Turnip pre 1850; Long Blood Red pre 1850; Long Season or Winter Keeper or Lutz Green loosely resemble the older varieties Half Long Blood or Blood Turnip.

Cabbage: Winnigstadt listed in 1860; Early Dwarf Dutch or Round Dutch pre 1840; Early Jersey Wakefield from England 1840; Brunswick in Germany and to US in 1870; Drumhead Savoy pre 1860.

Carrot: Long Orange pre 1600 later Improved Long Orange; Early Horn or Early Scarlet Horn or Short Horn 1600; Janes Scarlet Intermediate 1830; White Belgium pre 1700 for stock feed; Yellow Belgium pre 1700 for stock feed; French Forcing 1850 later Goldnugget.

Cauliflower: No pre 1850 variety survives. Dwarf Erfurt 1874.

Celery: No pre 1850 seems to have survived. Giant Pascal 1894; Golden Self-Blanching 1880; Smallage is an ancestor of celery used for soups.

Corn: Roasting Ear varieties: Extra Early Adams or Early Adams 1848; Large Early Adams as Early. Adams as is Blands Extra Early.

Corn: Sweet Corn: Stowells Evergreen 1848.

Cucumber: West India or Gherkin pre 1800; Long Green or Improved Long Green 1800.

Leek: Musselburg or Scotch Flag pre 1852.

Lettuce: Cos or Paris White Cos 1800; Tennis Ball or Rose 1833; Boston 1870s an improved Tennis Ball also White Boston, Green Boston, Big Boston 1894; Butter Head 1837; Deer Tongue is an older Butter or Bibb type.

Melon: Muskmelon: Jenny Lind 1840 and Improved Jenny Lind; Early Green Nutmeg or Nutmeg pre 1850; Casaba pre 1850; Persian pre 1850.

Melon: Watermelon: Citron pre 1800 for preserves; Icecream or Peerless pre 1865.

Onion: Red Wethersfield 1800; White Portugal or White Silverskin pre 1800; Yellow Globe Danvers pre 1850; Yellow Dutch 1843; Southport Yellow Globe pre 1836; Southport White Globe pre 1836; Southport Red Globe pre 1836.

Parsnip: Guernsey 1800s; Hollow Crown or Guernsey pre 1850.

Pea: Prince Albert 1846 descended from Hospur, Charlton and Early Frame; Alaska 1880 descended from Nonpareil 1810 and Blue Prussian 1806; Champion of England 1849 apparently the oldest wrinkled seed pea in existence; Little Gem 1865; Dwarf Sugar or Dwarf Gray Sugar or Dwarf White Sugar pre 1800; Mammoth Melting Sugar 1826.

Pepper: Cayenne pre 1828.

Potato: Lady Finger, German Yellow Fingerling 1848; Irish Cobbler 1876; Green Mountain 1878; Burbank 1876; Early Rose 1867; (Rempel's addition Ashleaf Kidney or Myatt's Ashleaf Kidney pre 1850).

Pumpkin and Squash: C. maxima: Boston Marrow pre 1831; Hubbard or Green Hubbard 1820; Mammoth or Mammoth King or King of Mammoth 1834; Turban 1827, called Acorn in early catalogues.

Pumpkin and Squash: C. pepo: Connecticut Field from Indians; Summer Crookneck or Yellow Crookneck 1600; White Bush Scallop 1722.

Pumpkin and Squash: C. moschata: Canada Crookneck and Winter Crookneck early 1800s related to Green Striped Cushaw; Cheese or Large Cheese or Kentucky Field pre 1800; Tennessee Sweet Potato 1847.

Radish: White Turnip 1837; Scarlet Turnip White Tip pre 1859; China Rose (winter radish) pre 1850; Black Spanish (winter radish) 1828.

Spinach: Prickly Winter pre 1800; New Zealand not at rue spinach brought from New Zealand in 1772.

Tomato: Red or Yellow Cherry types pre 1840; Yellow Pea pre 1850; Red Pear pre 1850; Large Red 1843.

Turnip: Early White Flat Dutch pre 1760; Norfolk 1800 for stock feed; Golden Ball pre 1859; Purple Top Strap Leaf pre 1865; Rutabaga or Swedish Turnip or Russian turnip and Lapland turnip.

Seed saving

Seeds are living organisms. Each time a plant is grown out it evolves and it is impossible to know how the heritage plants of today compare with their ancestors a hundred years ago. They may look alike in catalogues but nobody knows what the genetic structure would have been. We know that common names are definitely not reliable ways of documenting a variety, so we often have to go with illustrations as our source for identification.

Varieties evolve each generation a seed is grown. Human selection pressure for more attractive and uniform varieties often hastens the evolution process. Plants adapt to the environment they are growing in; drought, short seasons, soil pH, ultra violet light intensity and other environmental factors. They also adapt genetically through natural and induced mutations.

Deciding which seed to save is a divergent topic. Most gardeners want to save seed from the best plant in their crop and that makes sense. However, a plant conservationist will want to save seed from a spectrum of plants in the crop to ensure a good representation of that crop's biodiversity.

Good gardeners know it is foolish to plant all the seed; retain about half your seed in case their is crop failure and you are unable to recover fresh seed. Throughout all the process of germination, transplanting and seed saving remember to label the plants and seeds. It is impossible to tell one variety from another simply by looking at the seed.

Since 1930 efforts have been made to preserve older varieties in gene banks however the grassroots organizations like Seeds of Diversity Canada, formerly Heritage Seed Program and Seed Savers Exchange in the United States have contributed a great deal to conserving a vast array of historic plant material. These networks are excellent places to start looking for old varieties. It is very difficult for individuals to obtain seed directly from gene banks however researchers can.

Also, it is useful to learn the simple skills involved in seed saving. The hand that controls the seed controls the food supply. There are many see saving books on the market; one of the cheapest and most simple books is "How to Save Your Vegetable Seed" by Seeds of Diversity Canada, P.O Box 36, Station Q, Toronto, Ontario M4T 2C7. The cost is about $10 Canadian including postage.

"Seed to Seed" is a more in depth book produced by the Seed Savers Exchange.

Seed viability

Seed viability or the ability of the plant to germinate is a factor between the humidity and temperature around the seed. Seeds have a varying lifespan but generally it is wise to use seed within five years of purchase. A germination test using wet paper towels can help determine the number of seeds in a sample that are viable. Generally when seed viability drops under 80% it is wise to grow out the plant and obtain fresh seed.

Vigor is the seed's ability to germinate rapidly with good disease resistance. Seed should be dry when they are stored. All seed should be labeled properly during storage. Seed viability is genetically controlled and varies between crops. When in doubt, try a germination test on wet paper and see if the seed will grow. Seeds can be frozen if they have been dried well. Before opening a jar coming out of the freezer, let it sit on the counter overnight; otherwise moisture condenses on the seed and they might start growing. Temperature fluctuations are not good for seeds, so keep your long term storage well sealed and your working collection in smaller containers so less seed is exposed to warm and cool air after opening.

Again, never plant all your seed; the crop may fail and you will loose that variety.

Annual or Perennial

The life cycle of a plant is important to know as well as its natural reproductive tendencies.

Annuals

ANNUALS produce seed the same year as they are planted and flower. Some examples of annuals are:

BEANS: There can be seed color variation due to a genetically unstable variety or variability in growing conditions. Generally the seed is self pollinating. Selection may have to take place for a number of years to get a stable crop. Beans should be isolated 6-12 feet to ensure purity.

RUNNER BEANS develop two seed halves underground. Bees and birds can help in cross pollination.

BROCCOLI crosses with other members of the Cabbage family up to ¼ mile away.

CORN crosses easily and is insect pollinated. EGGPLANT can cross pollinate with insects.

LETTUCE: is self pollinating but will cross when planted close together.

MELONS cross very easily and are insect pollinated.

PEAS may cross, but generally self pollinate. Separate 5-10 feet with a tall barrier in between.

PEPPERS can cross pollinate with insects.

PUMPKINS cross very easily and are insect pollinated. RADISHES are insect pollinated.

SPINACH will cross pollinate up to a mile. Must use wind proof bags. Male or female plants.

SQUASH cross very easily and are insect pollinated.

TOMATO can cross pollinate via insects but is generally self fertile.

Biennials

BIENNIALS need two seasons to produce seed and most will cross within their family. BEETS, CABBAGE, TURNIP and ONION are some examples. It is useful to get a seed saving book out for saving these crops.

Perennials

These plants will grow for many years. They may produce seed every year, or every second year. ASPARAGUS is an example of a perennial vegetable and there are many perennial ornamentals.

Seedy Saturday

"Seedy Saturday" is an event started in 1989 in Vancouver and has spread right across Canada. This one day event focuses on seed saving and swapping and is a great way to keep old and new varieties alive and in gardens. Start an event in your community and see what wonderful seeds 'pop' up. Visit www.seeds.ca and follow the links.

Setting up a Seedy Saturday

Seedy Saturday began in 1989 in Vancouver and has spread across the country. Ideally each community should have one; setting one up takes about 60 hours, very little money and brings many groups coming together for the event. gives folks a chance to swap and sell open pollinated seeds grown in the region and talk to other growers. These people are the backbones of a regional biodiversity conservation network.

First, identify the various groups in your area who work with seeds. Include university plant scientists (breeders); members of the Heritage Seed Program (Seeds of Diversity); botanical gardens; local organic farming and gardening groups; local wild flower societies; local seed companies selling open pollinated varieties; historic sites with heritage gardens; local seed savers and gardeners; retired agronomists; community garden projects and anyone who has an interest in organic growing and seeds.

Ideally all groups donate their time to the event. Form a committee of dedicated people to help with arrangements and during the event. Then investigate the various locations where the event might be held. A centrally located facility is ideal, with room for the central display space and ideally a classroom for the ongoing lecture/workshop seminars. You will need tables for people to set up displays and some chairs behind the tables for the display people.

Ideally an 'admission by donation' policy should be held for the event so no one can be prohibited by attending by admission costs. Make a sign telling people what the money will go towards. The setup committee can decide what to donate money to. Heritage Seed Program has received about $8000 from Seedy Saturdays over the past few years, and USC Canada's Seeds of Diversity about $2500. Money could also be used to set up a community heritage garden project but ideally donations from the day should go to a local seed conservation activity.

Parking is a concern and bus accessibility. Will the site be muddy and or inaccessible

during the event? Will you have a Children's Corner that is supervised and gives the little seed savers some good educational activities?

Spring is good time to hold the event. In some areas folks divide perennials and bring them to the swap. In some areas scion wood is also sold or swapped or tubers or rhizomes sold or swapped. The timing of the event determines how many people you attract. Stanley Cup weekend, Easter, large social event in town not good times. Plan enough in advance to get your information out to societies for their newsletters, etc. Six months is a good lead time, but you can do it in 3 months or even six weeks if you are organized.

Think about the Education component of the event. Invite local experts in various components of seed conservation to speak in the classroom. For example last year in Edmonton Sharon Rempel began speaking on the USC Canada's Seeds of Survival program, as well as the role Heritage Seed Program plays in thinking globally, acting locally. Dr. Jim Butler, Ecotourism specialist talked about conservation in Costa Rica; Dr. Keith Briggs, a plant geneticist from the U of A spoke on the role of breeders and gene banks. Then Dr. Robinson talked on heritage chickens. Simple, but very effective. Many folks complain they hate missing the talks while manning a display table or swapping seeds when talks are on; that's the biggest problem of Seedy Saturday (too much going on at once).

Think about hospitality for your guests, the people visiting Seedy Saturday including your display people. Food provided by a local catering service provides healthy food items for sale. The refreshment area is a great place for folks to share information on growing plants, etc. Make sure you have an area near to the 'seeds to swap' table where folks can sit, talk about plants, etc and have a cup of tea.

Advertising is important. Make up a pretty poster that you spread all over your region. Make a one page press announcement and send it out to media outlets.

Display people can make or break the event. Make sure you bring integrity to the show. Invite small companies that sell open pollinated seeds, not hybrids. Many people will not have seeds to swap the first year so will need to buy seeds. At the end of the day, it is hoped that commercial outlets (seed companies, food services, etc) contribute 10% of the day's sales as a donation to the event. You will be amazed at the amount they had made during the day.

Seeds only or animals too? Heritage animal conservation was linked with seeds last year in Edmonton; Dr. Frank Robinson is a heritage chicken breed conservator; he brought 6 cages of old varieties of chickens for display. Contact Rare Breeds Canada

(705) 653-0231 or fax (705) 653-0232 for names of people in your area working with old breeds.

Creativity in the garden

Design principles

" Generally speaking styles in northern colonies were based on the informal English concepts of gardening, while many of those in the south were more classically formal. Spanish colonists, settling in Florida and the southwest, designed their gardens according to the horticultural traditions of Iberia. From these European beginnings modified by unfamiliar and often severe climates and by the many new plant species discovered here, the art of garden design has developed in this country over the last 300 years into a number of identifiable styles. There has been a tendency particularly noticeable in large estates built around 1900 to mix many styles in one place, producing exotic mixtures". Pages 6-7. "Clues to American Garden Styles"

There are a great number of books on the market professing 'the' best garden design, and this has been the case for several centuries. It is impossible to predict what garden design a person would have chosen a decade ago, let alone a century ago. Defining what is an 'Italian' garden as you now recognize is not a straight forward concept.

Sacred geometry

Everything in nature has a certain pattern of existence. It seems as though a magic formula dances through all of creation, with certain mathematical formulas guiding the design. Sacred geometry must be mentioned here. Nature is truly math at its purest and most beautiful expression. Ancient Greek designs and mathematical models recognized these ratios that produced harmony in music, colors, sound and design.

The charge card and the electric light switch plate make use of this mathematical model. You feel good when you handle your card and the light switch always fits into any decor.

Victorian house designs often use sacred geometry and ratios. Most people find the Victorian era of design very pleasing. We are not sure if the architects of the era were trained in using these ratios, or if they did it because of a mindset of the era, or what. Certainly Masons made use of these design principles.

However, if you incorporate the concepts of design and ratio into your garden, it will always be beautiful. It will feel beautiful to your visitor too.

Finding your Golden Thread

This is a concept of realizing the potential of your place. It is finding the uniqueness of the place and capitalizing on it. If it has integrity and uniqueness it will be a very powerful drawing card for visitors and provide a theme for public programming and special events. You can make use of this principle in designing a marketing strategy or design for nearly everything.

The Zucca Melon is a golden thread for *The Grist Mill.* It is unique to the area, was grown for twenty years, mysteriously appeared in 1930 and then equally mysteriously faded into the sunset as it was replaced by turnip for the candied peel industry. It is a huge and lovable plant sort of a garden whale; each fruit grows 60-180 pounds in weight and one plant takes up 25 feet square of growing space.

One day a visitor asked me if we had a Zu. I told him we had a zucchini, but no, he insisted this wasn't the same. He brought in a picture and I fell in love. I had to find the seed. We sent search parties out around the world to see if any gene banks had seed. No one seemed to know what we were talking about. Finally, through the American Gourd Society, a letter arrived one spring day from Sandwich Illinois. Mr. Glen Swenson had some Zucca seed and had sent me some!

There are days in one's life that one will remember forever and that was one such day. The excitement! But the seed was not like I had expected. It was tiny, brown and not very exciting looking. But it turned out to be a Zucca, and our local radio stations picked up the story. They patched Mr. Swenson and I together and we shared our excitement of the Zucca. He'd had them in his backyard for 30 years, believing that one day someone would want the seed.

Now, after several years of special events at the Mill, and an adoption program, Zucca lives in the hearts and yards of over one hundred foster families. Each year the site receives photos and letters about the babies. Each year there is a Zucca Reunion and a large life sized chocolate Zucca cake comes out on the old wheelbarrow. People reminisce and the legend and the seed survive. The Zucca is like a living Stonehenge for the *Mill*. We had lots of free advertisements when we found our golden thread.

I've seen this principle work in many instances. I think it is the tiny gold thread in the large tapestry of a site or garden life, the thing that catches the light and draws the eye to the area. It takes creativity and courage to find it though!

There is something intrinsic in each human that responds to beauty, harmony and

integrity as well as novelty. The golden thread ideally touches that cord and ‘draws’ people to the image or product.

Marketing your Eden to the world

If you have spent time and money on a property that attracts clients then use the landscape as a magnet to keep people coming back to your site. Historic sites that develop a collection of living artifacts are capitalizing on the number one hobby in North America - gardening. They are also bringing a unique aspect of history into view.

If the landscape is aesthetically pleasing you might find people stopping to have their photographs taken amongst your plants. This can become a rather interesting problem `or blessing, depending on how you handle the situation.

You can plan public education courses and programs using the plants in your collection as a teaching tool but your Golden Thread will really be your marketing edge. Use it.

Garden tea rooms, gift shops and garden centers

Gardening is the number one hobby in North America now and people spend money on their hobbies. The longer a person spends at a place the more likely they are to spend money. They need refreshment and to buy something for loved ones.

Let your gift shop express your themes, and have low priced quality items as well as upper end items. Go to the gift shows and see what is new and unique. Go to other gift shops and tea rooms and watch what people eat and buy. Then go home and be really creative. Care about the visitors as you would your old Aunt Martha and Uncle Fred visiting and the folks will come again and again. Kids really love creative food ideas and items. Offer quality and be as environmentally sensitive as you can be; reduce, reuse and recycle.

Being cheap in areas of taste just does not make sense. It makes sense if you are catering to vegetarians to offer non meat, non dairy alternatives and advertise it and use it as an educational tool. Oil products and powdered coffee whiteners are an insult to good coffee as is paying $2.50 for a cappuccino in a Styrofoam cup. The dishes don’t have to match but they need to be clean and ‘real’. Plastic is for flamingos and charge cards. Silk flowers on the table or photos of trains on the walls at a garden center? Take the theme of your site through a scrutiny of every detail on your site. Real

flowers do not cost a great deal and add to atmosphere. The only thing worse than silk flowers is having dusty silk flowers on a table.

Tea Rooms for gardeners should offer quality, a place for talking (no music, or very low classical music), great coffee and tea, real milk and cream and something yummy to eat. Express creativity in sandwich design. Edible flowers, garnishes, heritage vegetables, quality brown bread and real butter makes a sandwich that is beautiful to look at as well eat. Remember that the senses work together on subconscious levels.

Gift shops

I often wonder why people complain about lack of revenue at their places when they don't have a gift shop, or the shop contains items that one could buy at a local department store. Remember your themes and let your gift shop sell those items. A gift shop can offer a catalogue too, allowing people to purchase by mail. Pooling energies with other small outlets helps keep individual costs down.

I visit gift shops and tea rooms on my journeys. Some are pleasant and others are so and so and there are a few that are memorable on both ends of the scale. I use the memory scale for rating places.

Bad memories

Ryton Gardens, England. This famous garden center in England let a catering outfit take over what was a quaint and service oriented little garden café focusing on organic produce. The expansion had put linen cloths on the table, yet the coffee was still instant, and when paying $2 CAD for a cup, it is nice to have something besides instant. There was margarine, no butter and slow service. The old cafeteria, with great quality and friendly folk was gone. And they refused to take a traveler's cheque in local currency. This place rated a big 0 that day.

Why did they fail? They were well known to the international tourist but couldn't handle traveler's money - traveler's cheques, plastic money, etc. The cashier had no idea of what to do and tried to make me feel like I was the problem. I asked for management and was told I was talking to it! I don't send friends to that place.

Butchart Gardens, Victoria. The gift shop used to be full of tacky souvenirs for overseas visitors. However, during a recent 1999 visit I was delighted to find that they've renovated the shop and have started stocking enticing garden items. Their book selection is always disappointing. I wish they would reprint an old catalogue

from their site, and offer something unique to their site.

Good memories

The Ellis Tea House outside of Red Deer Alberta has a problem with their menus; people keep taking them home! Their menu is one of the best I've ever seen; it is educational, theme oriented, offers quality and a sense of humor. I love it!

The Grist Mill at Keremeos in the early 1990s. People drove four hours to get a piece of "The Grist Mill" Carrot Cake. It was wonderful, lots of cream cheese icing and good sized pieces. Sitting by the creek eating carrot cake and a coffee was a memorable experience. Offer consistency, quality and atmosphere and people will come to your place.

The Whistle Stop in Hope, B.C. is a gift shop that stocks local crafts and has a few tables for soup and sandwich style meals. It is a great little place and is full of local character. It is a place that has integrity; I always feel sad when I see people drive by and stop at the chain burger stand next door because they are afraid to go inside. It needs something to lure the folks off the road telling them how great it is inside.

Garden jewelry and ornaments

Gazing globes

These are becoming easier to find in garden centers. They range in size from 3 inches upwards and a range of colors. They aren't cheap but they are very beautiful.

They reflect the landscape. During the late 18th C mirrored glass balls were manufactured in a glasshouse at Nailsea west of Bristol. They were suspended from cottage ceilings in the fashion of a flask of holy water to keep away evil spirits; they were called 'witch balls' or 'wish balls'. In 1625 Francis Bacon wrote that a garden should have 'broad plates of round colored glass gilt for the sun to play on'. For more information on the subject see the article by Ken Moore, *Fine Gardening*, Jan/Feb. 1992. P. 30-33.

Plastic lawn ornaments, including pink flamingos

It is hard to go down a street anywhere in the world and not find plastic lawn furniture, bird baths, and flower pots. Plastic is with us. Gypsies sell plastic furniture from trucks with loud speakers in Greek towns. High class garden centers sell everything from

alligators to wall hangings in plastic. Bears to hold plants, sleeping frogs, cows…you name it. A distinctive addition to the prairie landscape seems to be pink flamingos. There is no logic in this as flamingos never come this far north.

I am sure people are trying to express creativity in putting these things into their yards and bring bold colors and nature into their lives. And the plastic seems to weather the winters well, and don't need to be watered. It definitely makes a statement.

Whirlygigs and other folk art

One of the best places to see knives and forks whirling around on old plates is in Tillinghaust Washington at the *Bunnies by the Bay* store next to the Tillinghaust Seed Company. This town is a magic place for gardeners; every gift shop and hotel and bed and breakfast has a plant theme. It is not a budget priced place either and is very popular. Disneyland watch out!

Mount Vernon is close by and each spring has a marvelous *Bulb Festival*. The Northwest Plant and Garden Show happens in Seattle each February and is a good place to go and find out what neat new gadgets are around, both in the display stands and on other visitors. I think this flower show tops anything I saw in England so don't put down North American gardening passion!

Scarecrows

Generally this is a figure of a man dressed in old and ragged clothes and is a device to frighten birds away from growing crops. This straw man is used around the world in various forms. It is worth checking with various local sources to see what has been used in the locale.

"The Greeks carved them out of wood. The Japanese believed they could talk. Scarecrows are as old as the history of farming. They have been made out of straw, wood, animal bone, cloth, and metal. In colonial times, whole families of Pilgrims acted as scarecrows and took turns guarding their fields from morning till night. In England, little boys called birdscarers carried wooden clappers and sang special songs to keep the birds away. In their long history, scarecrows have often been so frightening that they have scared people as well as birds; to this day, myth and superstition surround them." from the cover jacket of The Scarecrow Book.

Garden gnomes

I checked with Brent Elliott, librarian at the Royal Horticultural Society in England

about the origin of gnomes. Early Victorian times are the first recorded use of gnomes in British gardens. Taking the concept of gnomes a little further, the ‘wee people’ of the land have been talked about in fairy tales and legends much longer; my mother taught me a mixture of Native American and Irish lore about the helpers in the garden. It wasn’t until I was in university that I realized that gnomes were not common knowledge to everyone!

Anthrposophist Rudolf Steiner writes about biodynamic agriculture and the various sylphs, gnomes and energies of the land, water and air are part of this holistic approach to working on land with plants and nature.

“The first gnome is thought to have been brought from Germany in the 1840s. It was made of wood.” From *The English Garden*. Laurence Fleming and Alan Gore. 1979. P. 194.

Sir Charles Isham late of Lamport Hall in Northamptonshire imported them from Nuremberg in 1850 for his rockery. He was a spiritualist and vegetarian. P. 54, Observer Magazine, May 22, 1988

Chinese gardens

Payette National Forest, McCall Idaho 83538 has the China Mountain Terraced Gardens tour. This is one of the few interpreted Chinese vegetable gardens dating to the 1870s. There has been little work done on various cultural groups and their gardens but this archaeological site has done interesting work. Chinese immigrants helped build the railroads that allowed continental development. Often these gardens were important suppliers of local produce.

Cultural gardens

Each culture brings with them their seeds. Research needs to be done into all the cultural groups, their seeds and practices of planting and harvesting. This is sadly typical throughout the world. Upper class gardens are often considered ‘the norm’ and documented. Don’t lump all people together; respect cultural, social and economic differences as well as taste in garden design and plant choice throughout the ages.

Community gardens

As we approach 2000 many of us are overwhelmed with the information and technology whizzing by at a fantastic rate. Overloaded circuits are happening among

many friends and we are looking for a simple answer and for many people this comes via plants and a garden. Gardening can be a communal or solitary activity.

Humans were not designed to live in isolation nor to be separate from other living creatures. Honoring the part of ourselves that strives to be a part of a larger mesh of life helps us cope with the pressures of daily life. Finding spiritual roots is critical. Plants teach us many things.

Gardens offer much more than food for the stomach. Many areas are using their heritage gardens as community gardens, where people can play an active role in the planting and nurturing of the garden. Seed saving techniques are being practiced and people empowered by growing some of their own food. Preservation of food and other old style skills of survival are of interest to many people and by offering workshops in these skills we are helping to keep these skills alive.

A heritage garden can be a focal point for a community. Workshops, activities and other happenings can bring people together.

Horticulture therapy

You will be amazed at the amount of information available in your library on designing gardens for handicapped and aging people. Horticulture therapy is being practiced throughout the country. Remember how good you feel after an hour pulling weeds or sharing some new potatoes with a neighbour or teaching a little person about nurturing a tiny seedling?

Sacred landscapes and spaces

It seems everyone has heard of Stonehenge in England, a site where agriculture rituals were practiced and a place where people still believe healing energies can be found. There are sacred places in your community and everywhere in the world, but these places can quickly become shopping malls and parking lots. Get involved in having special places designated and form citizen action groups to help enforce the designation. In most parts of the country legislation is non existence or very weak and a developer can often get a permit without much effort. Concrete jungles and malls are not the answer to finding ourselves nor our horticultural history.

You will have to become active and get involved if you wish to have green spaces and heritage seeds around for the next generation. Large corporations and big business are not going to save these special entities. It takes energy and time to save something but

it is vital to become involved. This is our earth and our living heritage and patents and yet corporate ownership are becoming the legal tools of conservation.

My favorite plants and places

I am often asked what my favorite old plants are and which sites I find the most interesting. Since landscapes and plants are always changing, I would have to say the three most important plants in my life have been the zucca melon, “Red Fife” wheat and “Moon and Stars” watermelon, both the yellow and the pink fleshed varieties. My favorite gardens are of course the one’s I’ve had a hand in restoring, as well as the gardens of the many people who have shared their passions and dreams with me.

My favorite landscapes include the prairie wheat fields with the small town grain elevators and the railway line. I also love the Greek island landscapes, with the dramatic white buildings, blue trims with the sea in the background. There are always jasmine plants, rosemary, thyme and basil in tins or pots around the yard. And it is hard to beat the smell of a pine forest in the hot summer sun, with the hum of bees and little butterflies dancing through the air.

Each of us has our ‘favorite’ gardens we return in our photo albums and minds. Respect that spirit during all your restoration work.

Hudson's Bay Company Agriculture

The Hudson's Bay Company (HBC) were the first European gardeners in many parts of this continent. Forts were set up and the men were told by the home office to be 'self sufficient'. The Company shipped seeds form England and Scotland to the Forts. And certainly the men would have swapped seeds with the native people. Seeds have always had high value as a bargaining commodity although the modern research focus is more on the beads, not the seeds. Often journals state 'potato' or 'turnip' so it is important to understand where the seed material was ordered from and what varieties were common at that time. when attempting to find old varieties of plants it is necessary to trace the plant back through the various places where it might have travelled.

Britain was not the only source of seed for HBC, although Lester Ross' Hudson Bay Suppliers Vol. 1, A Directory of Suppliers who Provided Manufactures and Products 1821-52 lists only British suppliers. The Shakers were selling seed packets in Ohio in 1797. Scottish varieties such as Hopetoun wheat and Hopetoun oat came from MacKenzie's area of Haddington, East Lothian. Local terms can be confusing; we know that cow grass was a species of clover and bear is barley.

Although there are many books on the Fur Trade Era and HBC, few books have research materials useful for doing a Fort garden restoration. The Fort Vancouver Farm report by John Hussey sheds light on the scale of agriculture practiced by McLoughlin. The botanist David Douglas visited the Fort in 1825-27; seeds were sent from the Fort back to England.

Agriculture was a main activity in the Victoria area in the 1840s when HBC moved its headquarters to Victoria. Fort Vancouver and Nisqually had experience with many different crops and one must assume that many of these varieties found their way north, as well as the 'new and improved' varieties of the 40s and 50s. Puget Sound Agricultural Company was set up to make a profit by producing a surplus of product beyond the goal of self sufficiency. Craigflower Farm is an existing provincial historic site that interprets the 1850s era of HBC.

Researchers must be attuned to the variety names of the era and I suspect much has gone unrecognized by researchers who didn't catch the named variety. In the MacKenzie files Gordon Thompson and Baskett were listed in 1850 with a seed order. An order to William Capendale ask for 20 pounds of drum head cabbage seed and another order for 2 tons of mangel wurtzel seed. Often variety names are not capitalized and may or may not be linked to the crop or plant name.

Crop rotation patterns and planting schedules begin to emerge as one digs through the practices of the time in the home areas of the HBC men. Regional differences were quite significant and that may have influenced the outcomes of the agricultural enterprises at various posts. I suspect that the Scottish gardeners had better luck in the cold Canadian climate than did the more southern gardeners. East Lothian Scotland was the world center of agricultural development in the 1830s-1850s so it is worth noting where the gardeners and cooks came from to determine what would have been grown, ideally and how it was grown. English and Scottish farming practices can differ greatly in the same time period, depending on the level of adoption of innovation.

Fur Trade Era Resources

Leechman, Douglas. "I Sowed Garden Seeds". *The Beaver*, Winter 1970; p. 24-36. Fort Langley, Langley, B.C.

Anderson, James. Papers. 1830-40 information. Housed at Fort Langley, B.C. mignonette, stock, wallflower, escholtsia, mallow, hollyhock, marigold, candytuft, sweet william at Fort Vancouver.

McEachran, Ute. *The Reorganization of the Fur Trade after the "merger' of the Hudson's Bay Company and the North West Company, 1821-1826.* Discussion Paper No. 39. October 1988. Department of Geography. York University, Toronto.

Parks Canada. *Request for Information on Artifacts and Company Histories Relating to 19th Century British Suppliers of Goods to the Hudson's Bay Company.* Research Bulletin No. 94. June 1978. Parks Canada, Ottawa.

Parks Canada. *Lower Fort Garry Period Landscape Study*. December 1979. Parks Canada, Ottawa.

Woodhead, Eileen. *Bibliography of Trade Catalogues, 1800-1880, in Eastern Canada.* Research Bulletin No. 217. May 1984. Parks Canada.

Parks Canada.. *Provisioning a Fur Trade Post: The Case of Rocky Mountain House.* Research Bulletin No. 99. August 1987. Parks Canada, Ottawa.

Galbraith, John S. "The Early History of the Puget's Sound Agricultural Company, 1838-43." *Oregon Historical Quarterly*, Vol. LV, Sept. 1954. p. 234-259.

"Settlement of the Claims in Washington of The Hudson's Bay Company and the Puget's Sound Agricultural Company." *Washington Historical Quarterly*, Vol. 21, 1930. P.95-103.

"The Formation of the Puget's Sound Agricultural Company." *Washington Historical Quarterly*, January 1933. P. 3-9.

"Life at a Fur Trading Post in British Columbia a Century Ago." *Washington Historical Quarterly,* January 1934. P. 11-23.

Victorian Era

Book Reviews and summaries. This is a quick way to see if a book is of interest to you for your work. I've included research notes from several Victorian Era books to help you get a feel for the period.

The Strawberry.

George Darrow, Holt, Reinhart and Winston, New York. 1966.

Great history in Chapter 4, The Strawberry from Chile. P. 24-39. Chapter 5, Duchesne and His Work. P. 40-71. Chapter 6, Early Breeding Work in Europe. P. 73-84.

A History of Gardening in Scotland.

E.M. Cox.. Chatto & Windus.1935.

Before the Victorian era the common habit was to list plants which were not grown at the nursery but which were in cultivation and might become popular in the future. Old lists lack description. Before the Reformation nursery stock came from monastery gardens and orchards. In an impoverished land the best were eaten the poorest specimens set seed with deterioration of stock over time. p. 156

Harie Ferguson 1689 list of garden seeds includes Strasburg onion, leiks, flanders onion, beetrave, parsneips, carets, turneip, spinage, cabage lettuce, raddish, marjorum, Indian cress (Nasturtium majus), colliflour, bowcaill, winter savorie, scorzonera, cabage, turkie beans, silesia lettuce, sugar peas, grein ransivall (Peas), yellow turneip, selarie seed. P. 158

Indian Cress came from Peru in 1686 to England. Cress was used as a salad or vegetable until the 19th C. Also mentioned Whyt Lily roots, clowjuly flowers, tulip roots. P. 158

Sir John Foulis bought a black pippin, a pear dangerous, honie pears, bon criteon, swaneg, bona magna plum. 1721: John Weir's, gardener at Heriot's Hospital. Patrick Drummond at his shop in the Lawn market, opposite to the Head of Libbertons Wind, Edinburgh; his catalogue of 1754 must have been one of the first to be printed in Scotland. P. 159

Justice complained the good Cauliflower seed was hard to get in London and Edinburgh but the best was from James Scot, a seedsman at Turnham Green. Seeds of some vegetables were regularly imported from abroad; early Beans were shipped from Lisbon. Bulbs and flower seed came from Holland from Voorhelms Brothers and Van Zompel. In the 1756 Voorhelms Brothers catalogue there were 15 Fritillaries, 142 Hyacinths, 223 Tulips and 12 Persian Ranunculus, Aster chinensis, Lilium pomponium and Lilium canadense. P. 160

Other than bulbs there was little selection attempted among perennials until the 19th C. Early in the 18th C. Peases, everlasting and sweet scented; Stockjulyflowers, white Bromopton or red, Twickenham or purple, large Annual or ten weeks Stock, Wallflowers, yellow and bloody; Balsam, striped and female. A great demand for seedling trees of conifers and hardwoods at the end of the 18th C. p. 161

John McAslan 1717 set up a nursery in Glasgow. Robert Austin was a partner in 1782. Austin & McAslan is the oldest nursery firm in the UK. Robert Austin was employed at Chelsea and Putney. He started the Scots Rose which was famous in the early 1800s. Austin sent roses to Kew, RHS and Royal Gardens at Windsor. P. 162

Robert Dickson 1729 at Hassendeanburn in Teviotdale. By 1753 his son Archibald Dickson was supplying trees to estates at Haddington and Midlothian. Transplanted Firs (Scots Pine).1753 Larch sold and Whin seed. Another son started Dickson & Co. in Charlotte Sq. Edinburgh and James Dickson founded in 1766 Perth Nursery, later called Dickson & Turnbull. P. 164

1794 Catalogue stated ‘we by no means pretend to be in possession of all the plants mentioned in this catalogue; perhaps no Botanic Garden in Europe can boast of such a treasure; notwithstanding we are determined to increase our collection and make it as complete as possible to supply the demands of the public. No prices were mentioned. P. 166

1827 Catalogue lists Aster, *Chrysanthemum chinensis*, Dahlia, Delphiniums, all species except three with double flowers, Gentians including *G. bavarica* and *G. verna*, Iris, Lilies including *L. croceu,, L. chalcedonicum* and *L. pomponium*. Narcissus, Phlox, mostly species, Primulas, including seven old doubles, Saxifrages, Violas. 146 of each Apple and Pear, 194 Gooseberries. Also a tree list. p. 166

Perth Nurseries specialized in conifers, original distributors of the double forms of the Scots Rose, Rosa spinosissima and of Scarlet Hawthorn, *Crataegus oxycantha coccinea*. First firm to introduce the Swede Turnip into Scotland; Linnaeus sent them seed. 1796 they raised Venus rose, with *Rosa alba* as the seed parent. Fair Maid had

Rosa centifolia as a parent. P. 168

Lawson Seed and Nursery Co. of Edinburgh founded in 1770 dissolved in 1884. Lawson was as large as James Veitch & Sons of London. Lawson bought seed from collectors abroad. In 1855 they bought seed from William Murray of San Francisco. P. 169

Messrs. Methven & Sons, Messrs. Cunningham & Fraser other important Edinburgh firms. John Forbes of Harwick started his nursery business in 1870 saw the future for fine herbaceous borders and specialized in Phloxes and Delphiniums, Border Carnations and Stage and Alpine Auriculas. He was one of the first to take up the famous Begonia, Gloire de Lorraine and Caledonia. P. 171

Dundee firms: Mr. Urquhart, Mr. Stewart, 1833, W.P. Laird founded Messrs. W.P. Laird & Sinclair and his brother R. B. Laird started a firm in Edinburgh. When the Stewart family gave up the business the firm Messrs. D. & W. Croll, Ltd. took over specializing in roses and potatoes. Aberdeen firms Messrs. Benjamin Reid & Co. in 1830. Messrs. W. Smith & Son Ltd. 1842 at Kintore close to Aberdeen specialized in forest trees. Thomas Cocker was a Rose grower; he introduced Mrs. Andrew Carnegie, scented Fra Carl Druski, Trollius, Bon Accord Double Primroses such as Gem, Cerise, Purity, Beauty, Blue, Sulphur, Elegans. P. 172

Market gardens called Mail gardens in the 18th C. Henry Prentice cultivated Peas, Turnips and Potatoes in 1746 on a large scale. In 1810 Gooseberries, Red Currants, White Currants, Black Currants consumed. P. 177

The Victorian Garden.

Brent Elliott. B.T. Batsford. 1986.

p. 135: The 1850s were the years of the dominance of the flower garden. The status of flowers in the kitchen garden was controversial. As early as 1851 Thomas Moore was urging the bedding of common foliage plants like rhubarb, maize, kale. John Ronson and Frances Jan Hope revived this in 1860.

p. 153 “A row of parsley, row of dwarf topped Red Beet, a row of Altrincham or Orange Carrot; a row of variegated Kale (pink, white, purple) asparagus. Hope planted kales of every shade in patterned beds in her garden at Wardie Lodge, Edinburg. These experiments were widely followed.

p. 161: The 1860s and 70s saw the creation of a mystique attached to herbaceous plants.

p. 164. 1870s enclosed gardens. Rooms in the garden.

p. 168: There was an ant architectural phase when lawns were the thing. Gardenesque movements had lawns.

p. 193: Gnomes first appeared in 1890s at Lamport Hall. They were vaery popular in Edwardian times.

p. 194: 1870s and 80s wild gardening. 1870s and late 80s carpet bedding.

p. 208: Jekyll said gardening was painting a picture.

p. 216: 1860s a period of variety but the Edwardian period exceeded that. 1890s use of dwarfed trees as bedding plants. Conifer parterres, dwarf oak edgings, Euenymous trained as carpet plants for geometric beds, beds of tall pyramid like plants (4-5') tall. Fuchsias, heliotropes, weeping roses were trained to bread the flatness but sweet peas soon became dominant. 1900s tubbed plants, planting on walls and interspaces of paving, use of spiky and ball headed plants in flowerbeds.

p. 218: Mass, harmony and repose returned in 1911. One color gardens. Gray, blue, pink, white. Restriction to a couple of hues for maximum impact. Scarlet and red were keynote colors. Roses were popular as bedding plants. Flaming orange roses of the 1920s.

p. 222: Change of terminology in the late 1890s. Networks of geometric beds, box or stone edgings, clipped conifers, colored gravels in mid century called "Italian" became "Dutch" in 1880s. Sir Fran Crisp's garden at Friar Park was a series of period gardens developed for the site. Rock, Japanese garden, Dutch garden (scroll beds with dwarf shrubs and brick borders), topiary and sundial garden; knot garden; herb and nosegay garden (16C sources); Elizabethan garden with raised beds, trellis work; castle gardening; Mary garden (plants named after Virgin Mary).

p. 229: Interest was growing in the folklore of plants, and one fringe of the Anglo-Catholic movement attempted to revive mediaeval religious association with plants.

p. 230: While the cult of old fashioned flowers grew, horticulturists pursued their quest for a vernacular style of gardening. The mixed style of the 1840s and 50s was adopted by the 20th C as the heritage of unmeasured antiquity.

p. 231: Reintroduction of herb beds into kitchen gardens in 1870s. Jekyll supported herb gardens. By 1890s research into 16th and 17th C. horticultural literature focused attention on the medicinal basis of the Tudor garden.

p. 232: Clipped herbs carried a double meaning. Intrinsic association with old fashioned garden and carpet bedding. Early part of the century was herb garden enthusiasm.

The Victorian Kitchen Garden.

Jennifer Davies. BBC Books. 1987.

p. 65: Rhubarb, "Cottage Garden" variety of 1852. "Turkey" rhubarb was most efficacious, aperient and tonic in combination with ipecacuanha and Castile soap. A forced winter delicacy. There were 100 plus varieties in the 19th C of rhubarb.

p. 68: in 1824 a Scottish gardener Jas Smith forced rhubarb like seakale. He covered the roots with pots and with fermenting material or put them in hot houses and covered with hay. Grown December through spring. Portugal cabbage Couve Tronchuda was introduced into Britain in 1821. Kale, cauliflower, celery, carrots, turnips, beetroot, salsify and scorzonera. Salsify = vegetable oyster = goat's beard. scorzonera = black root = viper's grass.

p. 71: parsnips, potatoes, onions, beans, peas, celeriac, cardoons. Painted Lady Runner beans 1855 = York and Lancaster Runner. Green Windsor bean 1831, Aquadulce 1850. Deptford Onion is brownish. Brussel Sprouts are 'tall military gentry with large buttons'. Borecole + kale. Green curled, Cottagers, Ragged Jack Long Red Surrey and Early Horn carrots of the 1830s. French Forcing Horn and Nantes from 19th C. Egyptian or tree onion from Maine 1820s. Welsh onion or ciboute has a tapering root. In Perthshire a Mr. Donald Mclean had 350 varieties of potatoes in the early 1800s.

p. 96: Thomas Rivers wrote The Miniature Fruit Garden in the 1850s. Root pruning was common. He introduced Broad Leafed Paradise stock and Nonsuch stock.

p. 98: Rivers sent oranges in 1876 to California; this formed the Valencia orange

industry of the area.

p. 117: 1860s was the time of River's experimenting in England. His son developed the Conference pear in 1882. 100 varieties of strawberries were around at the time.

p. 119: Royal Sovereign strawberry remains; a cross of Noble x King of the Earlies. Alpine strawberries were used as edging in borders.

The Victorian Garden.

Thomas Carter. Bracken Books. 1984.

Gardening of the Victorian world was an activity in which the rules of a rigid society could be relaxed a little. Professional gardeners were poorly paid, generally respected and their art appreciated. The Horticultural Society was founded in 1804 in London. The high style of Victorian ornamental gardening reached its peak in the 50s and 60s. A very small garden contained a grass walk and flower borders as well as fruit trees and a few vegetables, in an area of only 40 x 16 feet (Gardening Illustrated, 1879)

The south facing border was used for tender subjects and Lettuce, Endive, Cauliflowers; the east and west borders for herbs, seedling celery and cabbage before they were planted out and for small crops. The cool north was for striking cuttings in the summer and for strawberries to prolong their season. Overwintered roots were used as spring greens. Turnips, parsnips, carrots, salsify and scorzonera. Cauliflowers preserved in trenches, laid head down and covered with earth.

Every garden had potatoes, leeks and onions of various types. Garlic, racombole, and shallots were planted in early spring or fall. Welsh onions or cibouls were grown for their green stems, and tree onions for the small bulbs produced on stalks (these were pickled). Potato-onion or underground onion and the Burn's onion was a distinct form (*Allium aggregatum*) and developed clusters of bulbs below the surface.

Salad plants were used extensively including many forms of cos and cabbage-headed lettuce, endive (curled and Batavian), radishes and small salads including seedling lettuce, mustard, cress and rape and cut when an inch high. Celery was used in salads, cooked on its own or into soups. Corn salad or lamb's lettuce, and American cress was useful winter, and leaves and flowers of nasturtiums or Indian cress. Ramion (*Campanual rapunculus*) used as a radish substitute. Brassicas were a mainstay crop of the garden. Cabbages were used all season, and young ones were cooked as coleworts. Kale or borecole could be used in very cold weather. Cauliflowers were sown in

August for use next June or July with a second sowing in Feb. and so was broccoli. Purple sprouting form, as well as white, purple brown or green grown to form head like cauliflowers. The winter cauliflowers of today are the broccoli of a hundred years ago.

Cow or tree cabbage grows 12 feet tall.

p. 37: In the 1850s there was a law that a penalty of 10 shillings or a month's hard labor for stealing or maliciously destroying turnips, potatoes, cabbages, parsnips, peas or carrots.

p. 39: 1850s potato strains most commonly advertised included the Shaw, the York Regent and the Fluke; the Ash-leafed Kidneys, Chamions and Oxnobles were older varieties. In 1876 the Magnum Bonum was on the market. The Red-skinned flourball was in the 1870s.

p. 41: White tomato in the early 1840s. Mid 1880s ribbed, smooth, purplish Acme to citron yellow Greengage. Grape Tomato (cross or cherry and Hepper's Goliath and curiosities (pepper x tomato) and tomato grafted to potato stem and vica versa.

p. 48: Tomato increased in popularity. Skirret hardly used after 1850. The transportation revolution of the 30's and 40s was important.

p. 50: In the Mid 1850s debates over moon planting was on. Dr. Herschel's work said it worked; Thomas Bridgeman said no.

p. 51: Reed matting, canvas or paper screens around the garden.

p. 52: In the 1850s some people in the south of England kept rhubarb in the kitchen in boxes (4-8' x 3' high x 2 wide)

p. 54: Sea kale was always blanched. It was popular in the 1860s and not the 1890s. There were hot beds 3 x 4' for cucumbers and 6' long melon boxes. In 1834 there were 14 main cucumber varieties.

p. 108: Nitrogen fixing bacteria isolated in 1886.

p. 112: bone meal used in the early 1800s Peruvian Guano was highly prized and exotic and mystical. The last part of the 1800s fertilizers, soils and plants were understood.

139: Bedding out system firm in the 1850s. Carpet bedding in the 1870s.

The Grist Mill at Keremeos, Keremeos B.C.

I've included a write up on this site as it is, if I can modestly state, one of the best researched sites for heritage gardens in the West. I did most of the research work in the 1980s and early 1990s. The site has changed drastically since I left it in 1991. However, the research methodology the Province invested shows it is possible to document a site. Unfortunately that documentation has not been followed through over the years, nor are staff given documents for consultation.

The site is the home of an 1870 high technology flour mill, with original machinery and original building. Heritage gardens, developed in 1988-1989 throughout the site form a living museum of grains, vegetables, flowers, fruits and herbs. They illustrate the rich history of agriculture in the Similkameen Valley. A special area of the site is dedicated to preserving the native dryland shrubs and grasses. Each year the Mill offers an array of public programs that make use of the rich living resources in the area and on the site.

The site's organic management practices work in harmony with nature. Seeds are saved to keep the old varieties alive. There are twenty-five old apple varieties in the Heirloom Orchard and the "Living Museum of Wheat' features eight important pre-1900 varieties. Fresh baked goodies and elegant light lunches can be enjoyed in the Tea Room overlooking the Gardens.

I designed and planted the first heritage garden at the site in 1988. The gardens continue to draw visitors and there are ongoing feature magazine articles about the garden. But alas, rarely is the history of the design of the gardens told accurately. There was no record of any gardening on site during the interpretive period 1870-1890 so non historic display gardens were designed.

The Seed Saving Circle Garden has nine parts. Nine is a mystical reference to universality and totality by using the largest integer. The circle theme was chosen to enhance the belt and pulley system in the Mill.

The Walk Through Time Garden: The center of the garden is on the North/South axis of the Root Cellar. The porch door of the Root Cellar faces the garden head on, suggesting a working relationship between the two. There are nine beds in all, eight around the ring and one in the center. The garden's concentric circles are based on radius units of 9 feet. The central circle is 18 feet in diameter, the inner ring path is 9 feet wide and the outer beds are 9 feet wide.

Like the original seed saving garden this is a reference to universality and the concept of completion. The topics for the beds were chosen to allow an initial sequential historic pattern, beginning with the Hudson's Bay Company Post as one entered and turned left when arriving from the bridge. However, the sequence of historical time has been varied within the garden to allow crop rotations from year to year. The texts are written to create a 'Ring of Time' feeling, providing glimpses at the history of local agricultural epochs.

One bed "**Early Orchard Interplanting**" was specifically chosen, and maintained to this day in that location to function as a partial screen for the view to the inner parts of the Garden whe0n viewed from the Tea Room, verandah and outdoor eating area. The apple trees become a permanent sculptural element with height and breadth.

New trees were planted on the site to replicate and mirror the visual effect of existing historic Horse Chestnuts and Mountain Ash. The new trees were spaced in the landscape at distances similar to the existing continuing the proportional feeling already there. New plantings in front of the new Visitor Center were positioned and selected to mimic the trees beside the old general store (Exhibit Building) and to provide welcoming shade at the entry when they mature. They also are placed on the East side of the new building, just as the historic trees were apparently first planted on the East side of the old store to provide shade for the building from the hot early morning summer sun."

The sub climax bluebunchgrass walk shows what the landscape would have looked like in 1830 before grazing, ranching and orcharding altered the vegetation. Visitors can see a cactus, sage, wild rose or chokecherry on the "Native Grassland" walk.

Resources: Horticulture and agriculture histories

Western Canada:

Manitoba Historical Society. Manitoba History. Horticulture in Manitoba History. Spring 1996. 52 pages. Manitoba Historical Society. 470-167 Lombard Avenue, Winnipeg, Manitoba. R3B OT6.

Rempel, Sharon. 1996. A History of Gardens and Agriculture in Alberta. Alberta Historical Resources Foundation. 250 pages. (this index includes all the materials stored in the Sharon Rempel collection at the U of Alberta Archives, Edmonton as well as horticulture references from books, etc.) Copies available from S. Rempel for $15 plus $6 postage in North America.

Rempel, Sharon. 1990. Agriculture History of British Columbia. A Bibliography of Materials in Public and Private collections in B.C. published prior to 1920. B.C. Federation of Agriculture, Victoria, B.C. November 1990. 130 pages. (copies at Provincial Archives, Victoria, U of Alberta, elsewhere) Available from S. Rempel for $10 printing plus $5 postage in North America.

Agriculture and Horticultural History. Sharon Rempel. Materials for this work are housed at the University of Alberta Archives, Edmonton.

Western Canadian Society for Horticulture.1986. Development of Horticulture on the Canadian Prairies: An Historical Review. Western Canadian Society for Horticulture. November 1986, with Index. Order through Betty Vladycka, Alberta Horticultural Center, RR6, Edmonton, Alberta, T5B 4K3. $15.

Resources: England contacts

Emails and web addresses change quickly as do direct dialing area codes. Please consult the web or a telephone operator to confirm the area codes are still valid. These days of rapid changing technology tax one at times, don't they?

Heritage Landscape and Garden Courses at U of York. David Jacques, or Peter Goodchild. King's Manor, University of York, York England. YO1 2EP.

Brent Elliott, Librarian, Royal Horticultural Society. Vincent Square, London, SW1P 2PE. Phone 0171-8344333, Fax 0171-6306060

Museum of Garden History. Tradescant Garden. St. Mary-at-Lambeth, Lambeth Palace Road, London SE1 7JU. Phone 071-261-1891.

John Creasey, Librarian. Rural History Center. Box 229, Whiteknights, University of Reading, Reading RG6 6AG. Phone 01734-318664. Fax 01734-751264.

Botany Library, Natural History Museum. Malcolm Beasley. Librarian. Address Cromwell Road, London SW7 5BD. Fax 071-9389290.Phone 071-938-9421.

Garden Tools: Clifton Little Venice. 3 Warwick Place, London W9 Phone: (071) 2897894

Garden Tools and Books: David Bridgewater, Heather Cottage, Lansdown, Bath BA 9BL Phone: (0225) 463435

Organic Farming and Gardening Center; Heritage Seed Programme Headquarters: HDRA. National Center for Organic Gardening. Ryton on Dunsmore, Coventry. CV8 3LG.

Brogdale Orchards. 2300 varieties of apples, 500 pear, 350 plum 220 cherry as well as currants, gooseberries, nuts, medlars and quinces. Brogdale Horticultural Trust, Brogdale Road, Faversham, Kent ME13 8XZ. Phone 0795-535286

Books for Cooks. The Cook Book Shop. 4 Blenheim Crescent, London, W11 1NN.

Fax 081-568-3886.

Resources: Books

Biodiversity conservation

Ford-Llyod, Brian and Michael Jackson. 1986. Plant Genetic Resources: an introduction to their conservation and use. Edward Arnold, London. (plant conservation, plant genetics, botany)

Fowler, Cary and Pat Mooney. 1990. Shattering. Food, Politics and the Loss of Genetic Diversity. University of Arizona Press, Tucson. (every library should have this)

Koopowitz, Harold and Hilary Kaye. 1984. Plant Extinction: A Global Crisis. Wall Press, Washington, D.C. (all public libraries should have this book)

Nabhan, Gary Paul. 1989. Enduring Seeds. Native American Agriculture and Wild Plant Conservation. North Point Press, San Francisco. (all public libraries should have this book)

Plucknett, Donald et al. 1987. Gene Banks and the World's Food. Princeton University Press, Princeton, New Jersey. (all public libraries should have this book)

Prescott-Allen, Robert and Christine. 1983. Genes from the Wild. Using wild genetic resources for food and raw materials. Earthscan, 10 Percy Street, London, W1P ODR, England.

Shiva, Vandana et al. 1991. Biodiversity. Social and Ecological Perspectives. Zed Books, London.

Wolf, Edward. 1983. Beyond the Green Revolution: New Approaches for Third World Agriculture. Worldwatch Paper 73. October 1983. Worldwatch Institute, 1776 Massachusetts Avenue, N.W. Washington, D.C. 20036.

Biotechnology

Juma, Calestous. The Gene Hunters. Biotechnology and the Scramble for Seeds. 1989. Zed Books, London.

Walgate, Robert. Miracle or Menace? Biotechnology and the Third World. 1990. The Panos Institute, London.

Booksellers

American Botanist Bookseller. 1103 West Truitt Avenue, Chillicothe, Illinois, 61523.

Pomona Book Exchange. Box 111, Rockton, Ontario LOR 1XO ph: (519) 621-8897

Ten Speed Press, Box 7123, Berkley, CA 94707.

Food and cookbooks

Belluscio, Lynne J. 1981. Selected Recipes from the Genesee Farmer. 1831-1856. Comprehending Many Useful Recipes for Breads, Cakes, Meats, Preserves, etc. LeRoy, New York. (available from the gift shop at Old Sturbridge Village)

Burnett, John. 1983. Plenty and Want. A Social History of Diet in England from 1815 to the Present Day. Methuen, London.

Tannahill, Reay. 1973. Food in History. Stein and Day, New York.

Visser, Margaret. 1989. Much Depends on Dinner. The Extraordinary History and Mythology, Allure and Obsessions, Perils and Taboos, of an Ordinary Meal. Penguin Books, London. (Visser writes well on food and history)

Freebies

(these were free at one time, and might well still be)

Biodiversity and Agricultural Intensification. Partners for Development and Conservation. 1996. Jitendra P. Srivastava, Nigel Smith and Doublas Forno. Environmentally Sustainable Development Studies and Monographs Series No. 11. The World Bank, 1818 H Street N.W., Washington, D.C. 20433.

Genetic Engineering and Biotechnology Monitor. United Nations Industrial

Development Organization, Box 300, A-1400 Vienna, Austria.

Green Technologies for Development. Transfer, Trade and Cooperation. 1993. Amitav Rath and Brent Herbert-Copley. IDRC. Box 8500, Ottawa, Ontario K1G 3H9.

Growing Diversity in Farmers' Fields. 1993. Naturskyddsforeningen, Box 4625, S-116 91 Stockholm, Sweden.

The Laws of Life. Another Development and the New Biotechnologies. Cary Fowler et al. Development Dialogue. 1988: 1-2. Dag Hammarskjold Foundation, Ovre Slottsgatan 2, S-75220, Sweden.

The Law of the Seed. Another Development and Plant Genetic Resources. Pat Mooney. Development Dialogue. 1983:1-2. Dag Hammarskjold Foundation, Ovre Slottsgatan 2, S-75220 Uppsala, Sweden.

Our Common Bowl. Global Food Interdependence. 1992. IDRC. Box 8500, Ottawa, Ontario, K1G 3H9.

A Patent on Life. Ownership of Plant and Animal Research. 1991. IDRC. Box 8500, Ottawa, Ontario, K1G 3H9.

Seeds of the Earth. A Private or Public Resource. 1980. Pat Roy Mooney. Canadian Council for International Co-operation , 321 Chapel, Ottawa, Ontario K1N 7Z2.

Underutilized Crops, IPGRI, Via delle Seette Chiese 142, 00145 Rome, Italy. The International Plant Genetic Resources Institute has a great number of publications on various crops.

Gardens and gardening

Andrews, Edward. 1972. The Community Industries of the Shakers. Porcupine Press, Philadelphia.

Bailey, L.H. 1906. Cyclopedia of American Horticulture. 4 volumes. MacMillian Co., New York. (everything you every needed to know about turn of the century horticulture topics)

Baron, Robert C. 1987. The Garden and Farm Books of Thomas Jefferson. Fulcrum, Golden, Colorado. (tremendous reference for late 1700s, early 1800s)

Bender, Steve and Fielder Rushing. 1993. Passalong Plants. University of North Carolina Press. (some history of plants, chatty style)

Berg, Donald. 1987. The Kitchen Gardeners' Guide. Time Tested Advice on How to Plan, Prepare, Grow and Harvest a bountiful Family Vegetable Garden. Ten Speed Press, Berkley, CA. (this book is wonderful, but no references or dates for authentication, alas)

Blomfield, Reginald. 1892. The Formal Garden in England. MacMillan and Co., London.

Brigden, Roy. 1986. Victorian Farms. The Crowood Press, Marlborough, Wiltshire.

Buist, Robert. 1852. The Family Kitchen Gardener; containing Plain and Accurate Descriptions…Culinary Vegetables…C.M. Saxton, New York.

Burr, Fielding. 1865. Field and Garden Vegetables of America. Reprinted American Botanist Bookseller, Chillicothe, Illinois, 1988. (excellent reference book!)

Carter, Tom. 1984. The Victorian Garden. 1984. Bracken Books, London. (this and Elliott's book are the two best, in my opinion)

Champion, Alex. 1990. Earth Mazes. Bacchus Press, Emeryville, CA.

Davies, Jennifer. 1991. The Victorian Flower Garden. BBC Books. (a good reference series with some historical footnoting, can be picked up in remainder shops in London)

Davies, Jennifer. 1989. The Victorian Kitchen. BBC Books. (more of the series).

Davies, Jennifer. 1987. The Victorian Kitchen Garden. BBC Books. (a good reference for upper middle class gardening in England)

Elliott, Brent. Victorian Gardens. 1986. B. T. Batsford, London. (one of several good

books on the Victorian era of gardening)

Fogle, David P., Catherine Mahan and Christopher Weeks. 1987. Clues to American Garden Styles. Starrhill Press, Washington.

Gardner, Jo Ann. 1992. The Heirloom Garden. Selecting & Growing over 300 Old-Fashioned Ornamentals. Flowers, Herbs, Shrubs and Vines. Storey Publications, Vermont. (good reference book)

Giblin, James and Dale Ferguson. 1980. The Scarecrow Book. Crown Publishers, New York.

Gibson, James R. 1985. Farming the Frontier. The Agricultural Opening of the Oregon Country. 1786-1846. University of Washington Press, Seattle.

Gorer, Richard. 1978. The Growth of Gardens. Faber and Faber, London. (excellent reference book on plant introductions and origins)

Graham, Alistair. 1973. The Gardeners of Eden. 1973. George Allen & Unwin, London. (plant domestication and conservation issues)

Haining, Peter. 1988 The Scarecrow. Fact and Fable. Robert Hale, London.

Hale, Judson. 1991. The Best of the Old Farmer's Almanac. The First 200 Years. Random House, New York. (fun and worth getting used)

Harvey, John. 1972. Early Gardening Catalogues. Phillimore, London. ((1500-1830). Excellent reference book.

Hendrick,U.P. 1988. A History of Horticulture in America to 1860. With an Addendum of Books published from 1861-1920. Timber Press, Portland, Oregon. (excellent book)

Huxley, Anthony. 1978. An Illustrated History of Gardening. Paddington Press, New York. (full of great illustrations on glasshouses and tools)

Hedrick, U.P. 1950. A History of Horticulture In America to 1860. Oxford University

Press, New York.

Henderson, Peter. 1867. Gardening for Profit. Reprinted American Botanist Bookseller, Chillicothe Illinois, 1991. (Text includes Gardening for Profit, 1867; Garden and Farm Topics, 1884; Peter Henderson, Gardener, Author, Merchant, a Memoir, 1890).

Jabs, Carolyn. 1984. The Heirloom Gardener. Collecting and growing old and rare varieties of vegetables and fruits-all about heirloom plants and how gardeners can help save this living legacy. 1984. Sierra Club Books, San Francisco. (one of the best books around still)

Jekyll, Gertrude. 1908. Children and Gardens. Country Life, London.

Jekyll, Gertrude. 1919. Color Schemes for the Flower Garden. Country Life, London.

also The Ayer Co., Salem New Hampshire.(1930s designs)

Jekyll, Gertrude and Christopher Hussey. 1927. Garden Ornament. Country Life, London.

Langdon, Eustella. 1972. Pioneer Gardens at Black Creek Pioneer Village. Holt, Rinehart and Winston, Toronto.

Leighton, Ann. 1970. Early American Gardens, For Meate or Medicine. Houghton Mifflin Co, Boston, MA. (plants, illustrations and the writer is good. Can be found in used book stores so is worthwhile)

Logsdon, Gene. 1977. Small Scale Grain Raising. Rodale Press (out of print, but often in used book stores)

Loudon, John Claudius. 1834. Encyclopedia of Gardening. Longman, Orme, Brown, Green and Longmans, London.

Loudon, John Claudius. 1839. Encyclopedia of Agriculture. Longman, Orme, Brown, Green and Longmans, London.

Lys de Bray. 1984. Manual of Old-Fashioned Flowers. The Oxford Illustrated Press, Oxford. (excellent descriptions of plants)

Mawson, Thomas H. 1901. The Art and Craft of Garden Making. B.T. Batsford, London.

McMahon, Bernard. 1855. McMahon's American Gardener. Reprinted by Funk and Wagnalls, New York, 1976.

McLean, Terea. 1989. Medieval English Gardens. Barrie & Jenkins, London. (great on garden history)

Meinig, D.W. 1979. The Interpretation of Ordinary Landscapes. Geographical Essays. Oxford University Press, Oxford. (great background and philosophy of landscape conservation)

Miller, Philip. 1807. The Gardener's and Botanist's Dictionary. 4 volumes. F.C. and J. Rivington, London.

Milner, Henry Ernest. 1890. The Art and Practice of Landscape Gardening. Charles Dickens and Evans, London.

Morgan, Joan and Alison Richards.1990. A Paradise out of a Common Field. The Pleasures and Plenty of the Victorian Garden. Random Century Group, London.

Ottewill, David. 1989. The Edwardian Garden. Yale University Press, New Haven, CT.

Rees, Sian. 1981. Ancient Agricultural Implements. Shire Archaeology. C.I. Thomas & Sons, Haverfordwest. (inexpensive series and very interesting)

Riotte, Louise.1987. Sleeping with a Sunflower. A Treasury of Old-time Gardening Lore. Garden Way Publishing Book. (can be found at used book stores; good reference)

Robinson, William. 1883. The English Flower Garden. John Murray, London.

Robinson, William. 1870. The Wild Garden. John Murray, London.

Rupp, Rebecca. 1987. Blue Corn and Square Tomatoes. Unusual facts about common garden vegetables. Storey Communications, Vermont.

Scott-James, Anne. 1981. The Cottage Garden. Penguin Books. (this and that)

Slosson, Elvenia. 1951. Pioneer American Gardening. Coward-McCann, New York. (no references, like a local history of various parts of the US)

Stevens, Henry. 1856. The Farmer's Guide to Scientific and Practical Agriculture. Leonard Scott, New York.

Sturtevant, E. 1875. Sturtevant's Edible Plants of the World. 1919 Reprint by U.P. Hedrick, 1972 Reprint by Dover Publications, New York.

Taylor, Geoffrey. 1951. Some Nineteenth-Century Gardeners. Skeffington, London..

Taylor, Patrick. 1991. Period Gardens. New Life for Historic Landscapes. Atlantic Monthly Press, New York. (good philosophy but little use for the pioneer west, alas)

Taylor, Raymond. 1952. Plants of Colonial Days. A Guide to 160 Flowers, Shrubs, and Trees in the Gardens of Colonial Williamsburg. Williamsburg, VA. (excellent reference on 1600s-1700s gardeners and plant list of the period)

Tucker, David. 1993. Kitchen Gardening in America. A History. Iowa State University Press, Iowa.

Tucker, David. Kitchen Gardening in America. 1993. Iowa State Press, Ames, Iowa. (Chapter 6, Seed Catalogues)

Vilmorin-Andrieux, MM.1885. The Vegetable Garden. Reprinted Ten Speed Press, California. (one of the best references around)

von Baeyer, Edwinna.1984. Rhetoric and Roses. A History of Canadian Gardening. 1900-1930. Fizhenry & Whiteside, Markham Ontario. (this author writes well and the book is a useful reference, little for the west however; can be bought at used book

stores)

Weaver, Lawrence. 1913. Houses and Gardens by E.L. Lutyens. Country Life, London.

Whiting, John. 1955. A Treasury of American Gardening. Williams Press. (a bit of everything but might be useful)

Resources: Thesis and papers

Buggey, Susan. 1978. Period Gardens in Canada: A Researcher's Resources. Research Bulletin No. 87, Parks Canada, March 1978. 15 pages

Erigero, Patricia. 1992. Cultural Landscape Report: Fort Vancouver National Historic Site. Volume 1. Vancouver, Washington. National Park service, Cultural Resources Division, Pacific Northwest Region, Seattle, WA. (one of the few published monographs on 1850s HBC sites that lists plants, plans, etc but still isn't complete; Vol. 2 is supposed to be out but the only copy seems to be at the Fort)

Goodchild, Peter. 1990. Some Principles for the Conservation of Historic Landscapes. May 1990. IoAAS, University of York, York England Y01 2EP.

Hume, Cyril. 1990. Period Landscape Consultant prepared The Development of a Restoration Plan for the Garden at Point Ellice House. Vol. 3. March 15, 1990.

Hussey, Jane Strickland. 1974. Useful Plants of Early New England. Economic Botany 28: 311-337. July-September 1974.

Judd, Carol M. 1990. Judgment, Skill and Muscle. Field Agricultural Practices, Fort Langley, National Historic Park. March 1990.

Lane, Caroleena Hernandez. 1978. The Introduction of Plants of Economic Importance into England, 1500-1600. Ph.D. thesis, Emory University, Graduate Institute of Liberal Arts. 1978. Appendix 1 lists plants known to 1500. Appendix II: list one, plants grown in England 1550. List two, plants grown in England 1580; list three plants grown and for sale in England 1680. (p. 314-327 inclusive).

Lutz, Peggy Ann. 1991. Food and Females; The Taming of the Oregon Palate? MA History. Portland State University, 1991.

Maney, Susan Ann. 1990. Preserving Design Intent in the Historic Landscape. 1990. M.Sc. thesis, Longwood Program, University of Delaware. (bibliography p.94-102)

McClelland, Linda Flint and J. Timothy Keller. National Register Bulletin 30. How to Identify, Evaluate and Register Rural Historic Landscape. U.S. Department of the Interior, National Park Service, Interagency Resources Division, Washington, D.C.

20240

Meier, Lauren. 1991. Historic Landscape Directory. A Source Book of Agencies, Organizations and Institutions Providing Information on Historic Landscape Preservation. National Park Service, Preservation Assistance Division, Washington DC in collaboration with the Catalogue of Landscape Records in the United States, Wave Hill and US ICOMOS Historic Landscape Committee.

Meier, Lauren and Betsy Chittenden. 1990. Preserving Historic Landscapes: An Annotated Bibliography. U.S. Department of the Interior, national Park Service, Preservation Assistance Division, Washington, DC

Olsen, Michael Leon. The Beginnings of Agriculture in Western Oregon and Western Washington. 1971 Ph.D. thesis. University of Washington, History Department. (this is one of the best references for anyone doing HBC work)

Moodie, D.W. “Gardening on Hudson Bay. The First Century”. The Beaver: Summer 1978, p. 54-59.

Parks Canada. 1979. “Lower Fort Garry National Historic Park. Period Landscape Study.” Engineering and Architecture, Parks Canada.

Paterson, Douglas D. and Lisa J. Colby. 1989. Heritage Landscapes in British Columbia: A Guide to their Identification, Documentation and Preservation. University of British Columbia, Landscape Architecture Program.

Pepper, Jane Guest. 1978. Planning the Development of Living Plant Collections in Botanical Gardens and Arboretums. Unpublished thesis; M.Sc. Ornamental Horticulture, Longwood Program, University of Delaware.

Rea, Mary-Alice F. 1975. Early Introduction of Economic Plants into New England. Economic Botany 29: 333-356. October-December 1975.

Rempel, Sharon. 1992. Strategies for Conserving Living Plant Collections; Global and Local Action Plans. August 1992. MA Conservation Studies, IoAAS, University of York, England.

Rich, E.E. “The Fur Traders: Their Diet and Drugs”. The Beaver: Summer, 1976, p.

43-53.

Ross, Lester. 1974. Hudson Bay Suppliers Volume 1. A Directory of Suppliers who Provided Manufactures and Products Shipped to the HBC Columbia Department 1821-52. Parks Canada.

Sim, Jean Constance Robertson.1990. Conservation of Historic Botanic Gardens. MA Conservation Studies thesis, University of York, England. August 1990.

Taylor, Terri and Patricia Erigero. 1992. Cultural Landscape Report: Fort Vancouver National Historic Site. Vol. 1 Vancouver Washington. National Parks Service, Seattle, Washington.

Tishler, William.1989. American Landscape Architecture. Designers and Places. Building Watchers Sieries.1989. National Trust for Historic Preservation, American Society of Landscape Architects. The Preservation Press, Washington. (a good start when trying to track down philosophy or design concepts for a particular designer, or period contemporary)

von Bayer, Edwinna. A Selected Bibliography for Garden History in Canada. Environment Canada, Ottawa. Various editions.

Wood, J.B. and A. Warren. 1978. Discussion Papers in Conservation. No. 18. A Handbook for the Preparation of Management Plans. 1978.University College London.

Resources: Inventories

Fruit, Berry and Nut Inventory. 1989. An Inventory of Nursery Catalogs Listing all Fruit, Berry and Nut Varieties Available by Mail Order in the United States. Kent Wheely. Seed Saver Publications, RR3, Box 239, Decorah, Iowa, 521010, USA.

National Council for Conservation of Plants and Gardens. The Pines, Wisley Garden, Woking, Surrey, GU23 6QB, England. (national collections of many ornamentals)

The Northwest Gardeners' Resource Directory. Stephanie Feeney. 59 Strawberry Point, Bellingham, WA 98226.

The Seed Finder. 1983. John Jeavons and Robin Leler. 10 Speed Press (Box 7123, Berkeley, CA 94707). Lists of various seed catalogue offerings.

The Vegetable Finder. 1992. Heritage Seed Programme, Henry Doubleday Research Assoc., Ryton on Dunsmore, Coventry CV8 3LG, England.

Resources: Journals

Canadian Horticultural History. An Interdisciplinary Journal. Center for Canadian Historical Horticultural Studies, Royal Botanical Gardens, Hamilton Ontario.

Orchard. The Annual Journal of the British Columbia Orchard Industry Museum. 1304 Ellis St. Kelowna, B.C. V1Y 1Z8.

Resources: Seeds and Plants

White, Lyman N. 1988. Heirlooms and Genetics. 100 Years of Seeds. Cambridge, N.Y. 12816 . (hard to find but a wonderful history book of various crops)

Seed related issues

Ashworth, Suzanne. 1991. Seed to Seed. Seed Saver Publications, RR3, Box 239, Decorah, Iowa, 52101. (very complete and excellent reference book on seed saving)

Bubel, Nancy. 1988. The New Seed Starters Handbook.Rodale Press, Emmaus, Pennsylvania. (good basic book)

Eldridge, Judith. 1984. Cabbage or Cauliflower. A Garden Guide for the Identification of Vegetable and Herb Seedlings. David R. Godine, Boston.

Hills, Lawrence D. 1989. Save Your Own Seed. Originally Henry Doubleday Research Association, England. US Abundant Life Seed Foundation, Port Townsend, WA.

Jabs, Carolyn. 1984. The Heirloom Gardener. Collecting and growing old and rare varieties of vegetables and fruits-all about heirloom plants and how gardeners can help save this living legacy. 1984. Sierra Club Books, San Francisco. (one of the best books around still)

Klein, Mary Ann. 1986. Seed Saving: A Guide for Living Historical Farms. Accokek Foundation, Accokek, Maryland 20067. (excellent book!)

Klein, Mary Ann. 1984. Seed Saving Techniques of the National Colonial Farm. Accokek Foundation, Accokeek, Maryland 20067.

Rogers, Marc.1978. Growing and Saving Vegetable Seeds. Storey Publications. (still one of the best, available used)

Rogers, Marc. 1990. Saving Seeds. The Gardener's Guide to Growing and Storing Vegetable and Flower Seeds. Storey Publications. (great, available used)

Salaman, Redcliffe. 1985. The History and Social Influence of the Potato. Cambridge

University Press, Cambridge, England. (the definitive text on the spud)

Vavilov, N. I. 1951. The Origin, Variation, Immunity and Breeding of Cultivated Plants. Chronica Botanica, Vol. 13, No.1/6, Pages 1-366. Reprinted by Ronald Press, New York. (many other books and writings by Vavilov, too)

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