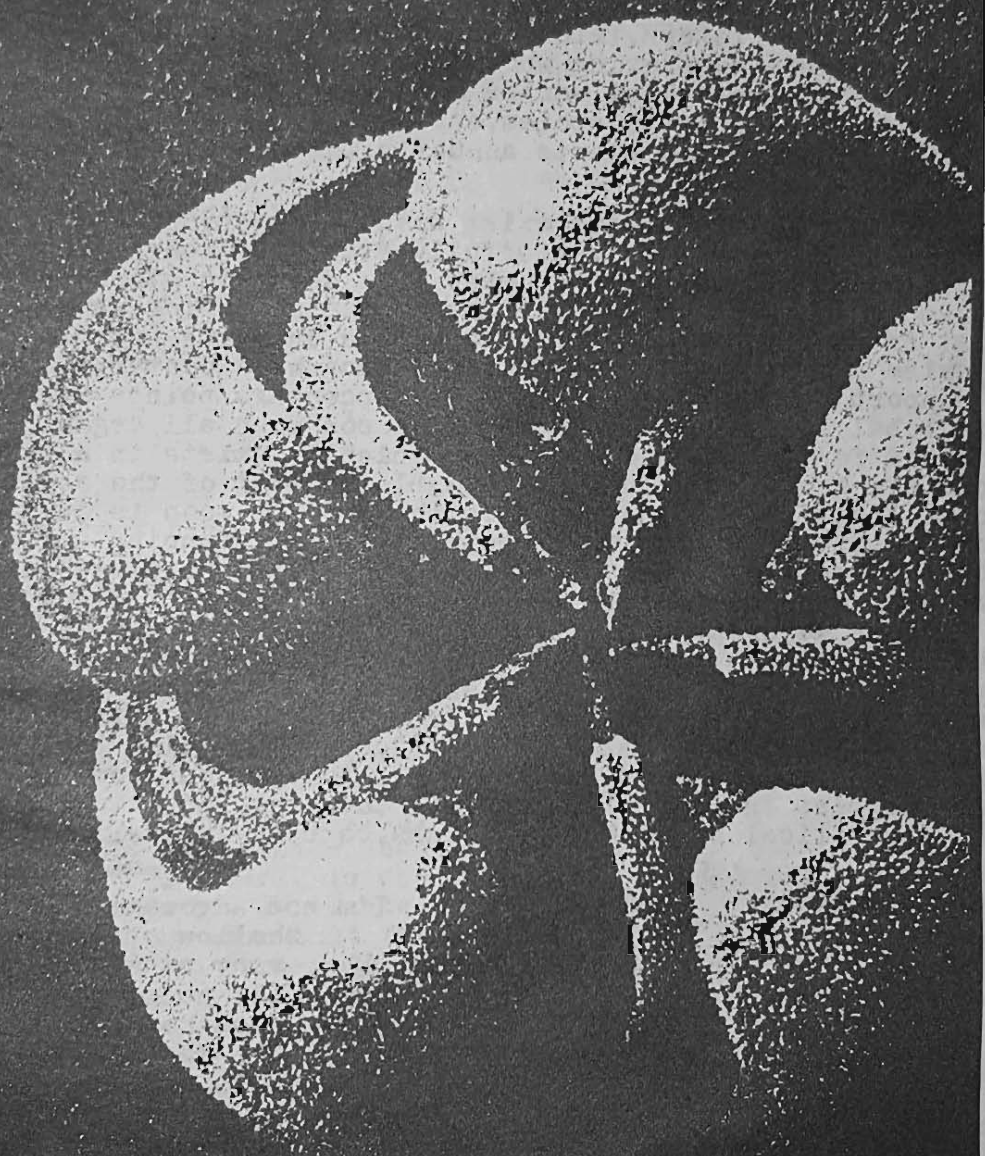


THE
GARDEN
DOCTOR



March 1989



cover plant: seed of Blumentbachia
Blumentbachia of hteronymi

I've decided to view the universe as a largely benevolent place to wake up in the middle of each morning. Granted, the very oxygen that sustains me is a corrosive gas that generates within my body the free radicals now thought at least partially responsible for the aging process. My immune system daily wards off billions of naturally-occurring hostile micro-critters. Telescopes reveal incredible collisions between entire galaxies, destroying who-knows-what life forms and/or civilizations, not to mention beautiful worlds held dear by those living on them. Here on this planet droughts, storms, earthquakes and pestilence kill billions of humans, animals and plants annually. These realities cannot and should not be ignored.

But those realities exist within larger, "kinder" ones. The star that warms our world is wonderfully stable, is long-lived and puts out far fewer radiations than do many more dramatic stars discovered. Our planet is just the right distance from the sun for water to freely exist in gas, liquid and solid form, thus enabling both life and climate to arise and flourish. The planet's atmosphere contains enough oxygen to support carbon-based life; a few percentage points more of oxygen and global fires would have long ago consumed all organic matter. A modified form of oxygen, ozone, conveniently exists in a layer miles above the ground and, lucky for us, blocks most of the deadly ultra-violet light headed our way from the sun. The moon is just the right size and distance to give us both tides and stunning solar eclipses. Micro-critters in soil and seawater carefully regulate atmospheric levels of methane, ammonia and carbon dioxide, stabilizing the content of the air we breathe and its temperature. An incredible number of species of plants and animals currently alive can delight and awe anyone who takes the time to REALLY SEE them. Fossils can thrill us again with rock hard records of frighteningly beautiful living things long gone. Volcanoes remind us that just a few miles below our homes lies an ocean of molten rock, the very body of our home planet... that heat recycles the earth's crust and thus regulates atmospheric levels of that critical climate-shaping gas, carbon dioxide.



I'm not advocating a syrupy or shallow optimism. But I and many others have become a bit happier and more courageous having substituted the existential "angst" of our 20's with an existential PHUKINAY! for our 30's and beyond. A joyous and productive life seems to need hard work softened by knowing there will always be more to see, to learn, and to be humbled and amazed by. I think that's why protoplasm shapes itself into dinosaurs first then trees then children and Pee Wee Herman... to cause and receive awareness. And our only reasonable choice is to be happy.

John Stone

GOOD NEWS

Netherlands leads the world in paper recycling, having created the world's first Waste Exchange, a free brokerage service that matches buyers and sellers.

The East Sussex County Council voted in 1988 to phase out the use of tropical hardwoods like teak, mahogany and ramin in the furniture and building materials for their offices and schools.

Southern California Edison will build a solar power plant in the California desert in 1989; it will generate electricity sufficient for 25,000 homes.

South Korea is acknowledged by many as the leader in reversing its trend towards deforestation.

Tamal Energy in Larkspur, California has developed a cost-effective means to convert biomass (tree trimmings, scrap lumber and other junk wood) into gas to power electric generators at half the cost of coal or nuclear power. An operating plant in Long Island, New York, is planned for 1989. It is important to note that, while burning biomass DOES release the primary greenhouse effect gas carbon dioxide, that gas is the oxide of MODERN carbon locked up in the wood of trees. Burning coal or oil, however, oxidizes PREHISTORIC carbon drawn out of earth's ancient HOT atmosphere by trees and other vegetation and stored in their tissues. Buried beneath sediments, those prehistoric plants then became coal and oil over the millenia, taking billions of tons of carbon OUT of the atmosphere and thus serving as a natural thermostat, allowing the earth to cool. Burning fossil fuels instead of biomass fuels re-releases that ancient carbon dioxide to cause the global warming that threatens to disrupt climate and agriculture soon, if it hasn't already. Tamal Energy is to be commended.

Solar power provides electricity for the Dallas-Ft. Worth airport and meets the hot water needs of 400 area hotel rooms.

According to Dave Klinger of the U.S. Fish and Wildlife Service, there are now 440 wildlife refuges in the U.S. that cover over 92 million acres, resulting in a rebound of a few threatened animal species since the 1920's: white-tailed deer have risen to 14 million from 500 thousand; elk have increased 500% to 500,000; antelopes from 25,000 to 750,000.

Americans reforested over 3 million acres with 2.3 billion tree seedlings in 1987.

Both BMW and Mercedes-Benz are pursuing development of cars that run on liquid hydrogen; both companies have running models.

You can always trust a man with a cow in his ear. Margaret Head

See how they run like pigs from a gun see how they fly. The Beatles

Fashion

Use a brand new pair of pliers
to pluck dewdrops from a lawn at dawn.
Drop the clear beads
one by one
into a glass bowl.

Use the dewdrops as sequins
on a white cashmere sweater.

Prana

Next time you find a fallen feather,
use puffs of thought to move it through the air.
See which thoughts work best.

Teach this skill to a child.

Appliance

Working quickly and carefully,
use a bread knife to cut out
a fist-sized piece of a tornado.
Keep it in a cookie jar.

Take it out once a week
to vacuum your carpet.

Be sure the kids keep their hands
out of the cookie jar.

Tide

Borrow your best friend's car jack.
Position it beneath the edge of a lake.
Jack the lake up out of the way and
walk beneath the water
to look for fresh-water pearls.

Be sure to lower the lake
when you are through.

Fan

Use your favorite knife
to cut out a foot high block of a cool wind.
Set it on your bedstand
on hot summer nights.

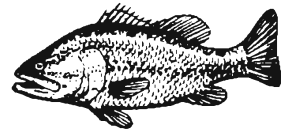


● SHARING ● SECRETS

For midwinter pesto, pack your blender with fresh basil leaves and flowers, then add just enough olive oil to allow you to blend them together at high speed. Pour the pesto into an icecube tray, freeze then pop the frozen pesto cubes into a resealable bag or container. Just think, "fresh" pesto in January!



Trout



Large-mouth bass

One gallon plastic milk jugs rescued from dumpsters and saved for you by friends and neighbors, readily become the portable little greenhouses more properly called "cloches" (klo-shez). Just use a knife to poke a hole in the side very near the bottom of the milk jug, then insert your scissors in the hole and snip all around until you've cut off the bottom. Set the cloche over the seedlings you wish to protect from cold and frost; push it into the soil to seal out cold and to hold it in place, then tuck mulch around it. When all the cloches are in place mulch the entire garden with leaves, hay or grass clippings saved from the previous growing season. Remove the milk jug caps each morning to prevent daytime overheating; replace the caps at sunset to trap heat inside the cloches overnight. Repeat this routine daily until the danger of last spring frost has likely passed. These recycled cloches can also be used to protect parsley from the first few snowfalls, extending harvest well into winter.

An inexpensive, non-sticky plant polish can be made easily at home. Mix 1 cup nonfat dry milk with 3 cups warm water, then add a few drops of shampoo. Use a soft sponge and this mixture to wipe the leaves of philodendron species, rubber plants (*Ficus elastica*), and other smooth-surfaced, large-leaved plants. Clean the upper surface of each leaf to enhance appearance, and clean the underside to remove both dust and spider mites.

When dry, the leaves will be clean and thus "breathe" better, and have a mellow, natural-looking shine.

THE ENGINE



1



2



3-4



5



6-7



8



9-10

I'm a big, black engine on a long freight

train.

Physostegia virginiana





Ranunculaceae

RANUNCULACEAE. A, *Aconitum Henryi*: Aa, plant, $\times \frac{1}{16}$; Ab, flower, side view, $\times \frac{1}{4}$; Ac, flower, vertical section, $\times \frac{1}{4}$; Ad, petals and stamens, $\times 1$; Ae, pistils, $\times 3$. B, *Delphinium elatum*: Ba, flower, face view, $\times \frac{1}{2}$; Bb, flower, side view, $\times \frac{1}{2}$; Bc, pistils, $\times 3$; Bd, ovary, cross section, $\times 6$; Be, follicles, $\times \frac{1}{2}$. C, *Aquilegia vulgaris*: Ca, plant, $\times \frac{1}{4}$; Cb, flower, $\times \frac{1}{2}$; Cc, flower, vertical section, $\times \frac{1}{2}$; Cd, petal, $\times \frac{1}{2}$; Ce, staminodes surrounding pistils, $\times 1$; Cf, pistils, $\times 1\frac{1}{2}$; Cg, pistil, vertical section, $\times 2$; Ch, ovary, cross section, $\times 6$; Ci, follicles, $\times \frac{1}{2}$; Cj, seed, $\times 3$. D, *Adonis annua*: Da, plants, $\times \frac{1}{4}$; Db, flower, back view, $\times \frac{1}{2}$; Dc, flower, $\times 1$; Dd, petal, $\times 2$; Df, pistil, $\times 5$; Dg, pistil, vertical section, $\times 5$; Dh, achene, $\times 4$. E, *Helleborus niger*: Ea, plant, $\times \frac{1}{4}$; Eb, flower, $\times \frac{1}{2}$; Ec, flower, vertical section, $\times \frac{1}{2}$; Ed, petal, $\times 3$. F, *Actaea pachypoda*: Fa, flower, $\times 3$; Fb, flower, vertical section, $\times 3$; Fc, pistil, cross section, $\times 8$; Fd, berries, $\times \frac{1}{2}$. G, *Nigella damascena*: Ga, flower surrounded by involucre, $\times \frac{1}{2}$; Gb, petal, $\times 4$; Gc, flower, vertical section, $\times 1$; Gd, pistil, $\times 1$; Ge, ovary, cross section, $\times 3$; Gf, capsule, $\times 1$.

Aconitum, *Actaea*, *Adonis*, *Anemone*, *Anemonella*, *Anemoneopsis*, *Aquilegia*, *Callianthemum*, *Caltha*, *Cimicifuga*, *Clematis*, *Consolida*, *Coptis*, *Delphinium*, *Eranthis*, *Glaucidium*, *Helleborus*, *Hepatica*, *Hydrastis*, *Isopyrum*, *Leptopyrum*, *Nigella*, *Paraquilegia*, *Ranunculus*, *Semtaquilegia*, *Thalictrum*, *Trautvetteria*, *Trollius*, and *Xanthorhiza*.

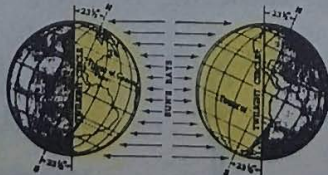
Includes many ornamentals as well as some medicinal plants. Many of the genera are poisonous if eaten. Most of the species are hardy in the northern states and Canada; many are alpine or boreal and are prized in rock gardens.



LIFE CYCLE OF THE JAPANESE BEETLE. Below the ground (left to right): mature grub (late spring); pupa; beetle laying eggs (summer); developing grubs (late summer and fall).

Fig. 19.13 The earth on June 21.

Fig. 19.14 The earth on December 21. Can you explain why it is winter in South Africa when it is summer in France?



Y

our sample packet with 3 beet juice fingerprints contains like, mixed pumpkin and various species of squash, all open-pollinated, fer sure, dude.

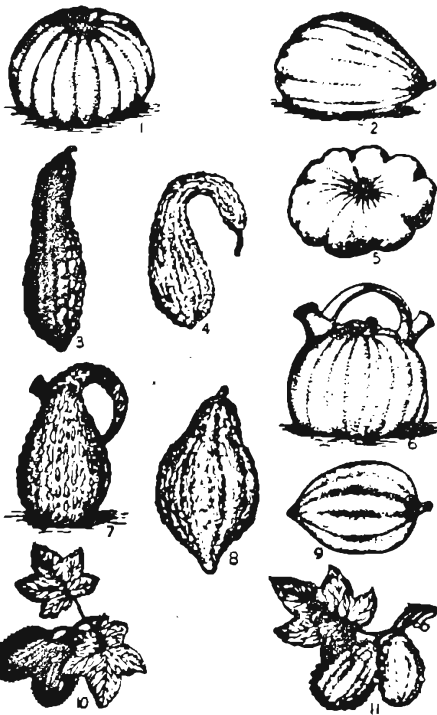
THE CUCURBITS



like, by Sue Keeny

Like wow, the genus Cucurbita includes the four species of squashes and pumpkins, C. pepo, C. mixta, C. moschata, and C. maxima. And like ya know that the varieties WITHIN each species can like cross with each other to the max, dude. especially if you like save their seeds to grow the next season. Your packet may contain giant banana squash, hubbard and buttercup squashes (C. maxima), spaghetti squash, scallops, crooknecks and assorted pumpkins, zucchinis (C. pepo). To grow some like totally RAD fruits, ya know, make a mound of organic debris 3 feet across and like two feet high using bush trimmings, grass clippings, compost, kitchen waste, spoiled hay, eggshells and/or a big handful of dolomite, and like awesome amounts of manure, fer sure... those vines are like TOTALLY hungry, ya know. Cover the mound with 6 inches of soil from around the mound to hold everything together. Then plant 3 of your seeds in the center of the mound at the top one week before the last expected frost in your area... like call your agricultural extension service to find that date. Set your oscillating sprinkler beside the mound that night and water for 4-6 hours to like TOTALLY soak the mound, dude. Next day, cover the mound (except where you planted the seeds) with 4-6 inches of grass clippings to retain moisture in the mound to speed up decay and growth of your cucurbits. Pour a gallon of water on the top of the mound daily for a week to be sure the germinating seeds don't dry out, ya know. Water the mound for two hours twice a month and in two months you'll like have these like TOTALLY awesome vines... hey, like you use the young, newly-unfolded leaves cut up into like stir fry and casseroles, dude, and like fer sure you can eat the newly-opened male blossoms for a really RADICAL raw garnish. Male blossoms are like usually the first ones to open; they're the big orange flowers on the end of a long skinny stalk... the female blossoms have a baby squash or pumpkin behind the flower even before it opens, dude. Don't pick those, fer sure. Like 12 weeks after planting your seeds you'll see squash and pumpkins growing, waiting for your teeth to like waste them. In places that, like, snow in the winter pick the pumpkins and squashes just before the first frost; if your thumbnail won't easily penetrate the skin, it's called "hard rind" dude. Cut the fruit off the vine, leaving 1" of stem on the fruit; store them in a cool room or basement for winter use.

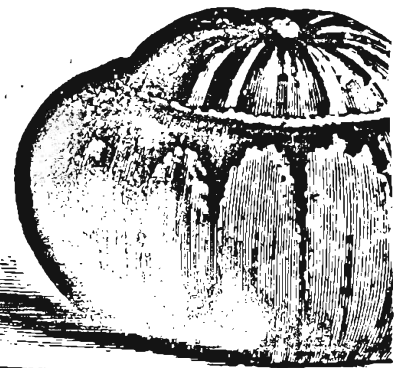
Like modern squashes and pumpkins are the result of centuries of complex cross-breeding, so each seed carries a complex genetic history, dude, like fer sure. So if you let, say, like, cucurbita pepos like zucchini and crookneck squashes cross pollinate in the garden, and save, say, 10 seeds from a fully ripe squash that autumn, plant those 10 seeds the next spring, each of those 10 plants will like produce some totally RADICAL fruit. Save 10 seeds from one of THOSE weird squashes and plant them the year after that, it can get REAL weird, dude. Sometimes the results are like pretty useless, but hey, you might create your own new type.



Neat thing 'bout growing cucurbits this way... each autumn after harvest, you can put the frost-killed vines in a new pile for next spring's mound. And all summer long, a beneficial fungus called mycorrhizia was living like symbiotically on the roots of your cucurbits, quickly decaying all that organic debris your mound is made of. So after pulling away your old vines, you'll have a big pile of finished compost!! Like isn't that totally AWESOME, dude? Like fer, sure.

Later dude,

Sue Keeny



TURK'S CAP

1 & 2 pumpkins 3 straight-neck squash 4 crook-neck squash 5 scallop squash 6 pottery vessel in the form of a pumpkin from a pre-Incan burial mound near Lima, Peru 7 jar representing a crook neck squash from a pre-Incan tomb near Lambayeque, Peru 8 Hubbard squash 9 diamond or acorn squash 10 cultivated gherkins 11 wild gherkins

"How do I do vut?" Lisa Douglas, "Green Acres"



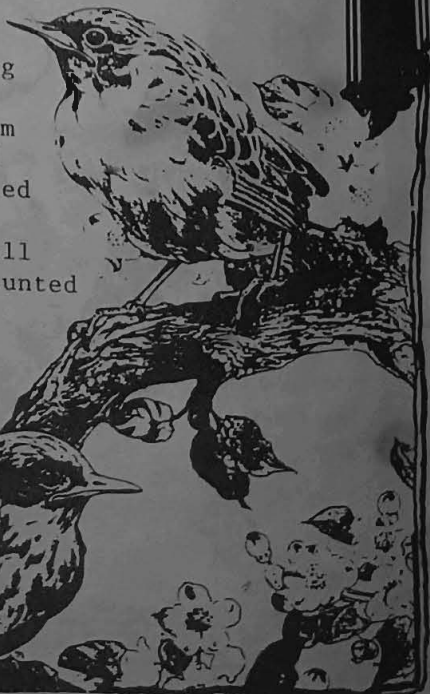
Archaeopteryx, the first bird. Note the weak characteristics of reptiles. Modern birds do not have teeth.

Birds are beautiful, essential members of a healthy terrestrial ecology, and can easily be attracted to farms and gardens where they readily control insect pests while enriching our lives. There is convincing fossil evidence that modern birds are direct descendants of dinosaurs, specifically the chicken-sized bipedal coelurosaurs. The top illustration is of Archeopteryx of 150 million years ago. Fossils of its coelurosaur-like skeleton reveal a long reptilian tail and the clear imprints of feathers. Like modern birds, it still had reptilian scales and claws on its feet, but also had teeth and exposed, clawed wing fingers (ever notice

the clawed finger on a chicken wing?) Even today the primitive-looking Hoatzin of South America has clawed wing fingers. But since birds first appeared they have greatly diversified in size and form, from tiny darting hummingbirds to the huge flightless ostriches.

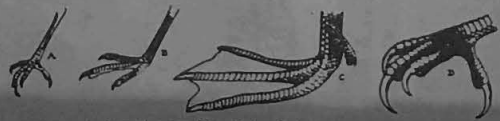
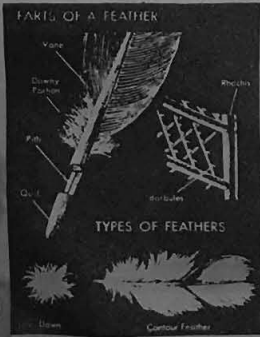
"Common" birds, if provided water, food and nesting sites, will eagerly eat many times their weight each season in weed seeds and herbivorous insects. First you must give them a source of water, be it a pedestal-type bird bath, a shallow depression in the soil lined with cement, or even a dishpan sunk into the soil. Always provide fresh, clean water. In winter, your "birdbath" can be filled with bird seed or "chick scratch"; purchase either at a feedstore for very little. Essential to birds colonizing a bit of land is the ready availability of good nesting sites. For the species that prefer to nest in shrubs, consider planting Rosa rugosa, oleagnus, elderberry, holly, yew, pyracantha, viburnum, Surinam cherry or other fruit-producing shrubs. Other bird species prefer to nest in trees; since many modern farms are lacking windbreaks and urban areas desperately need trees to provide humans a humane environment, plant TREES, especially native ones. Young trees in 3 gallon commercial pots can be bought at a good nursery for \$10-\$15 and are best planted in the fall to minimize transplant shock. Again, fruit-producers will serve two functions, and can provide both you and the birds with fresh fruit. Depending on your area of the world, consider planting cherry, apple, citrus, mountain ash, hawthorn, crabapple, mulberry, date palm, chokecherry, plum, camphor, loquat, almond, or others.

Bird houses are again becoming a popular means of drawing birds to a property. I once knew of an elderly man in Tampa, Florida who made beautiful cypress bird houses and sold them from his car... library books can teach different styles and construction methods, including those bird condominiums called martin houses (martins eat tremendous numbers of mosquitos, so many people erect a martin house in their yard atop a tall pole). Large, dried gourds with a hole cut in the side and mounted in a tree or on a tall fence are easy to grow and prepare.



"The book of love will open up and take us in..." Mr. Mr.

Remember, every yard and farm needs plenty of feathered dinosaurs.



1, foot of a perching bird; 2, foot of a wading bird; 3, foot of a swimming bird; 4, foot of a bird of prey.

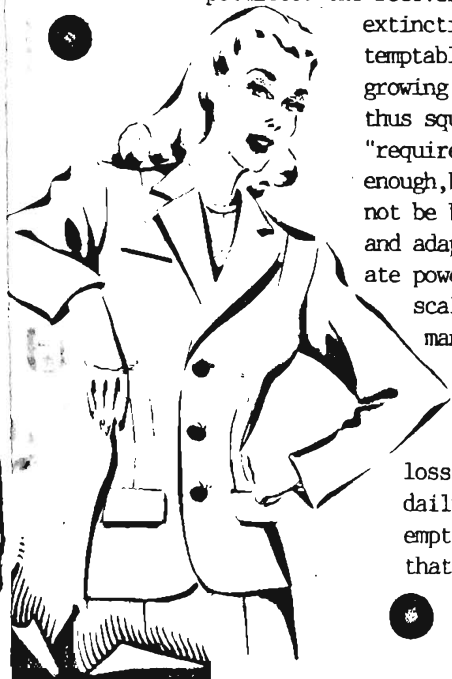
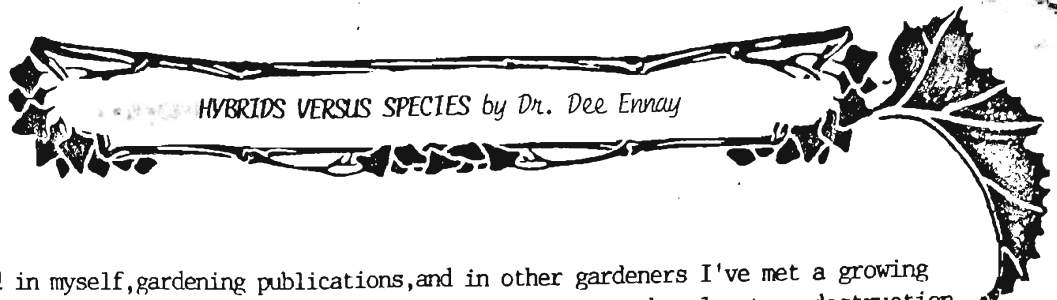
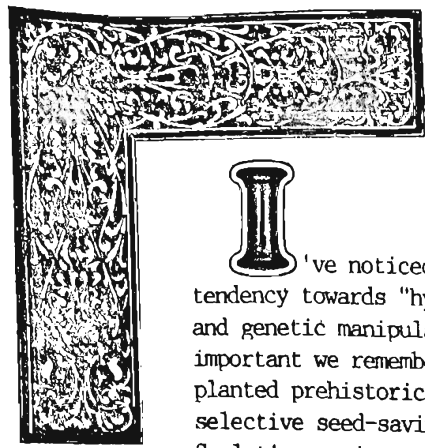
I've noticed in myself, gardening publications, and in other gardeners I've met a growing tendency towards "hybrid-bashing" these days, a reaction perhaps against the planetary destruction and genetic manipulation of life occurring in these closing years of the 20th century. But it is very important we remember that the human race has been selectively hybridizing native plants since it first planted prehistoric patches of the wild grasses we now call wheat, rice and oats. Like pieces of flint, selective seed-saving and crossing was one of our earliest tools, one that can be both used and abused. So let's examine together what hybridizing is, involves, and does for humanity.

Hybridizing is a process of selective breeding of plants to produce larger, more colorful, more nutritious, heavier-bearing, more disease-resistant or hardier crop plants for human use. For many centuries this tedious work has been done by people who loved plants or people or both, wishing to make life better or at least more beautiful or interesting. We mustn't forget that a few centuries ago apples were tiny, of far fewer varieties and limited to narrow productive seasons. Prehistoric native Americans grew and ate a "corn" we wouldn't recognize...tiny-wheat-like fibrous grain heads instead of the plump cobs we take for granted. Many of us grow "ordinary" annual flowers and roses that no king could have dreamed of finding just a century ago...the color range, petal count and geographic range we again take for granted were the stuff of gardener's fantasies for all of history. And while the native species have a joyous beauty of their own, having second or third alternatives to choose from makes modern gardening a far richer experience...few of us would be content with the tiny original wild squashes. Hybridizing is not intrinsically bad. Few tools are.

The tragedy and sin of hybridizing occurs when it is abused by corporate boneheads eager for a crop of nothing but quarterly profits at all costs. There is a universe of difference between monks in the Middle Ages crossing wild roses to create new forms and colors, and some modern CEO's apparently void of any sense of ethical responsibility. Monsanto, for example, is using advanced hybridizing and cell culture techniques to develop food crops fully resistant to herbicides. I understand that Monsanto sells herbicides...hmm. I question too efforts by corporate plant breeders using cell culture to create tomatoes and other crops that can be irrigated solely with seawater...the noble-sounding goal is to be able to grow food in arid coastal regions. But what of the massive salt-poisoning of huge areas of native soils? Sometimes, well-meaning hybridizers focused on a singular goal breed out of existence some valuable genetic material. For example, earlier in this century, the gene that made sweet peas so fragrant as to be mentioned in literature dating back to the Romans was lost by breeders obsessed with extending the color range beyond pastels. So by the 1950's sweet peas were burgundy and deep violet but relatively scentless. The lucky discovery of the wild sweet pea ancestor (thought extinct) on Sicily permitted the recovery of the plant's namesake characteristic. But the now obscene rate of global plant extinction means that there will be far fewer such happy endings. Perhaps the most contemptible abuse of hybridizing is being wrought by a few select giant seed companies growing even larger by buying up their competitors using Boesky-style hostile takeovers, thus squeezing farmers into dependency on dangerously few often bred DELIBERATELY to "require" frequent applications of pesticides and chemical fertilizers produced, oddly enough, by parent or sibling companies. But the skilled science of hybridizing itself should not be blamed; all throughout history the finest human skills and devices have been adopted and adapted by slimy and unscrupulous Machiavellian money-grubbers. Unfortunately, corporate power has often tainted itself, considering it "feasible" to sacrifice on a global scale the welfare of humans, animals, entire ecosystems and the genetic integrity of many plant species. The CEO's of such companies, to quote John, "should be composted".

Native plant species preceded us by millions of years, and are due appropriate respect and protection...the loss of their color, form and genetic heritage would be (and is daily) a terrible legacy of our time. Extinction leaves a sad emptiness no one can fill again, EVER. Wise hybridizers recognize that native species tend to possess great vigor, specific disease

(continued)...



(continued from previous page)

resistances, highly viable seed, pest, frost, and drought resistance, and quite often rare colors and fragrances. Luckily, many fine people & organizations are working hard not only to establish seed and gene banks, but also to cultivate native species and their earliest hybrids (even prehistoric Indian corn is a hybrid) in their gardens and on their farms. Such a global activist network is vital if we are to stop the plunder of the planet's biological bank account. Dedication to preserving native species provides a necessary balance that can allow us to continue to enjoy, use and further pursue development of the finest hybrid plants, be they heartbreakingly fragrant Asiatic lilies or a balanced protein corn or wheat. Plus, hybridizing in one's own home garden can be just plain fun; I myself plan to use the 1989 growing season to produce a hybrid of the "cucusa", an edible gourd (*Lagenaria longissima*) and the "birdhouse gourd" (*Lagenaria siceraria*). Why? Well, for one, because they're there... I'm a curious person and want to see if I can do it and what the fruit might look like. But I also want to produce a fruit with the firm texture and wonderful flavor of the cucusa but with the firm rind and spherical shape of the birdhouse gourd. I'll let you know of the results in the summer of 1990, when the hybrids seeds produce their first crop. Many gardeners have heard of the white "Swan" acorn squash, renowned for its keeping qualities and fine flavor... this true hybrid was developed in the home garden of Colorado resident Mrs. Swan (I don't know her first name). She had noticed a white mutation in her garden several years ago, and with diligent hard work produced the stable hybrid that rightly bears her name. Few would argue that her efforts were "wrong". So rather than pit hybrids against native species, let's choose a healthy third alternative (once again) by recognizing their respective values and places in our lives as both gardeners and residents within that precious film of life covering our beautiful blue and green world.



A. hippastrum, commonly called Amaryllis.

Someone gave you an amaryllis for Christmas? Many people report that they never again get a bloom despite their tender nurturant care. What gives? Well, let's review a few things. For one, amaryllids are natives of southern Africa, which is BELOW the equator; when it's winter in the northern hemisphere, it's summer in the amaryllis' home... somehow it "remembers" or "knows" that, and so blooms in late winter or early spring in the northern hemisphere. Secondly, that dramatic flower is produced in the heart of the bulb during the PREVIOUS growing season... so if your amaryllis bloomed in early 1989, that bud formed in 1988! So... to get a new flower each year, just meet the bulb's simple needs by doing the following. Give your bulb a good home; an 8"-10" clay pot with drainage is perfect.

Put a 1" layer of dry leaves or grass clippings in the bottom of the pot to hold in the soil, add a few inches of rich compost and manure blended together, set in the bulb, then fill the pot with more compost and poop, being sure the neck of the bulb protrudes. Keep it well-watered and fed with fish emulsion, manure tea, meat-and-bone meal, or "puke juice", but most importantly grow it in FULL SUN! Best is outdoors on a sunny patio all summer long. This enables this full-sun plant to grow fully healthy leaves which in turn nourish and replenish the bulb, including the formation of next year's flower bud. Let the first frost of autumn kill back the foliage to induce necessary dormancy as it occurs back "home". Cut off the dead leaves, put the potted bulb in a closet, basement or garage where it can remain cool but NOT freeze. Don't water it AT ALL, again to duplicate the winter drought of its native home. In a month or two growth will suddenly emerge from the neck of the bulb; set it in the SUNNIEST window you have, water it well with warm water and feed it. Within a few weeks you should have a dramatic flower to again provide a joyous contrast to winter's dim colors. When the flowers have faded, cut off the entire stalk so that the plant doesn't waste energy trying to form seeds. When spring frost danger has passed, set it outdoors and repeat the cycle. Given fresh compost every few years, a potted amaryllis will flourish for decades. I have about two dozen amaryllids in my collection... I hope to have them still when I'm a wiry, white-haired old fart. You can too!!

(SPECIAL THANKS TO SUE STARNES AND PAT BURGER FOR INSPIRING THIS ARTICLE)

S



Spring is a planetary event that triggers climatic and biological change as each hemisphere of the earth slowly tilts TOWARDS the sun during our world's journey around that star. Sunlight thus strikes that hemisphere at a more direct angle, warming the air, water and land mass. Dormant plants, seeds and animals respond by growing and feeding. For us gardening souls in snowy areas, spring (i.e. February or March) means starting seeds early indoors in sunny windows or in cold-frames, bringing in armloads of forsythia branches to brighten our winter-weary homes, spreading annual ryegrass seed on polycultural lawns, but most importantly, FEEDING THE SOIL, be it with fish emulsion, manure or manure tea, soybean or meat-and-bone meal, or "puke juice" (ferment green plant waste, kitchen waste, hand-picked slugs, manure, etc. in a water-filled barrel for 1-4 weeks...use the resulting gag-inducing smelly liquid to enliven your soil and nourish plants, especially young seedlings.) We can cover the cold soil with clear plastic rescued from the dumpsters of carpet supply houses to trap solar heat for early warming. We can rake back deep organic mulches that act as insulators to expose the cold soil to the sun. Despite the likelihood of more snow, March is a good month to plant early crops of those amazingly cold hardy crops like peas, snow peas, and corn salad. Later in spring (i.e. April and May) we can plant the seeds of hardy annual flowers like Shirley Poppies, California Poppies, calendulas, larkspur; use this time to plant the seedlings of pansies, violets, snapdragons and other cold hardy annuals difficult to grow if direct-seeded in the garden, not to mention any of those wonderful hardy perennial flowers and vegetables like Shasta daisy, penstemon, delphinium, bearded iris, lupine, feverfew, mums, physostegia, roges, monkshood, salvia patens, Oriental poppies, hybrid lilies, hostas, daylilies, horseradish, sunchokes, mints, all perennial herbs and many, many, many others. Snowy areas gardeners are afforded an incredible range of choices, as a great many of the world's most beautiful flowering plants REQUIRE a period of long, cold-induced dormancy; this fact was a major reason for my moving to Denver after a total of twenty years of Florida gardening. One CANNOT grow lilacs, peonies, horseradish and many others plants in mild climate regions, just as one CANNOT grow palms, strelitzia (Bird-of-Paradise) and many others here in Colorado as outdoor plants. Continue feeding the birds, and stockpile cardboard boxes to cover young plants during late frosts. And in all this busy-ness, be sure to inhale the haunting fragrance of hyacinths and daffodils and study the trickle of melting ice, the sudden greening of naked trees. Spring in snowy areas is planetary renewal most clearly (and colorfully) seen and felt.



In snow-free subtropical or tropical regions, spring is more subtle but nevertheless present...look for renewed growth in palms, the blooming of trees like jacaranda and the return of certain bird and insect species. It's time to feed the soil again, as here it never gets to rest. Prune frost-damaged gingers, hibiscus, jatropha, thryallis, gardenia, and other ornamentals. Plant and/or divide cannas, gingers, callas, sugar cane, bananas, dahlias, daylilies, strelitzia, pentas, and other rapidly multiplying perennials. Winter-planted hardy annual vegetables and flowers will peak at this time, so as you harvest them plant the heat-loving "tender" crops like okra, squash, sweet potato, corn, melons, cucusa, morning glories, zinnias. In the United States central and South Florida, the Gulf Coast, S.W. Arizona, and Southern California and the coastal Northwest are the areas with very early planting dates for tender (frost-sensitive) annual flowers and vegetables. The centerfold chart on the next page lists helpful U.S. planting dates and information for many food and flower crops; an asterisk beside a crop name means to plant that crop in March or April in those mild-climate areas just mentioned. Notice the sun rising higher in the southern sky as spring advances, and remember you are on a huge tilted planet orbiting a star... fill your days well. Relax, don't worry, be happy.

"What does not destroy me makes me stronger." Friedrich Nietzsche





VEGGIES

an asterisk beside a crop name means to plant that crop in March or April if you garden in a snow-free, mild-climate region.*

CROP	WHEN	SEED DEPTH	SPACE BETWEEN PLANTS	EDIBLE PORTION
Corn*	May-June	1"-2"	8"-12"	silks, seeds, cobs
Melons*	May-June	1"	3 seeds per mound	fruit, young leaves
Amaranth*	April-May	$\frac{1}{4}$ "	12"-14"	entire plant
Okra*	May-June	1"	12"-14"	unripe fruit, seeds
Bush Squash*	May-June	1"	24"	all but stems, root
Pumpkins*	May-June	1"	3 seeds per mound	all but stems, root
Beans*	May-June	$\frac{1}{2}$ "	4"-6"	all but stems, root
Beets	April-May	$\frac{1}{2}$ "	2"	entire plant
Chard	April-May	$\frac{1}{2}$ "	6"	entire plant
Turnip	April-May	$\frac{1}{4}$ "	2"-3"	entire plant
Bok Choi	April-May	$\frac{1}{4}$ "	4"-6"	all but root
Broccoli	April-May	$\frac{1}{2}$ "	15"-20"	all but root
Spinach	March-April	$\frac{1}{2}$ "	2"	leaves
Orach	March-April	$\frac{1}{2}$ "	6"-10"	leaves, ripe seeds
Sweet potato*	May	2"-4", slips	12"	leaves, roots
Peppers*	April, indoors	transplant seedlings	19"-1'!	fruit only
Onions	April, sets	3"	3"-4"	leaves, bulb, flower
Millet	April, May	$\frac{1}{4}$ "	10"-12"	ripe seeds
Cauliflower	April, May	$\frac{1}{4}$ "	24"	all but roots
Collards	April-May	$\frac{1}{4}$ "	10"-12"	leaves
Brussell's	April-May	$\frac{1}{4}$ "	10"-12"	all but roots
Sprouts	May	1"	12" by fence	fruit 8"-20" long
Cucuzi*	June	$\frac{1}{4}$ "	12"	leaves, roots
Chicory*	April, May	$\frac{1}{4}$ "	4"-6"	leaves, flowers
Kale	April, May	$\frac{1}{4}$ "	4"-6"	all but roots
Kohlrabi	April, May	$\frac{1}{2}$ "	6"-8"	pod, young leaves
Black-eyed Pea*	May	1"		

Special thanks to my mom Sue, m
for giving me this wonderful e

my dad Jack (John sr.) and my brother Kevin
 electronic typewriter for Christmas 1988!!

Mustard	April, May	1/4"	8"			leaves, flowers
Peas	March, April	1"	3" by fence, trellis			all but stem, root
Lettuce	April, May	1/2"	4"-6"			leaves
Corn Salad	March, April	1/2"	4"			all but root
Carrots	April, May	1/2"	2"			entire plant
Daylilies	April, May	4"	12"			leaves, buds, tubers
Tomatoes*	April, indoors	transplant seedlings	12"-16"			fruit only
Ground Cherry*	April, indoors	transplant seedlings	10"-12"	May		fruit only
Eggplant*	April, indoors	transplant seedlings	18"-24"	May		fruit only
Comfrey	March, April	4", divisions	24"			leaves, flowers
Milkweed	March, April	1/2"	10"-12"			leaves, flowers
Basil*	April indoors, May	1/4"	10"			young shoots, pods
Borage*	April indoors, May	1/2"	10"-12"			leaves, flowers
Radishes	April, May	1/2"	2"			leaves, flowers
Nasturtiums*	April, May	1"	4"-6"			leaves, root, flower
Lentils	March, April	1/2"	6"			seeds
Fennel	April, May	1/2"	3"-4"			leaves, flowers
Salsify	April, May	1/2"	4"			seeds
Anise, Fennel,	March, April	1/2"	6"-8"			leaves, seed, flower
Dill, Caraway,	April, May	1/2"	6" by fence, trellis			leaves
Malabar Spinach	May	1/2"	10"-12"			all but root
Strawberry	April, May	young plants	4"			entire plant
Parsley	April, May	tubers, 2"-4"	12"			tubers only
Potato*	April, May					

A FLOWERS ANNUALS



...can be divided into two groups: FROST HARDY & FROST TENDER. Those with an asterisk are FROST HARDY (they like cool weather), and should be grown in fall & winter in mild climate regions, and planted in late April & early May most everywhere else. Those without an asterisk are FROST TENDER (heat-loving) and should be planted after frost danger has passed in your area, likely March in mild climate regions, May elsewhere. Plant flower seeds 4 times their diameter, water daily for 10-15 minutes DAILY for two weeks. Those underlined can be a pain from seed...buy plants in 6 or 12 packs.

ZINNIA	*CALENDULA	HELIOTROPE	AMARANTH	*CLEOME
*SNAPDRAGON	*FANSTY	*ALYSSUM	COCKSCOMB	NICOTIANA
MORNING GLORY	MARIGOLD	AGERATUM	*LOBELIA	*DIANTHUS
*SHIRLEY POPPY	IMPATIENS	BECONIA	TORENIA	*SWEET PEA



weird food

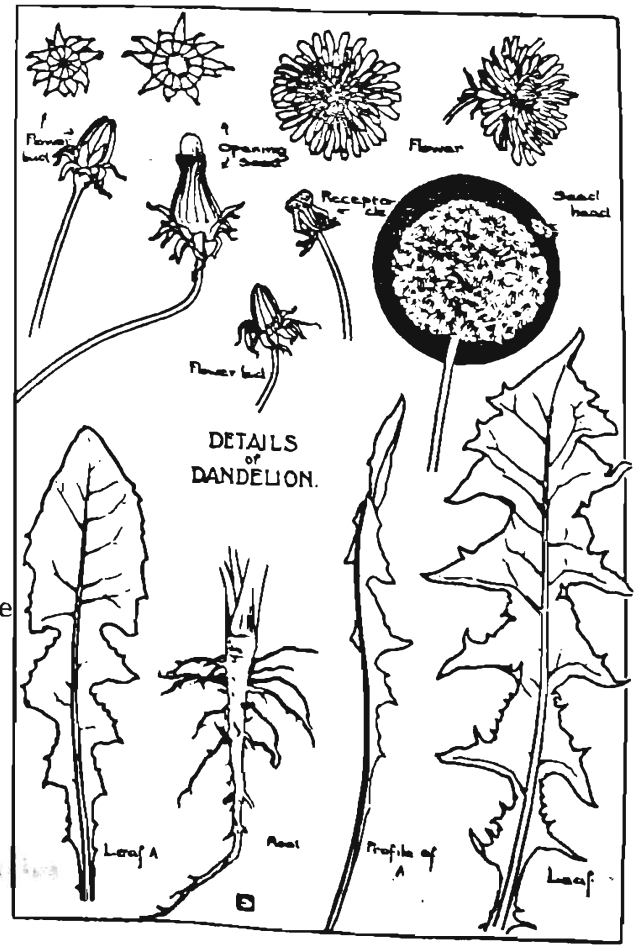
While many of us have heard that dandelions are not only edible but delicious when harvested young, few have made it a staple item...this article is aimed at changing that. The toxic herbicide 2,4-D is being needlessly sprayed on valuable soil around the world to kill a plant that can be controlled by simply harvesting and eating it. Why eat a "weed"? Well, dandelions are very close relatives of lettuce (study lettuce flowers sometime... little "dandelions"). They also are very high in vitamin A, contain 4 times more vitamin C than lettuce, are loaded with iron, and can be used to create several distinctive dishes. The first leaves to emerge in spring are delicate in flavor and texture, and make fine additions to salads, casseroles and stir fry. Later in the season, the leaves become larger and bitter if eaten raw, much like its cousin endive...these may be snipped off the plant, washed, chopped then cooked in salted buttered water for 10-20 minutes, drained then served as a traditional European cooked green. Try drizzling them with either vinegar or hot-pepper vinegar. This is one of the few cooked greens hearty enough to, with a big chunk of home-made bread comprise a truly satisfying but simple meal.

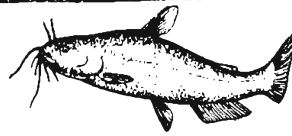
For centuries people have used the bright yellow freshly-opened flowerheads in combination with sugar, water, citrus and yeast to brew a wine held by many to be both delicious and medicinal. The flowerheads may be dipped in a batter and deep-fried as fritters. And if you dig up the big root to control or eliminate dandelions in a given area, remove the leaves and eat them, then rinse the carrot-like root, cut it into 1" pieces, then roast in the oven till very dry and brown. Coarsely ground, these roasted roots have been brewed for centuries into a "coffee".

The name dandelion is derived from the French "dent de lion" (lion's tooth), likely referring to the angular points on the jagged leaves. Being a hardy perennial, the dandelion (*Taraxacum officinale*) prefers a snowy climate, the chilling of the soil serving to induce the dormancy needed annually before growth can resume each spring. After the first hard freeze of autumn, you can dig up the roots, remove the leaves then plant several in a big pot and grow fresh greens all winter long in a sunny window all winter long.

No weed justifies the use of 2,4-D, the dangerous chemical that, in conjunction with 2,4,5-T, yielded Agent Orange of Vietnam fame. Reduce dandelion populations in lawn areas by annually harvesting, roots and all, 25% of your dandelions. This is easy if done after a good rain or deep watering; use an old butcher knife plunged into the ground at a 45 degree angle to sever the root down deep, then slowly but firmly pull up your harvest. This will barely disturb the lawn, and will not kill wildlife, contaminate groundwater, or endanger your children or pets as would the use of toxic weedkillers.

To those of you in snowy areas, by the time you read this, dandelions will be breaking winter dormancy, and by May you'll have a fine "mess" of greens. Sorry Lyn and Ulla, Janet in Miami, Steve, Ginger, Gianna and Renee' in Tampa, Christopher, Rene, Jo Ann, Norma, Mark and all you many California readers...your mild climate is usually adverse to dandelions (they need that winter freeze), so you may have to visit a northern friend, or me here in Colorado, to taste this fine but maligned plant. However, mild climate gardeners living in mountainous areas, with their subsequent cooler temperatures, may enjoy fine crops of dandelions. A sign of healthier, more aware times...some seed catalogs now offer dandelion seed!





transparent container housing a balanced, watery world alive with aquatic plants, snails, lively fish and unseen micro-organisms is a soothing visual mantra that deserves a place

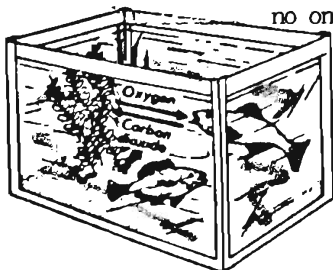
in every home and workplace. Most of us don't wish to hassle with changing filters or water, or listen to a buzzing pump, or spend the money on a costly tank setup and so go without an aquarium. But there is a third alternative (as usual)...a natural aquarium that duplicates nature's clear lakes and ponds. Since we've never seen a pump-and-filter assembly chugging away on the shore of a natural body of water, why doesn't the water "sour" even though no one "changes" the water monthly?

First and foremost, aquatic plants absorb as fertilizers the dissolved solid waste and waste gases (like carbon dioxide) produced by fish and snails, which in turn feed on algae and insects trapped on the water's surface. The snails also feed on fish excreta...mmmm! Micro-organisms in the water digest food scraps, fish and snail poop, thus releasing the dissolved nutrients that fertilize the aquatic plants. The aquatic plants release their primary waste product (oxygen) into the water. Lastly, the poisonous ammonia and methane generated in the sediments by the micro-organisms decaying solid waste escapes into the air via the water's surface. If you've noticed bubbles rising to the surface while canoeing in a lake you've witnessed this final step in the aquatic food chain that naturally purifies bodies of fresh water. Duplicating this process in a large glass container indoors, or an exterior fishpond, is quite easy. Here are the basics.

Set a glass container of a gallon or more capacity by a bright window and fill with water to within 2" of the top. Let it sit for 24 hours to release dissolved chlorine and/or ammonia. Add 1 inch of very thoroughly rinsed coarse sand, from the beach, a river or you can buy coarse builder's sand at the hardware store. For each gallon of water add two dolomite tablets or 1 teaspoon of eggshell you pulverized in a blender with water and rinsed a few times to remove suspended egg protein...this step provides the calcium critical for the growth of your aquatic plants and the snails' shells. To introduce start-up nutrients add to each gallon of water either 1/4 teaspoon fish emulsion, or 1/4 cup of either manure tea or compost tea. Anacharis is a very reliable aquatic plant...\$1 should buy you a small bundle at an aquarium supply shop. Tuck the rubber-banded base of the bundle beneath an egg-sized stone, ideally limestone. This not only anchors the anacharis to the bottom, the limestone's calcium carbonate serves to neutralize organic acids released by slow decay of solid waste. It also insures ample nutritional calcium in the water. In a few days the anacharis will "settle in" and begin using light and dissolved nutrients to oxygenate the water. Sometimes you can even see little bubbles of oxygen clinging to the leaves.

On the fourth day or later, add several brown snails, preferably the little common brown pond snails, as they are excellent scavengers; they also graze on excess algae growing on the glass. Do NOT buy the big expensive apple snails, for they will ravage your aquatic plants. I've always gotten my pond snails for free from lake shores, irrigation or drainage ditches or other aquarium owners. Be sure to get some snails, as they are CRITICAL to a tank or pond balancing itself. Plus it's neat discovering their jelly-like transparent egg cases, then watching the tiny baby snails hatch out a week or two later. You can add your fish the same day. I prefer to rescue the "feeder goldfish" or "feeder guppies" sold cheaply by the dozen to owners of "oscar" and other carnivorous fish. 2 feeder goldfish or 5 feeder guppies per gallon of water is fine. After an hour give your new roommates a TINY pinch of dry oatmeal or a TINY crumb of tofu. This seems to reassure them that the sudden chaos and change is not hostile or ongoing. Oh yes when you bring your fish home, let the little bag they're in float in their new home for 30 minutes to avoid shock caused by sudden temperature change. Now, on the matter of feeding your fish...over-feeding is THE single biggest cause of the water "going bad" in an aquarium. It's fun to feed them, but

no one feeds wild fish. Algae growing on the plants and glass of your tank is to be the primary food source for your critters. Once a week ONLY, give them a TINY pinch of dry cat or dog food you pulverized in your blender. Store it in a decorative lidded container beside your aquarium. Those unbelievably expensive-per-pound fishfoods at the aquarium shops just aren't needed. A handful of dry petfood pulverized will support an aquarium for a year for pennies. Besides, being cheap can be a fun hobby in itself!! Believe me! (continued)



The balanced aquarium.



"I'm NOT a number, I'm a FREE MAN!! No.6 The Prisoner"

(continued)



AMOEBAE AND ALGAE Two amoebae are making their way across a group of algae above the bottom of the pool where they live.

The greater the variety of living things within any ecological system the less vulnerable and more stable it will be. So for that reason try to add to your aquarium a quart or so of natural water from a clean local lake, stream or pond to introduce the myriad micro-organisms that are the basis of our planet's capability to process organic waste. A natural aquarium is literally a miniature world, each type of organism working in relation to the others to create a life-zone. A healthy aquarium will be home to amoebas, parameciums, aquatic fungi and many species of bacteria. And a natural body of fresh water is the best place to obtain them.

Maintaining a natural aquarium involves very little work. Every 3-6 months siphon accumulated solid waste off the bottom using a flexible bit of clear tubing, like a piece of IV line. You can buy vinyl tubing very

cheaply at a good hardware store, about 50¢ per foot. A 3 foot piece works great. If your tank is by a bright window, you may have excess algae growth on the glass. This algae boosts terrifically the oxygen content of your water but can limit visibility, so once a month you can use a facial scrubber to remove the algae from the "viewing side" of your tank. Remember, algae is GOOD; it feeds the fish, extracts nutrients from the water and is a great oxygen producer. But if the water itself gets green with suspended algae cells, your tank is simply getting too much light. This rarely occurs in an artificially-lit room, but more often by a very sunny window. Just move the tank a couple feet away or draw the curtains when direct sunlight enters each day. Finally, once a week add some water you've aged 24 hours to replace that lost to evaporation or pets...our family cats and dog prefer to drink the natural water of the tank to the tap water in their bowls, and only rarely in all these years has there been a problem with predation. That's it! An aquarium maintained this way **never** needs to have the water changed, for those periodic siphonings remove the dissolved salts that would otherwise accumulate.

When your tank is well "settled in", try different, more exotic fish. I've raised neon tetras, angels, platys, various bottom feeders, and native minnows captured in streams and ditches. Crawfish do well, too, and are interesting to watch, but often they completely devour the aquatic plants and hapless fish. It's best to avoid carnivorous fish like oscars and bass initially, as their poop is very nitrogen-rich. This can result in extensive algae "blooms" that, as they decay, rob the water of oxygen.

About the only mistakes you can make are to **OVERFEED**, add chlorinated (fresh tap) water, or to use a narrow-necked jug as your tank; the small opening may block the essential escape of ammonia and methane. Not only is a natural aquarium a pleasant feature of a comfortable interior environment, it is a good reminder that our planet is no less fragile or self-sustaining. And we humans are no less part of an interconnected life-web than are the snails, the fish, the anacharis and last but not least, those vital but unseen micro-critters.

THINK GLOBALLY, ACT LOCALLY
THINK GLOBALLY, ACT LOCALLY



Pond



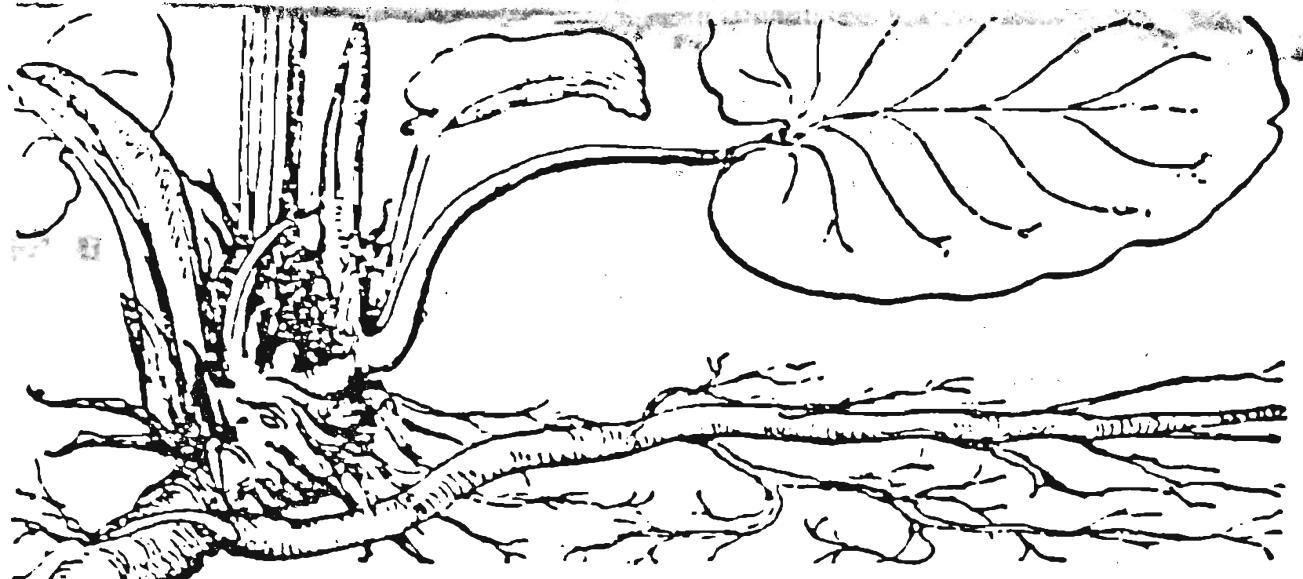
MARY TSE TUNG'S LITTLE PINK BOOK:
for a GOOD time write these HOT addresses!!

Rainforest Action Network
300 Broadway Suite 28
San Francisco, CA 94133

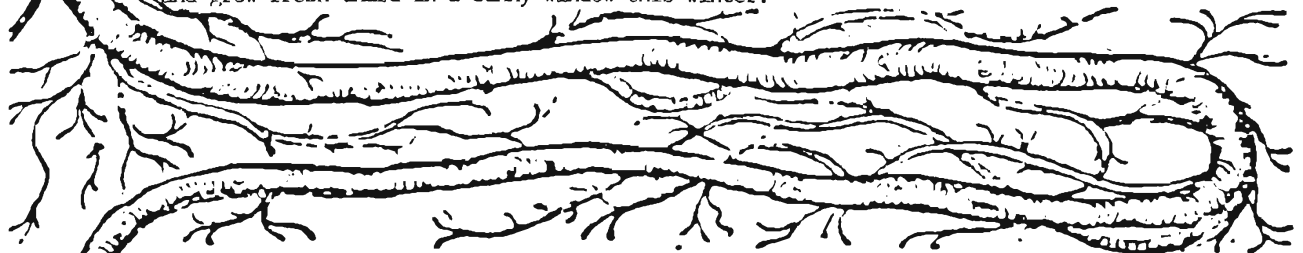
Land Stewardship Project
512 West Elm
Stillwater, Minnesota 55082

All Ways Free (*amazing!)
P.O. Box 11446
Chicago, IL 60611

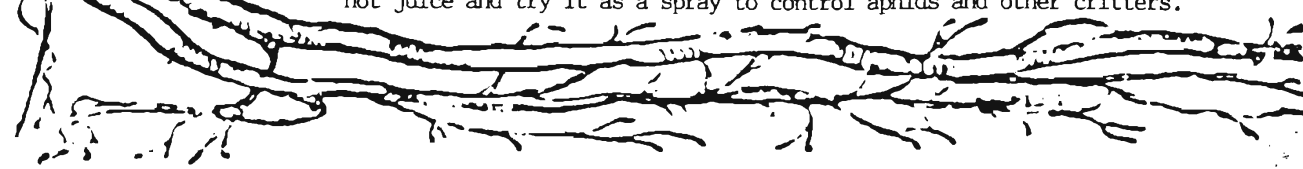
Bat Conservation Int'l
P.O. Box 16203
Austin, Texas 78716



Packet with 1 beet juice fingerprint:Rhubarb Chard.This vegetable is an attention-getting addition to any flower garden,its large,bright red-stemmed leaves contrasting beautifully with white alyssum,yellow calendulas,larkspur,and blue penstemon.A member of the Beet family (*Beta vulgaris*),Rhubarb Chard is easily grown if started in spring before summer heat sets in. In snow-free,subtropical or tropical areas like the Caribbean,S.E.Asia,Central America,central Africa,southern California,and central and south Florida,grow both chard and beets in autumn, winter and spring,as they tolerate frost but not extreme heat and humidity.Store these seeds in your refrigerator until proper planting time,then sow them $\frac{1}{2}$ " deep in rich soil kept moist by mulch and watering every day for two weeks.When the seedlings are 3"-4" tall transplant them till spaced 12"-18" apart.In snowy areas you can get a head start by growing the seeds in a very bright window 6 weeks before your last expected frost then setting them in the garden in mid spring.To harvest,just cut off the big outer leaves;new growth will emerge from the center.Cook the leaves as you would spinach,use raw in salads,or chop and add to spaghetti sauce and lasagna.Kept deeply mulched,Rhubarb Chard will yield well into autumn,withstanding both summer heat and the first few frosts.Few foliage plants,edible or not,are more beautiful or less demanding.Suggestions:grow 3 Rhubarb Chard plants with 12 white alyssum plants in a barrel for a stunning patio planter.And...if you live in an area with snow or hard winter freezes,dig up a mature chard,remove ALL the leaves from the huge stem,pot it up in a big pot,and grow fresh chard in a sunny window this winter.



Packet with 2 beet juice fingerprints:"Green Wave" curly mustard.This easily grown member of the Brassica family produces beautifully frilled ornate leaves that are fiery hot if eaten as a raw garnish.Cooked,they are a classic "green" whether dressed with butter,vinegar or Tabasco sauce.Like nearly all Brassicas,this mustard produces late-season tall but delicate spikes of yellow flowers...let their seed pods fully ripen,harvest the seeds,grind them with salt and vinegar and you'll have a truly hot table condiment.All mustards are rich in vitamin A,minerals, and cruciferol,a known cancer inhibitor.In snowy areas,start your seeds in a sunny window 4-6 weeks before last expected frost.Transplant them to a full sun garden when frost danger has passed.In snow-free,subtropical or tropical areas all the Brassicas are best grown in autumn, winter and early spring as they resist frost well but not extreme heat and humidity.In those areas,sow the seeds directly in the garden $\frac{1}{4}$ " deep;keep moist.Later,thin them to about 12" apart. Suggestion:Grow "Green Wave" as part of the border around flower gardens and as a potted specimen plant.Also,whizz its leaves in a blender with water,strain out the hot juice and try it as a spray to control aphids and other critters.





Margaret Head's View of the News

It has been said for years that America is a nation on the move; families and corporations alike routinely pull up stakes and head elsewhere to reap the benefits of a fresh start. In recognition of this national trait, I propose the re-location of our nation's capitol.

Why should Washington hold a monopoly as host city when, thanks to "voodoo economics" every sizable American city has several large business buildings aching for occupancy? Granted, the surroundings might not be quite as opulent as most of our "civil servants" have come to expect; no gleaming marble columns, formica desk tops instead of teak, not to mention the absence of tax-subsidized gourmet cafeterias and sumptuous private gyms. But this exposure to Average Jane and Joe Americana could be refreshing for them...one can become insulated and isolated inside a comfy and cozy perennial power base.

Despite the costs of quadannual relocation, tax dollars would still be saved: what party chairman will spend hundreds of thousands of tax dollars to line his office with rare imported woods, knowing he'll be there to enjoy it for so short a time. Besides, being new in town he might feel a bit conspicuous parading custom woodworkers past his new neighbors, on whose payroll he, after all, is on. I think that living in rented apartments, our politicians will find fewer tax deductions open to them when compared to second-home ownership in a permanent capitol. This consideration alone would pay for the move and likely generate additional revenues to help blot up the tidal deficit.

Dearies, just think of the economic shot-in-the-arm each new host city will feel as our public servants daily patronize fancy schmancy restaurants that serve martini-and-truffles lunch specials, or BMW, Lincoln and Mercedes dealers, massage parlors, tailors selling \$600 suits and of course, local cocaine dealers. The whole community would at last be at least dampened by the trickle-down theory.

But most importantly, this quadannual shake-up would prevent the slow but sure buildup of bureaucratic sediments that bog down any sedentary government. Why, each new scramble to stake claim to the best parking spaces would alone serve to break up budding heir-archies before getting entrenched.

Change for the sake of change is wasteful. But a swift and nimble Nation's Capitol is an idea whose time has come. After all, the Nation that moves together, grooves together. And which fine city should be the first to host our fleet-footed public servants? Why, MOBILE, Alabama of course, darlin's.

HEAD REST



Joe Joba

Hey Babes! Jogging and meditation keeps me loose as a goose...I jog 11 blocks to a park each morning to burn up anger and anxiety and fat, then, once at the park, meditate beneath a linden tree to keep happy, relaxed and wacky. Hey guys and gals, the 11 block jog back home cools my tubes, keeping my head rested and my body modern. Take my strife, please!



Margaret Head

How do I rest my pretty little cranium? Honey, I draw a hot bubble bath, toss in a bundle of lavender boughs, set my cute portable TV on the toilet seat, set a lit candelabra on the TV, pop open a bottle of burgundy, turn out the bathroom light, then slip into the fragrant suds. I sip wine, do my nails, and watch re-runs of "Mannix". It doesn't get any better.



Wirrim F. Buckry

大麻

Cannabis sativa L.

一年生草本。茎直立，高1—3米，有纵沟，密生短柔毛，皮层富纤维。叶互生或下部的对生，掌状全裂，裂片3—11，披针形至条状披针形，上面有糙毛，下面密被灰白色毡毛，边缘具粗锯齿；叶柄长4—15厘米，被短绵毛。花单性，雌雄异株；雄花排列成疏散的圆锥花序，黄绿色，花被片和雄蕊各5；雌花丛生叶腋，绿色，每朵花外具一卵形苞片，花被退化，膜质，紧包于房。瘦果扁卵形，为宿存的黄褐色苞片所包裹。

原产亚洲西部；我国各地均有栽培。茎皮纤维优良，供纺织用；种子含油30%左右，供工业等用；果为镇痛止咳、滋润止痛药；花、叶、油也可药用。



Living Off The Wall (For M.J.)

by Phyllis McEwen

Keeping your head together.
Keeping your voice soft
when you could
Crack the mountains with your throat.

You are the one
Keeping the stupid stories
Away from your Mama's eyes.
(She knows them by heart)
You should relax and enjoy the world.
It is burden.
Take it close
and sing away its sin.

Bible or He Discovers the Bible Like Christopher Columbus Discovered Here

by Phyllis McEwen

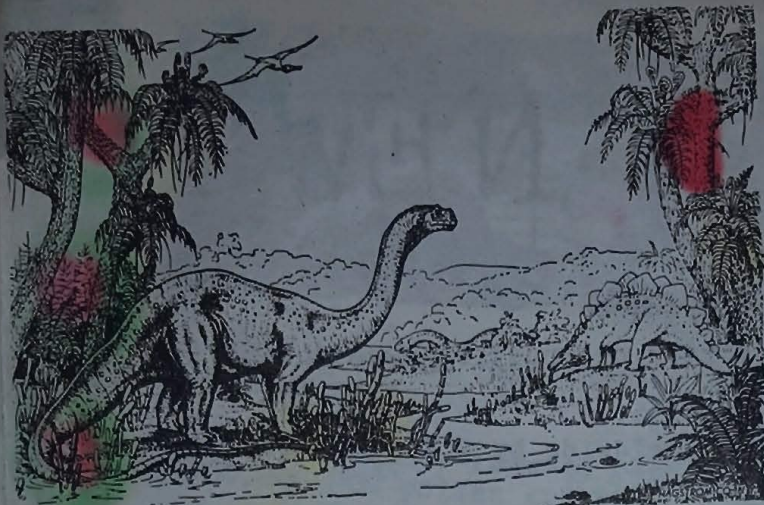
The Book opens across my face.
You step in Black shoes along the bridge it makes
From me
To somewhere else.
It hurts, mashing me this way
in this trip you take away from my flippancy.

At night I whisper wishes, flat on my knees
in languages I don't understand.
You smell witches in our room after my prayers;

You, as Martin Luther King and I, as Eleanora Fagan
Have learned to transcend the day.
But if you must burn me,
Burn your lovely white-skinned book along with my
ashy golden hands.

Years ago, I handled my Bible like hot potatoes
Tender as ripe pears.
It was the tool of wishes and secrets and dreams.
I never believed the women there:
They were virgins, and slaves, and cows.
But this is the final word:
The book was mine before it was yours.

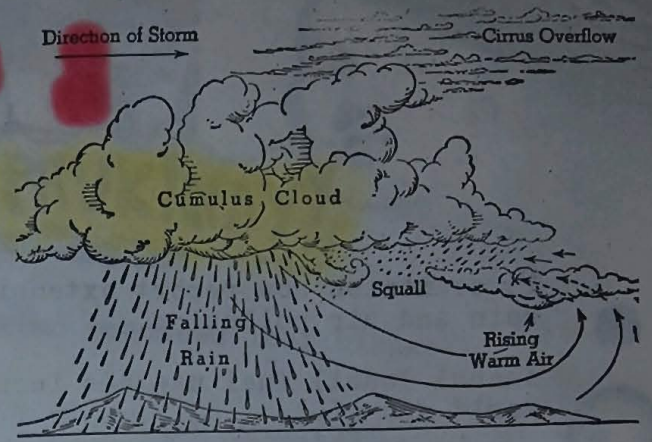
And years ago while you were still a spoiled buck child
I was a skinny yellow chick, already hated
For my braids and voice and breasts.
My parents gave me this book in diamond-tipped hope.
And you, who were always loved
Are thinking now that it is
The sky.



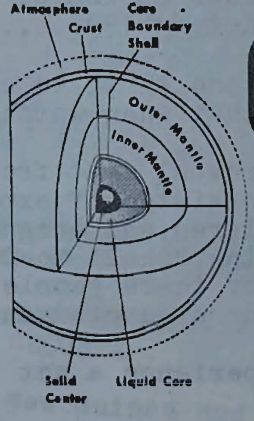
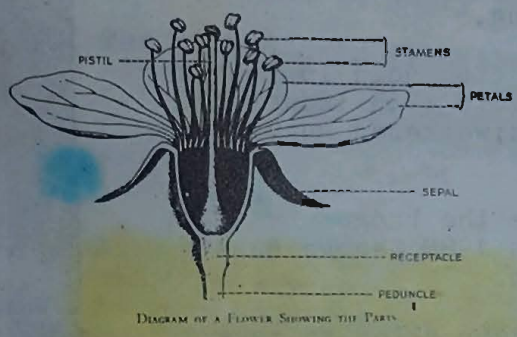
A possible scene in the Jurassic Period. Left: Brontosaurus; right: Stegosaurus. (Note its horny plates.)

Science is humanity's best

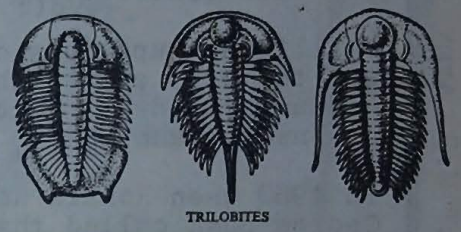
Local thunderstorms, sometimes called air-mass thunderstorms, are common during the daytime



phenomena, although the more violent ones carry over into the night, after having started in the afternoon. They usually travel about 20 miles per hour and are about ten to forty miles in width. Violent updrafts are found in front of the storm and should be avoided by aircraft.

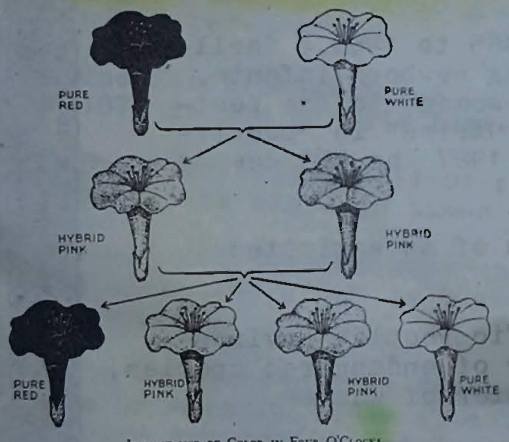


Cut-away diagram of the earth showing its probable interior.



TRILOBITES

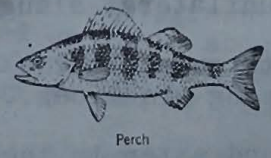
tool for joyous inquiry....



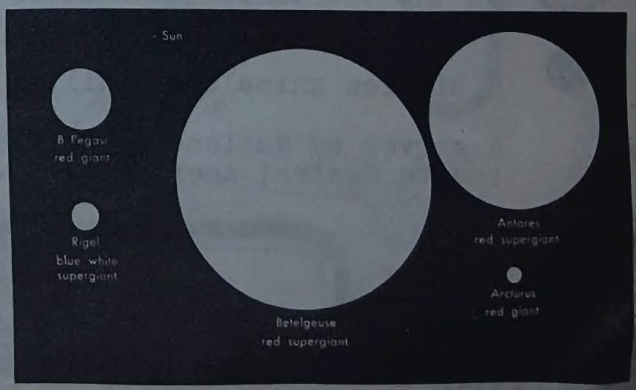
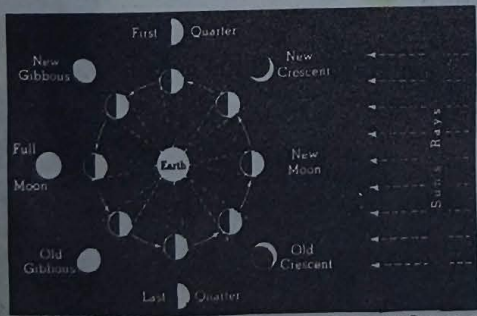
INHERITANCE OF COLOR IN FOUR O'CLOCKS



How our sun compares in size with the giant and supergiant stars.



The phases of the moon. Half of the moon is always illuminated by the sun, but we on the earth can see only the part of this illuminated surface between the dotted lines. These parts, shown next to each position, are called the phases of the moon.



BAD NEWS



19 countries now report extensive forest destruction caused by acid rain and air pollution.

Annual fossil fuel use has increased worldwide by 2,250% since World War II.

To avoid damaging their pelts, fur producers kill leopards and lynxes by restraining the animals and thrusting red-hot iron rods up their anuses.

There are now 350 million cars in the world, each spewing out CO₂ and thus contributing greatly to global warming.

Phillipine suppliers of the colorful tropical fish sold in Europe and the U.S. are caught by poisoning entire reefs with industrial sodium cyanide. Many corals and fish are killed; weakened survivors are netted and sold.

In 1980 when Ronald Reagan promised to balance the budget by 1984, George Bush called that "Voodoo Economics". In 1988 George Bush promised to balance the budget by 1992....hmmm.

150 living minks are killed and stripped of their skins to make just one fur coat. Remember that when watching "Wheel of Fortune".

Internal company documents reveal that from 1965 to 1969, a Shell-sponsored Italian "study" consisted of exposing newborn infants, hospitalized adults and children, and pregnant women to the pesticide DDVP (Vapona) by placing "Shell No-Pest Strips" in "poorly-ventilated rooms" occupied by these people. In 1987 the EPA deemed DDVP (Vapona) a "probable human carcinogen".

World farmlands annually experience a net loss of an estimated 26 BILLION tons of topsoil.

Japan has been determined by APPEN (Asia-Pacific Peoples Environment Network) to be the world's leading trader of endangered species, in addition to its continued unilateral slaughter of whales.

Of the 195 toxic waste sites targeted by the EPA for cleanup, 35 are attributed to GE's dumping practices...."Geee!"

5 billion animals are killed and eaten in the U.S. annually.

A survey by National Geographic found that 45% of Americans can't locate Central America on a world map.

"Human history becomes more and more a race between education and catastrophe." H.G. Wells

"Be all that you can be." U.S. Army



Chain fern

The Amazon bamboo palm (*Raphia toedigera*) produces leaf blades measuring up to 65 feet in length!

A single American ragweed plant in full flower can generate 8,000,000,000 pollen grains in 5 hours.

The gestation period of the American opossum (*Didelphis marsupialis*) can be as short as 8 days but averages only 12-13 days!

In 1972 Mrs. T. Henry found a certified 10 leaf clover.

The prehistoric flightless giant bird *Aepyornis maximus* lived for millions of years in southern Madagascar. It stood 9-10 feet tall, weighed 1,000 pounds, and laid 30 pound eggs that were 7 times the size of an ostrich egg. It became extinct at the hands of native hunters as recently as the 1600's!

At 3,675,300,000 miles from the sun, Pluto is the most distant and thus the coldest planet. Its estimated surface temperature is just -420 degrees Fahrenheit, 40 degrees above absolute zero.

Light travels through a vacuum at a speed of 670,616,625.6 miles per hour.

The Eisriesenwelt ice cave discovered at Werfen, Austria in 1879 is the world's largest: it is 24.8 miles long inside!

The hummingbird *Heliactin cornuta* of tropical South America beats its wings 90 times per SECOND!

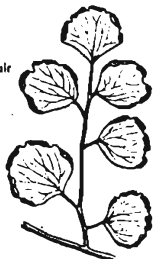
The fruit bat *Camvampyrus* of New Guinea and Indonesia has a wing span of up to 5 feet 7 inches but weighs less than 2 pounds.

The maidenhair tree (*Ginkgo biloba*), grown the world over as an ornamental, first appeared on earth about 160,000,000 years ago during the Jurassic era. Thus some humans today walk past trees of a species passed by dinosaurs!

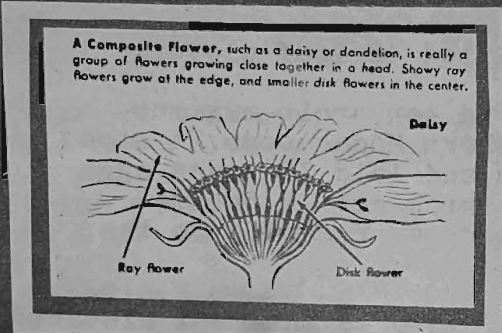
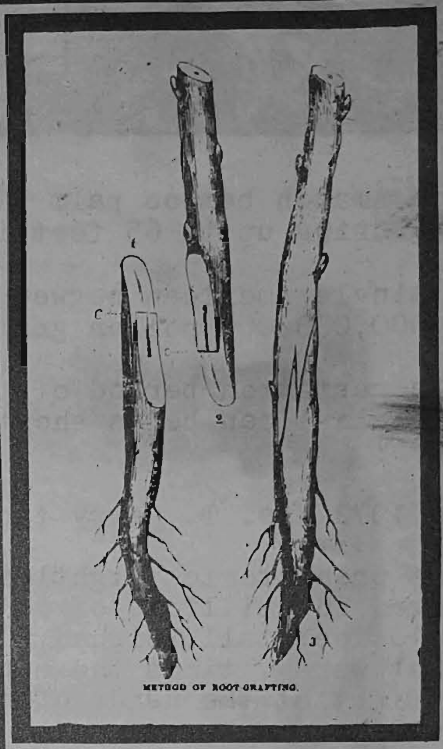
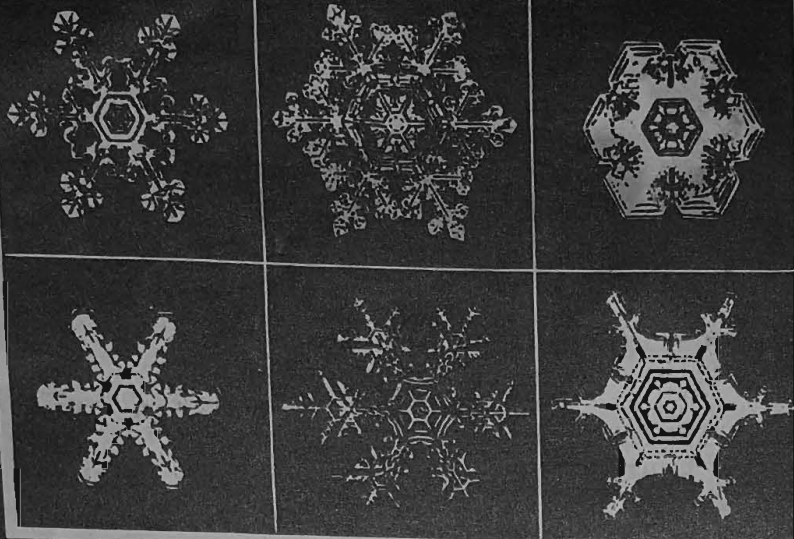
On May 7, 1934 at Palawan, Phillipines, a pearl weighing 14 pounds 1 ounce was found in the shell of a giant clam. The pearl was oblate, measuring $9\frac{1}{2}$ inches by $5\frac{1}{2}$ inches.

California maidenhair

In December 1960 the Journal of the American Medical Association reported a case of compulsive swallowing. The patient's stomach contained 258 items, including 39 nail files, 88 coins, 3 metal chains, 4 nail clippers, 3 pairs of tweezers, a bracelet, a necklace, 26 keys, 3 sets of rosary beads, 16 religious medals, and a 3 pound piece of metal.



We find only the world we look for. Thoreau



The Garden Doctor



Reading "The Garden Doctor" sure opened my eyes... no ordinary organic gardening publication, it makes me laugh, encourages me to notice natural wonders, gets my dander up with political commentary, and shows me EASY, EFFECTIVE WAYS to help reverse global environmental damage by acting LOCALLY! Each issue of this 24 page quarterly newsletter-kit is hand-colored by volunteers then hand-signed by the editor, John Starnes. Inside you'll also find 3 SAMPLE PACKETS of unusual seeds, dried herbs, or organic pesticides and fertilizers. Now FINALLY I can try something out right after reading about it!

I personally subscribe to the original version, with it's sprinkling of colorful "adult" language, but I give young, old or conservative folks gift subscriptions to "The Garden Doctor, Too", the new but otherwise identical "clean language" version. At last there's a gardening publication for the 90's, and it costs only \$24 a year... the neat sample packets alone are worth that to me!! So order yourself or a friend a subscription TODAY! Just write a note specifying which version you'd like, and mail it and a check for a measly \$24 to:

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