



SREAF
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CITIES & SUBURBS

The Twain Must Meet

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Belatedly, after most of the countryside in Megalopolis has fallen under the impact of the developers' and highway builders' indiscriminate bulldozers, with the central cities on the verge of nearly total disintegration, people are beginning to realize the need for a comprehensive metropolitan urban growth policy.

The complexity of the problem unfortunately drives people to simplistic thinking and proposals which, by only addressing portions of the problem, make no contribution to its solution.

One such proposal is that suburbs cooperate with cities in the solution of mutual problems. It is easy to urge that this be done, but it is difficult to devise a framework within which it could be realistically accomplished.

To expect that the suburbs' growing political muscle will lead to their voluntarily assuming responsibility for the problems of cities would be taking an overly optimistic view of human nature and the temper of our time.

While the suburbs are increasingly becoming cities, they do so reluctantly, desperately trying to stave off the problems which are undermining the social and economic viability of cities.

Since suburbs believe that to avoid the same fate they must ward off all change one cannot expect them to assume leadership toward resolution of the conflict.

What is clearly needed is a framework within which the strength of the suburbs, which is increasingly becoming the strength of the nation, could be used constructively to solve the nation's problems, which are only incidentally those of the cities.

In this type of effort, one must expect national leadership. State leaders must also participate since most of the laws under which municipalities function are state laws.

The cities' problems are mainly fiscal and demographic. To increase the pittance contributed by suburbanites in taxes on income earned in the cities will not solve any problems and will further embitter relations between cities and suburbs.

The only equitable and practical solution lies in increased use of the traditionally redistributive state and federal income taxes. Assumption by the states of the full cost of public education, for instance, would free billions in local revenues for other essentials.

This has long been recommended by the Federal Advisory Commission on Intergovernmental Relations, and is now being urged as a result of the recent decision of the California Supreme Court which found the present method of financing public education to be unconstitutional.

The cities' second major problem is that while industry is decentralizing beyond its corporate limits, low and moderate income workers cannot find housing owing to the suburbs' resistance to apartment and subsidized housing construction.

These workers cannot readily move to the suburbs if there is no housing nor can they commute because of a lack of adequate transportation. This burdens the cities with increased unemployment and potentially expanded welfare rolls.

To enable the nation to move toward solutions to these problems, what is needed is a national development policy focused on the rationalization of metropolitan growth. A beginning in this direction was established in the proposed National Land Use Policy Act of 1971 which is now pending in Congress.

This legislation would require all states to recognize that land use and transportation are interrelated and that all environmentally significant areas must be protected.

The resulting mandated land use policy would open transportation-centered corridors to higher density development. It would place people of all incomes within reach, by public transportation, of employment and community services. Between these corridors would be low density areas and open land preserved for future generations.

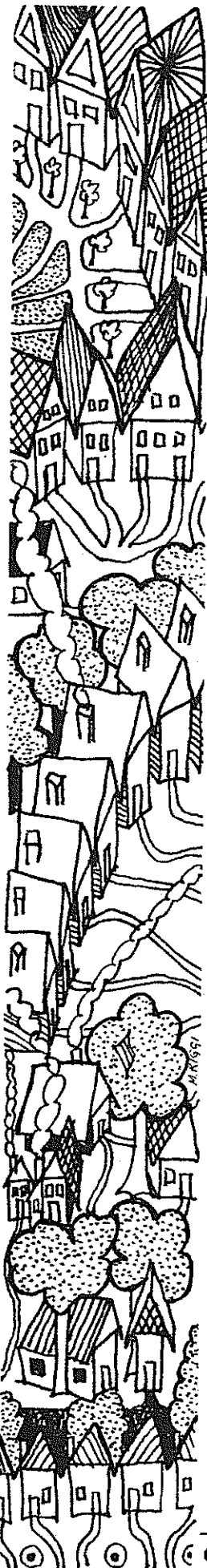
Only a rational policy such as this can possibly make a difference in the future relationship between cities and suburbs and unify all residents of metropolitan areas in the pursuit of common objectives.

A major step in this direction was taken by the Suffolk County Legislature recently, when it adopted its portion of the Nassau-Suffolk (Long Island) Regional Plan.

It would be well if this example was followed by others. It would be especially welcome if the state legislature required the adoption of such plans by all municipalities and counties in the state's metropolitan regions.

Had the development of the last two decades occurred in such a framework, the country wouldn't be in the mess it is in. Late though it be, isn't it time we did something right for a change?

George Raymond is Professor and Chairman of City and Regional Planning, Pratt Institute •





BIKE RACKS:

Bike it. Save money. Regain your health. Your youth. But you'll need places to park. Bike Racks. Have you noticed them popping up all over New York. We put most of them there. For Bendel's and Bohack's and Bellevue. How about your apartment building? Your store? Your office building?

We've got three different kinds. One comes unassembled, holds six bikes, and is \$23 delivered. It's black galvanized metal. The second holds eight bikes, is of one piece welded construction, and we'll put it anywhere you want for \$50. Installation (bolting it to the sidewalk) is \$12 extra. The third rack is a pre-cast concrete slot like the ones we did for the Museum of the City of New York. Each holds one bike and is \$26 delivered to you and installed (half dozen minimum).

STEPS: 1. Let us know which one you want. 2. We'll get you the permit and the insurance (\$13 for the first six bikes and \$5 for every six after that). 3. Before you know it, you'll have a place to park your bike and you'll only have a vague memory of what that cab fare used to be. 4. We'll also supply you, if you like, with information and posters so you can join the Biking Revolution.

You would be surprised to know who bicycles to work!

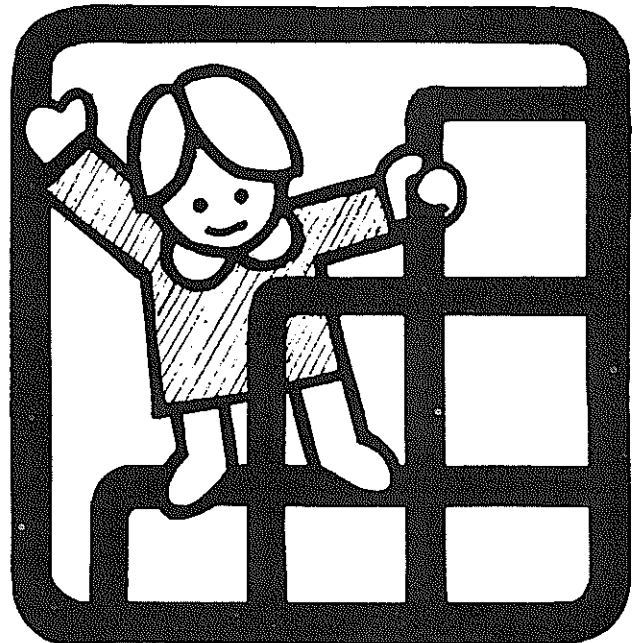
PLAYGROUND EQUIPMENT:

New York City's playgrounds need a lot of help. We can give the playground of your choice a ring-ding or a spider's web or a rainbow climber or a double pyramid play cube with two slides! Ask your kids what we're talking about. They know. We've been on the side of kids and playgrounds for a long time. We've got expertise. We've done studies. We've asked kids.

We've narrowed the playground equipment field down in order to present the best to you, whether you want to give one thing or your company wants to build a whole playground. But our minds are open and we'll try to help you do almost anything you would like. With one requirement. That it's good for kids. New York kids. Very special.

STEPS: 1. Ask your kids what's happening. 2. Look over our list. 3. Call us to talk over what you want and where you want to put it. 4. We'll clear the site with the Parks Department for you.

PLAYCUBES in five different series, from \$600 to \$3000.



This is the third in a series reprinted from "The Liveable New York Catalogue," by the Urban Improvements Program of the Parks Council, 1972. 799-6000.

CONTINUED

Playground Equipment

RAINBOW CLIMBERS up to 5' high,
from \$130 to \$175.
PLAYWALL, in one unit or more,
from \$300 and up.
SPIN-AROUNDS, wide and wider,
from \$360 to \$400.
BASKETBALL POSTS with backboards
for \$150.
PORTABLE SANDBOXES 12' square
for \$128.
GIANT TENT for \$300.
TUNNEL NETWORK for \$578.
MONKEY CAGE for \$555.

RING DING for \$375.
JR. RING DING for \$335.
SPIDER'S WEB for \$1505.
PLAYTIMBER ENVIRONMENTS for lots
of kids from \$3000 to \$5000.

All prices include delivery and installation.

We'll do one piece of equipment or a whole environment for City playgrounds, playlots, schools, hospitals and day care centers. We'll have special equipment for indoor play, portable playgrounds, and for handicapped children. Call us. What could be more fun than a playground.

BROOKLYN LIVES!



Brooklyn is alive and well! To prove it, the Street Collaborative is compiling "signs" attesting to Brooklyn's vitality. Some of these are: DeKalb Avenue is turning green. For the first time, trees are being planted on it between Hall Street and Vanderbilt Avenue; the first Youth Facilities Improvement Bureau developed Day Care Center will open in early August, 1972. A community controlled center located in Bedford-Stuyvesant, it will eventually serve 265 children; every spring for the past three years the celebration of Eeyore's Birthday has been held in Prospect Park to the delight of 3,000 or more children of all ages.

While we've thought of many more, we know a lot are missing. Please write and let us know of any signs you've noticed so we can pull together a great summer issue.

Address your observations to Bonnie Anderson, PICCED, 240 Hall Street, Brooklyn, N.Y. 11205, or call 622-5026.

ECO-ITEMS

Stationery pads made from 100% recycled paper in self-mailer form (so you don't need an envelope), in white with a green tree design, are available from CBNY at \$1.50 per pad (tax and postage included). Send your order and check to:

Citizens for a Better New York
215 Warren Street

Brooklyn, N.Y. 11201 Write for further information and bulk rates.

Write for further information and bulk rates.

P.S. In addition to being an attractive and useful purchase, your order will help support the activities of Citizens for a Better New York.

Nature's Bag. Now available, a pretty linen shopping bag which folds to fit pocket or purse. Ecological bag eliminates waste paper bags and helps save trees. This useful tote was designed by Lorraine Gewirtz of People's Environmental Program (PEP) which operates the recycling center on East 61st Street in Manhattan. For illustrated information (on recycled paper of course) write to:

Nature's Bag, Box 567, Lenox Hill Station
New York, N.Y. 10021

(The above information was reprinted courtesy of Environmental Viewpoint, March 1972. Citizens For A Better New York.)

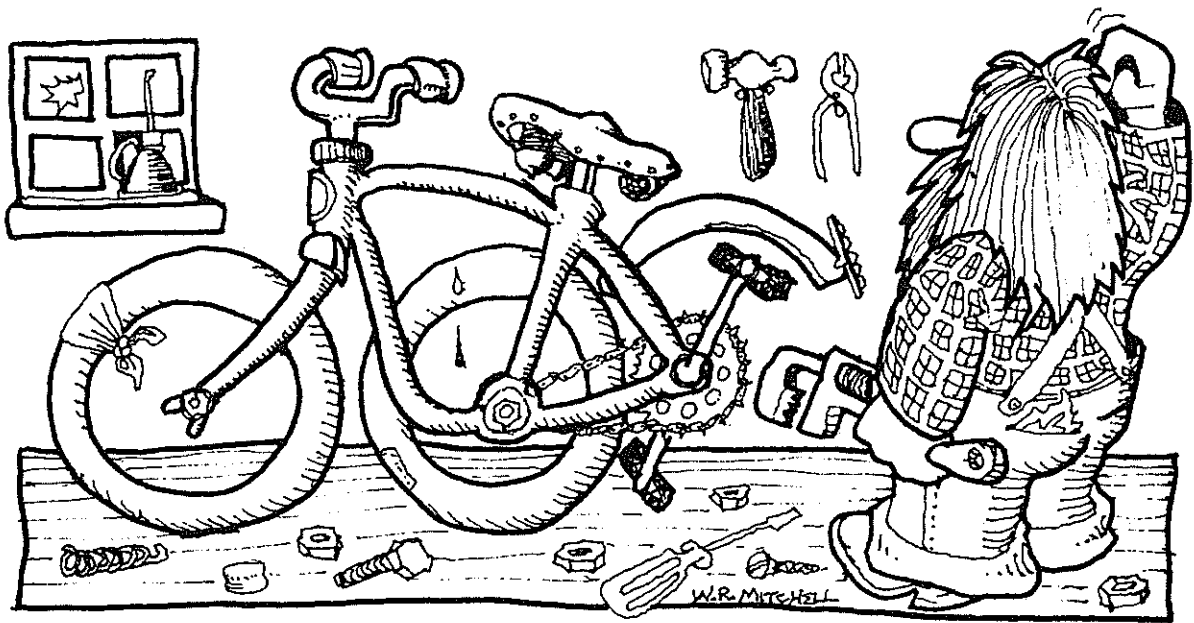
Reclaimed is a new brand of paper towels made from 100% recycled paper. The towels are manufactured by Patrician Paper Company, Inc. New York, N.Y. 10020. Reclaimed was discovered by a Pratt Center staff member in her local A and P supermarket.

YIKES!!BIKES!!

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Reprinted courtesy of Northwest Passage, Vol. 6, No. 12, April 3 - April 6, 1972. Bellingham, Washington.

STREET TIPS



Winter is over and people are starting to come out of hibernation. Now that these sunny spring days and balmy evenings are here (sometimes),* us cyclists might like to put our wheels in tip-top condition. If you use your bike for daily transportation as increasing numbers do, it could probably stand a thoreau spring cleaning after being ridden through winter. Bicycle technology has not changed very much in this century, thus, almost anybody can cope with the demands of keeping their machine smooth-running. Here's one way of doing it.

You'll need a rag, oil, grease, pliers, adjustable ("crescent") wrench, screw driver and elbow grease. **CLEAN:** wheel bearings, crank axle bearings, headset (handlebar) bearings, pedal bearings - clean with rag and solvent (gas, turpentine, kerosene, etc.). Repack with grease - car lube grease from the gas station works good. May need larger wrench for crank and headset nuts - watch out! Cranknut may be left-hand thread. Ball bearings have a tendency to roll all over the floor, so have a container handy. Not all pedals give access to bearings - these are less important than other bearings, but still worth your attention.

BRAKES: take apart and clean brake calipers and cables. Grease cable and other bearing surfaces. **DERAILLEURS:** fun to take apart if you can reassemble it - sort of a metal mechanical puzzle. Otherwise clean with brush, rag 'n solvent and/or air hose. This is a notorious place for dirt to gather. Lubricate with grease or oil - wipe off excess. Spraycan dry lubricant is s'posed to work good here. Also do control cables and levers.

CHAIN: vital link in your machine. Clean it with brush, rag 'n solvent - remove and soak in solvent if you have access to a chain-link extractor tool (10

speeds only). It is important to check and oil this often. It will wear out soon if you don't keep it lubricated.

ADJUST: everything else - clean the entire machine!

ADJUSTMENTS: wheels should roll freely but there should be very little slack in the bearings. Adjust by turning cones and locknuts with pliers and wrench. Same with crankbearing and headset. Take up slack in derailleur cables and adjust the range of the changers with the adjusting screws! Adjust the brakes, replace worn pads. Two inches travel at brake lever ends is rule of thumb when you apply brakes fully. Adjust seat and handlebars for comfort plus efficiency!

ETC: replace chain, cables, bearings, sprockets as they wear out. The difference a new power train makes is substantial. This guide is sketchy at best, due to spatial limitations, but does indicate a direction to go as you ride down life's highway. Rolling up your sleeves and doing it teaches more than one thousand words and if we can, you can too! Don't forget to true your wheels and remember to keep your tires hard. Hope we didn't leave anything out. One of these days we ought to clean our bike too. Well, that's one version; how about some of you sending in your ideas on the way to do it.

Interest seems to be increasing in things velocipedal. Tell all your friends that around town you're almost as fast as a car and you can have loads of fun too. The virtues of the bicycle are being proclaimed widely nowadays, and they're probably all true. We will all benefit from increased vitalization with the use of one of man's greatest technological achievements.



Household Pesticides

Pesticides have several drawbacks. Insects may quickly develop immunities to them. If only a few bugs out of millions are not killed by the poison their offspring may be resistant to the pesticide. DDT, initially toxic to houseflies and mosquitoes, is now virtually harmless to most of them.

Non-selective insecticides are wide-spectrum poisons or biocides. They kill many different kinds of organisms, both good and bad, and thus often destroy the checks and balances of natural systems. Some insecticides are long-lasting and leave a residue which is extremely difficult to remove even when washed under running water for several minutes.

The major classes of insecticides are:

Botanicals—Short-lived poisons extracted from plants. They quickly break down into harmless compounds and do not leave residues. They are also more selective in that they are effective on soft-bodied insects such as aphids, thrips, caterpillars, etc. and offer less danger to beneficial insects and animals.

Synthetic organic insecticides can be broken down into three groups. All are potentially dangerous and their use can cause serious problems:

- (1) **Chlorinated hydrocarbons.** These are extremely long-lived. They do not break down readily and tend to remain in the environment far too long. Air and water carry them great distances. They find their way into the bodies of organisms through food and drink where they remain for years. Some can kill birds; others cause birds to lay eggs with thin shells which crack after being laid.

Repeated large doses have caused kidney and liver damage in animals, and there is some evidence of their causing cancer. Although their effects on man are not completely known and their toxicity to humans varies greatly, cardiac and respiratory failures leading to death have been reported from acute poisoning by some of these insecticides.

- (2) **Organic Phosphates.** These are in the same class of chemical compounds as many of the nerve gases used in human warfare. Like nerve gases they cause muscle paralysis and eventual death. They are highly dangerous although normally less persistent than many chlorinated hydrocarbons. Most are more dangerous to humans and animals than chlorinated hydrocarbons. They are frequently non-selective, killing many animals other than the pests for which they were intended. The human death toll directly attributed to some of these compounds is growing.

- (3) **Carbamates.** These act similarly to organic phosphates. Generally they are not as harmful to mammals but there are some exceptions such as Zectran. Select carbamates with extreme care.

Dessicants are a form of pesticides that are truly nontoxic to humans. They kill insects by penetrating the exoskeleton and drying them out.

Home Remedies

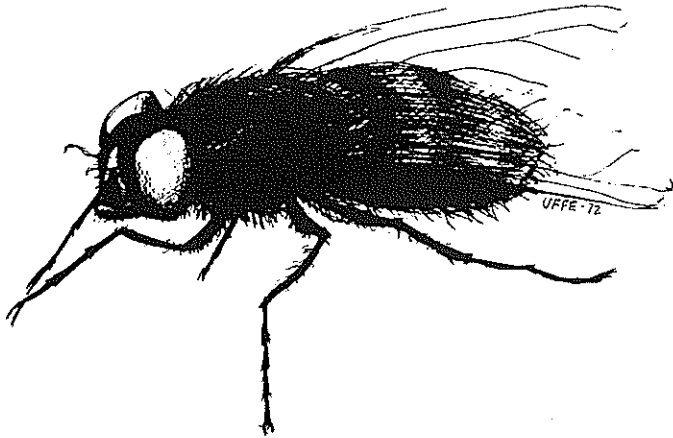
To avoid the potential hazards inherent in poisonous substances, you might want to use the following remedies which are non-toxic or relatively harmless to people and pets:

Roaches: Sprinkle a dessicant (dry) powder of silica gel (Dry-Die) in the places where roaches breed—usually under the stove, refrigerator, and sink. Boric acid powder can be used instead of silica gel. It is slightly toxic and should not be applied in reach of children or pets, nor should the dust be inhaled. Boric acid powder has long lasting effectiveness. It should not be used on plants—it will kill them.



Ants: The same powder of silica gel sprinkled in cracks along baseboards is effective against ants. They can also be temporarily controlled by spraying them with salt water and mopping them off the floor. Commercial pesticides should not be used. Another horde will simply take their place. The best way to get rid of ants is to track their trail, locate the nest, and destroy it. If the nest can't be found, seal off their usual place of entry with Vaseline.

Flies: Best bet is the fly swatter—everyone in the family should have one. Preventive measures work well too—screens on doors and windows, etc. You can also grow basil and mint in kitchen window boxes as these herbs repel flies. By all means, avoid commercial no-pest strips. Most of these contain DDVP (Dichlorovos Vapona), a form of nerve gas.

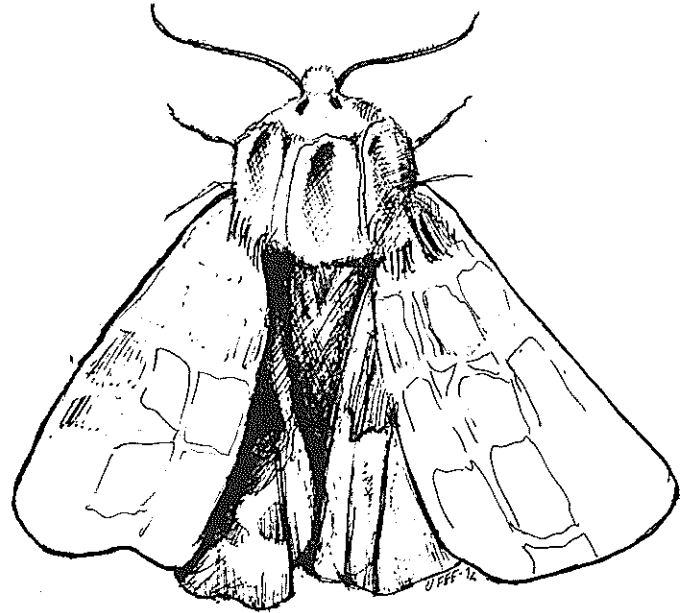


Pantry Pests: Don't use bug repellent shelf papers containing Chlordane and Lindane. Instead, sprinkle shelves with ground cloves, salt, or red pepper. These repel ants and several other insects. If containers of dried foods become bug infested, pop them into a slow oven (120°-180°) for 20 minutes. This will kill all insects and their larvae. Dried fruits can be treated by placing them in a cheesecloth bag and dropping the bag into boiling water for one minute.

Moths: Many moth sprays contain chlorinated hydrocarbons. These should be entirely avoided. Use moth cakes and crystals with extreme caution and avoid old-fashioned camphor balls—they are extremely toxic; one naphthalene moth ball can kill a child if he eats it. Paradichlorobenzene, one of the most common chemicals in moth crystals, emits vapors which can cause nausea, vomiting, weakness, and anemia under continued exposure.

Incidentally, if you pack woollens with moth crystals in plastic bags you may find the vapors have removed the color in random splotches from your clothes. The best moth preventative is frequent airing and cleaning of clothes before storing them. Moths attack grease spots. If your clothes do become infested, place them in the freezer—this kills moths and their larvae. Fresh lavender or lavender sachets tucked among clothes not only smells good but repels

moths as well.

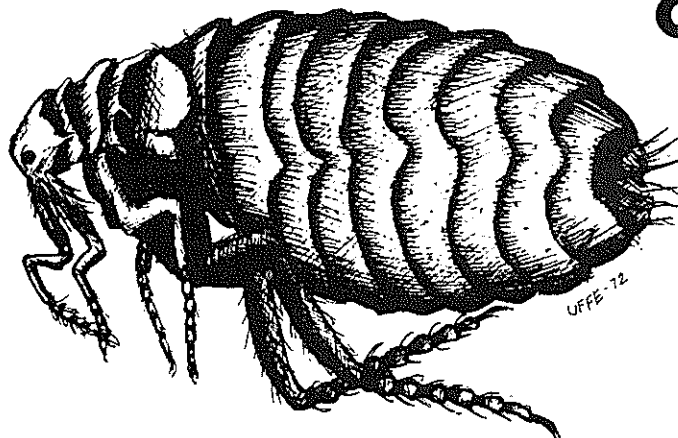


Mice and Rats: Again, preventive cleanliness is the best control; however conditions in New York being what they are, it will take years to convince the rats there's nothing here for them. So in the meantime, the good old-fashioned mousetrap is recommend. Bread and oatmeal are the tastiest baits. Poisoning rodents is ill advised; they usually return to their nests to die, creating some very nasty odors.



CONTINUED

Fleas: Flea collars contain DDVP. Don't use them. "Dry-Die" contains only pyrethrins and silica gel powder, but before using anything, ask your veterinarian for the safest way to keep your pet free of fleas.



LABEL READING: WHAT TO LOOK FOR

Botanicals—generally the least dangerous to the environment and warm-blooded animals:

Dimethrin	Rotenone
Nicotine	Ryania
Pyrethrins	Sabadilla
Pyrethrum	

***Note.** *Pyrethrins* are made from chrysanthemum flowers and are one of the least toxic and safest of all poisons when not mixed with other chemicals. They are natural insecticides, but are known more for scaring roaches than killing them.

Rotenone is made from derris root and is stronger than pyrethrins and poisonous to fish. It can cause eye irritations.

Chlorinated Hydrocarbons—very dangerous. The following are just some:

Acaraben (Chlorbenzilate)	Endosulfan (Thiodan)
Acaralate (Chloropropylate)	Endrin (0 tolerance in man)
Aldrin	Heptachlor
Bandane	Kelthane (Dicofol)
BHC	Lindane (Benzene hexachloride)
Chlordane	Methoxychlor
DDD	Ovex
DDT	Pentachloronitrobenzene
Dieldrin	Tetradifon (Tedion)
Dimite	Tothane (TDE)
Dizane	Toxaphene

Organic Phosphates—generally more toxic than botanicals but shorter lived than chlorinated hydrocarbons:

Abate	Meta-Systox-R (Oxydemethomethyl)
Agrinphosmethyl	Methylparathion
Baytex (Fenthion)	Parathion
Chlarethion	Phasdin
Co-Ral (Coumaphos)	Phosdrin (Mevinphos)
Cygen (Dimethoate)	Schradan
DDVP	Systox (Demeton)
Diazinon	Temik
Dibrom (Naled)	TEPP
Dichlorvos	Thimet
Dursban	Trichlorphone
Guthion (Azinphosmethyl)	Vapona (Dichlorovos, DDVP)
Malathion	

Carbamates—use as carefully as organic phosphates; use of specific kinds should be directed at specific pests:

Baygon	Propoxur
Bux-10	Sevin (Carbaryl)
Furadan (Carbofuran)	Zectran
Lannate (Methomyl)	

Dessicants—really are nontoxic to humans and therefore the safest:

Dri Die No. 67*	Perma-Guard*
Drione*	Silica gel powder

Some pesticide labels use chemical names like 1, 1, 1-trichloro-2,2-bis (p-chlorophenyl) ethane, which is DDT. Unless you're a chemist, these names won't mean a thing; so, when in doubt, ask the distributor what it is. If he doesn't know, ask for the safest kind.

*Brand names

WHAT'S IN A NAME?

If you are still thinking of using commercial pesticides, be sure to read their labels carefully. Some of the more familiar brands contain the following ingredients:

Pyrethrins: (Botanicals)

SUPER 25 by Wayne Chemical Corp. (Also contains Diazinon)
GULF FLYING INSECT KILLER
GULF HOUSE AND GARDEN INSECT KILLER
JOHNSTONS ROACH SPRAY
RAID HOUSE AND GARDEN BUG KILLER
SAFEGUARD HOUSEHOLD FLY AND MOSQUITO SPRAY
SAFEGUARD ROACH AND INSECT KILLER
SAFEGUARD GUARANTEED TO KILL RESISTANT ROACH KILLER
BLACK FLAG INSECT KILLER FOR HOUSE AND GARDEN
SLUG-A-BUG FLYING INSECT KILLER
707 NON-TOXIC BOMB
JAY-GOL ROACH SPRAY
D-CON WARPATH POWDER SPRAY (also contains silica gel)

Malathion (An organic phosphate)

JOHNSTONS ANT AND ROACH KILLER (Brush)

Chlordane (A chlorinated hydrocarbon)

JAY-GOL EMULSION (For Ants and Roaches)
D-CON (For Ants and Roaches—brush on)

Diazinon (An organic phosphate)

707 ROACH AND ANT SPRAY
SUPER 25 by Wayne Chemical Corp.
HUB STATES ROACH AND ANT KILLER

Baygon (A carbamate)

GULF ANT AND ROACH KILLER
TAT-GEL (Brush-on)

DDT (A chlorinated hydrocarbon)

JAY-GOL BEDBUG KILLER
BLACK FLAG FLYING INSECT SPRAY

DDVP (An organic phosphate)

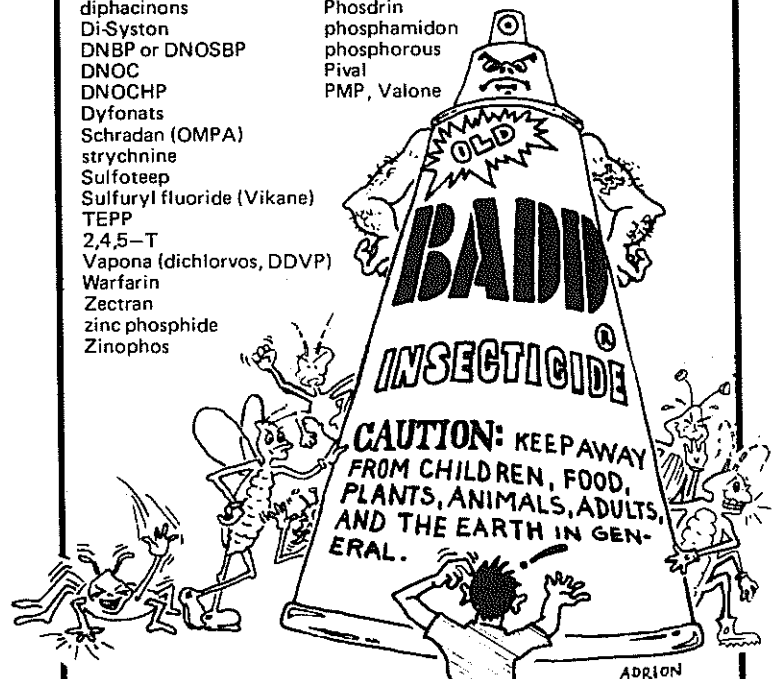
RAID ROACH AND ANT KILLER
BLACK FLAG ANT AND ROACH KILLER
BLACK FLAG GUARANTEED BUG KILLER

Remember, when using any pesticide keep your windows open for ventilation. Protect your skin. Do not allow the pesticide on your food or dishes. Keep all pets and children out of the area when applying the pesticide. Read the instructions carefully and make sure you have the recommended antidote on hand. Keep the following number handy:
Poison Control Center—340-4494

THE 1971 NEW YORK STATE LAW RESTRICTING PESTICIDES

A—RESTRICTED USE PESTICIDES: May be highly toxic to the user—by permit for uses registered in New York State.

Acrolein, Aqualin	endosulfan (Thiodan)
Acrylonitrile	EPN
Aldicarb (Temik)	ethion
Antu	Famphur
Avitrol	fenthion (Baytex)
Azodrin	Fumarin
Bidrin	Guthion
Bornyl	methomyl (Lannate)
Carbon Disulfide	methyl bromide
Carbofuran (Trithion)	methyl parathion
chloropicrin	nicotine alkaloid
cyanides	nicotine salts
cyclohexamide	Paraquat
Dasanit	parathion
demeton (Systox)	pentachlorophenol
dioxathion	phorate (Thimet)
diphacinons	Phosdrin
Di-Syston	phosphamidon
DNBP or DNOSBP	phosphorous
DNOC	Pival
DNOCHP	PMP, Valone
Dyfonats	
Schradan (OMPA)	
strychnine	
Sulfoteep	
Sulfuryl fluoride (Vikane)	
TEPP	
2,4,5-T	
Vapona (dichlorvos, DDVP)	
Warfarin	
Zectran	
zinc phosphide	
Zinophos	



B—PERSISTENT AND ACCUMULATIVE: by permit for specific uses only.

Aldrin
 arsenic compounds
 chlordane
 dieldrin
 heptachlor
 lindane

C—BANNED: Pesticides for which there are no permitted uses in New York State in 1971.

Bandane
 BHC
 DDD, TDE
 DDT
 endrin
 mercury compounds
 selenites and selenates
 sodium fluoroacetate
 Strobane
 coxaphene

SNAK-PAKS

Or, The Care and Feeding of Roaches

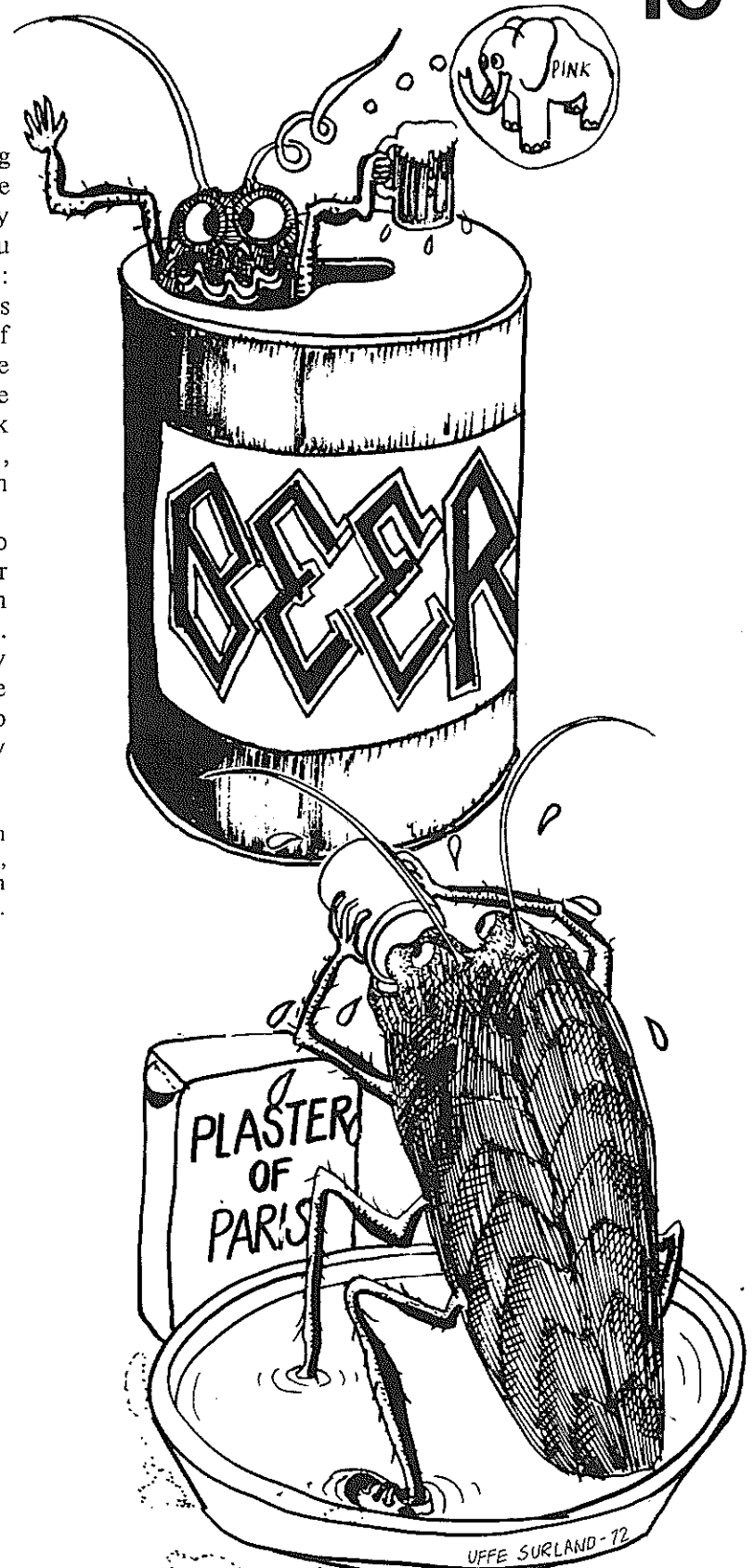
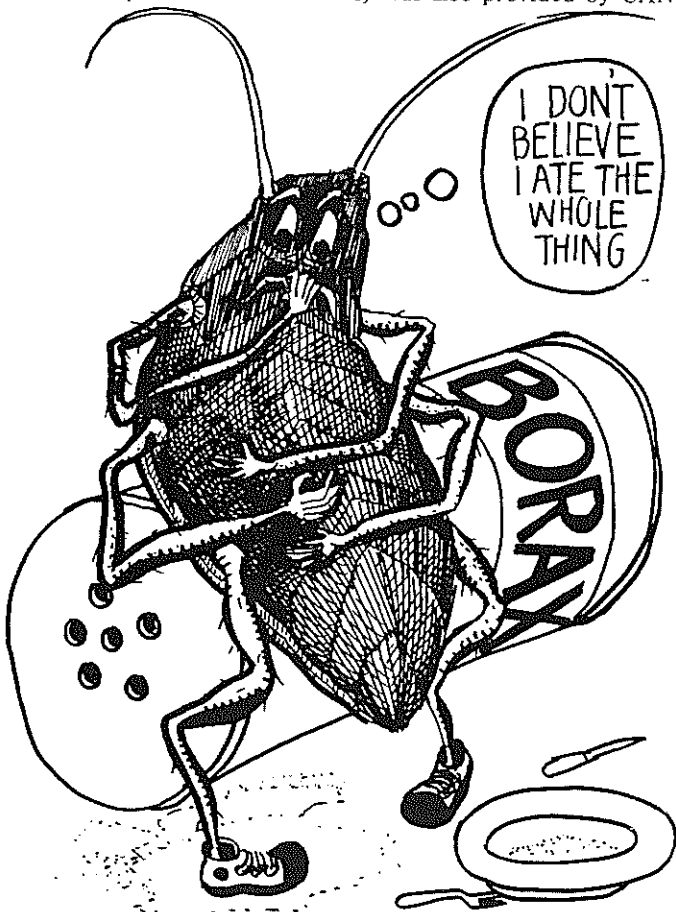
New, unpleasant side effects of pesticides are being discovered every day, and besides, roaches are developing an immunity to them. A really heavy infestation may require an exterminator, but you might want to try these simple, inexpensive remedies:

1. Sprinkle non-toxic, powdered plaster of paris around floorboards, and place a shallow bowl of water in the room (with a paper ramp leading to the floor, to make it convenient for your friend). If the roaches walk through the plaster of paris, they'll lick their feet to clean them. This will make them thirsty, and a drink of water will set the plaster of paris in their stomachs. Fatally.

2. Borax (or Boraxo powdered soap) is harmless to you, but fatal to roaches—and they love it. Can either be sprinkled around floorboards or mixed with heated turpentine and painted around roach sources.

3. Roaches also love beer. Leave a half-empty pop-top can of it around for a day or two (replace frequently to avoid spoilage). Roaches can crawl into the can, but not out again, so they'll drown. Probably the nicest way to go—at least for roaches.

The above "recipes" were excerpted by permission from Consumer Action Now (CAN), Number 5, copyright, Consumer Action Now, Inc. 1971. The information on dessicants (Household Pesticides) was also provided by CAN.



Consumer Action Now offices are located at 815 Park Avenue, NYC. Subscription rates to their publication CAN (*Consumer Action Now*) are:
 Student: \$3.
 Regular Rate: \$5
 Contributing: \$10.
 Sponsor: \$25.

THE ENVIRONMENT AND PACKAGING: AN ECONOMIC AND LEGISLATIVE ANALYSIS

Report to the United States Senate Commerce Committee
Subcommittee on the Environment

by

Carolyn Brancato Harris
Staff Economist
New York City Environmental
Protection Administration
Jerome Kretchmer, Administrator
John V. Lindsay, Mayor

March, 1972

The Environment and Packaging: An Economic and Legislative Analysis is the seventh section of the second chapter of a three chapter work. Reprinted by permission of the Environmental Protection Administration, 2358 Municipal Building, New York, New York 10007, 566-5240.

Section 7, Chapter 2: Feasibility of Reusing Containers—The Returnable Bottle

Bowie, Maryland started it all by passing the nation's first law to "ban" the sale of non-returnables. Actually, the word "ban" is a misnomer since nothing is banned but rather a deposit, usually on soft drink and beer containers, is required. Since the Bowie action, nearly 50 other governmental units, most of them local, have taken similar action, including the state of Oregon, Davis, California and Northfield, Vermont.*

Industry has maintained that it was the consumer who precipitated the demise of the two cent deposit returnable bottle by refusing purchase. Retail store owners, however, also began to refuse the returnables, claiming they required increased labor costs for handling, they imposed burdens of space for storage especially in small stores, and they were unclean and prone to attracting vermin. Finally, glass and can manufacturers who have much to gain in universal sales by restricting the use of returnables may have played a substantial role in the transformation.

Whatever the genesis of the decline, whether certain aspects of the industry or the consumer was responsible, it has occurred. The national "trippage," i.e., number of return trips a bottle makes to the retail store and back to the bottling plant declined from 35-40 during the interim World War years to a current average of approximately 15 nationally and less than four in major urban areas.

The returnable bottle has some very distinct economic and ecological advantages over the one way container. However, there are some limitations to the

effectiveness of the returnable bottle and the New York City EPA has never advocated the type of legislation to "ban" one ways. Rather, we have sought legislation which would favor but not mandate them for fear of producing an inflexible reclamation system. The pro and con arguments on returnable bottles are set forth herewith:

1. *In Favor of a Returnable Bottle System*

- a. Returnable glass containers are cheaper than one-way bottles if they are reused more than five times.

New York City EPA estimates that the cost of a returnable soda bottle (which must be heavier than a one-way to withstand many trips) is approximately 8 cents for a 10-ounce bottle. The cost of transporting the bottle back to the bottler, sterilizing the bottle, refilling the bottle, together with an allowance for breakage is approximately 2.5¢. Bottlers have reported that returnables making up to 30-40 trips were not unusual.

Thus, for the Returnable Bottle,

- Trip #1 costs 8¢
- Trip #2 costs 8¢ + 2.5¢ or 10.5¢
- Trip #3 costs 8¢ + 2.5¢ + 2.5¢ or 13.0¢
- Trip #4 costs 8 + 3(2.5) or 15.5¢
- Trip #5 costs 8 + 4(2.5) or 18.0¢
- Trip #6 costs 8 + 5(2.5) or 20.5¢
- Trip #15 costs 8 + 14(2.5) or 43¢
- Trip #20 costs 8 + 19(2.5) or 47.5¢

Whereas, for the one-way, each trip's 10-ounce container cost is approximately 3.5¢,

Thus, for the One-Way Bottle,

- One bottle costs 3.5¢
- 2 bottles cost 3.5 + 3.5 or 7.0¢
- 3 bottles cost 3(3.5) or 10.5¢
- 4 bottles cost 4(3.5) or 14.0¢
- 5 bottles cost 5(3.5) or 17.5¢
- 6 bottles cost 6(3.5) or 21.0¢
- 15 bottles cost 15(3.5) or 52.5¢
- 20 bottles cost 20(3.5) or 70.0¢

*Other legislative action against the sale of non-returnables has been taken in South San Francisco, California; Howard County, Prince George's and Montgomery Counties, Maryland; Bedford, Mass.; Wayne City, Livonia, Sterling Heights, Troy,

Michigan; Princeton, Deephaven, East Bethel, Minnesota; Edgewater, New Jersey; Barberton, Ohio; Loudon, Virginia; Madison, Wisconsin. Source: Soft Drink Industry, August 13, 1971.

TABLE XV

CONTAINER* COST PER UNIT SOLD

No. Units Sold	Returnable	One-Way
1	8¢	3.5¢
2	5.25¢	3.5¢
3	4.33¢	3.5¢
4	3.87¢	3.5¢
5	3.60¢	3.5¢
6	3.41¢	3.5¢
15	2.86¢	3.5¢
20	2.38¢	3.5¢

*ten ounce soda bottle

Table XV shows that after five trips, a returnable is cheaper than the comparable number of one-ways, and the price advantage increases with number of trips. The containers for twenty sodas in returnable bottles cost 47.5 cents or 2.38 cents each soda whereas the containers for twenty sodas supplied in one-way bottles cost 70 cents or 3.5 cents each—66.5% more expensive!

b. *Returnables utilize considerably less energy than one-way containers*

Professor Bruce Hannon of the Center for Advanced Computation, University of Illinois, has performed a study of comparative energy requirements for reused and one-way containers. The study involved calculating energy requirements for every stage of the container manufacturing process, including raw material acquisition, container manufacturing, filling, sales to the outlet, collection, separation and transportation.

A summary of Professor Hannon's results is as follows:

—Soft drink throwaway glass bottles utilize 4.4 times as much energy as soft drink returnables making 15 trips (the national average).

—Beer throwaway glass bottles utilize 3.4 times as much energy as beer returnables making 19 trips (the national average).

—Bi-metal one-way soft drink cans utilize 2.9 times as much energy as returnable glass bottles making 15 trips.

—Bi-metal one-way beer cans utilize 4.4 times as much energy as returnable glass bottles making 19 trips.

—Aluminum beer cans utilize 3.9 times as much energy as glass returnables making 19 trips.

—Paper throwaway milk cartons utilize 1.4 times as much energy as glass returnables making the national average of 33 trips.

—Plastic throwaway milk containers utilize 2.1 times as much energy as glass returnables

c. *Returnables, if returned, will result in a decrease in the solid waste load.*

A returnable soda bottle weighs approximately 0.98 lbs. whereas a one-way weighs 0.6 lbs. Thus, if five beverage sodas are sold in a 10-ounce returnable bottle which makes 5 trips to the store and is then thrown away, there will be an addition to the waste load of .98 pounds. If, on the other hand, five sodas are sold in five 10-ounce bottles, the addition to the waste load is about three times as much or three pounds. If all beer and beverage containers were converted to returnables, New York City EPA estimates the reduction in the total municipal waste load would be between 3-4%.

d. *Returning bottles gives the citizen a chance to take affirmative steps to confirm his or her interest in helping the environment.*

e. *Marketing channels for handling returnables are in existence; they are not altogether phased out even now.*

Almost half—43%—of all beer and soda containers remain returnable even now. Thus, no new marketing experience would be required to accommodate returnables.

f. *Significant increases in low skilled employment in the City could result from a shift to returnables. (See above analysis on employment potential from recycling.)*

2. *Limitations to a Returnable Bottle System*

a. *The convenience to the consumer of one-ways may prevent adequate return.*

A long-term functional returnable system will depend on a number of factors illustrated by the following equation:

$$Q = f(P, I, C_t \frac{1}{(D, T, E)}, C_c (W, S) U (Y))$$

where, Q=the quantity of returned containers. Q should vary according to:

P=the price incentive to return, i.e., the deposit

I=income of the consumer; as the average consumer's income increases, he may be less willing to take the trouble to return. Note: some argue that even the lowest income group might not, as a whole, be responsible for returning containers, since their ability to return may be limited by reluctance of store owners in their neighborhood to accept them, they may lack mobility to travel to redemption centers, or feel demand to return them.

C_t=cost of transporting the container to the reclamation site. Quantity returned should vary inversely with this cost, which could be measured in \$ for transportation costs or in qualitative terms for inconvenience.

C_t varies with D=distance which the consumer must carry the container

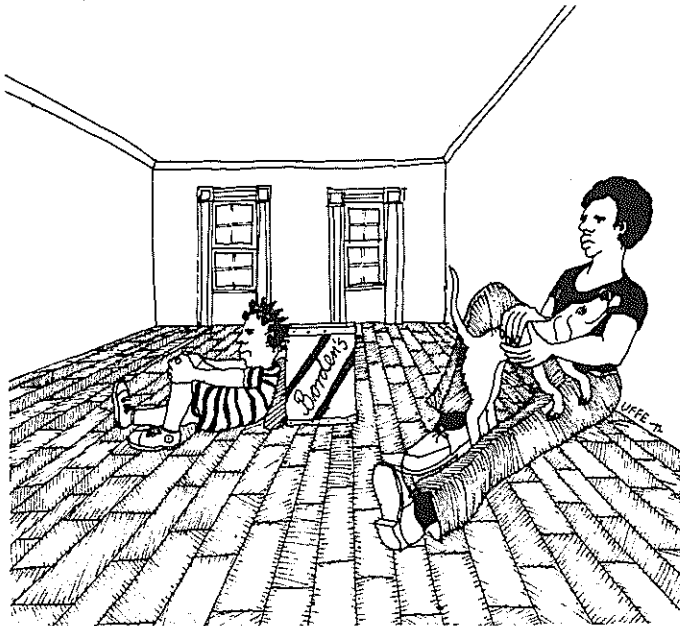
T=the time it takes to travel that distance, often itself a function of the efficiency of the mode of transport



New regulations issued by the New York City Department of Consumer Affairs dealing with underweight food and overdue furniture recently went into effect.

The new furniture regulations (effective February 28, 1972), provide that when furniture is sold in New York City the seller will give the buyer, in writing, an estimated range of delivery dates. This rule stipulates that if furniture is not delivered within 30 days of the original date, the seller must, at the option of the customer:

- 1) cancel the contract with full refund,
- 2) cancel the contract and give the customer credit,
- 3) negotiate a new delivery date, or
- 4) allow the customer to select new furniture



The second regulation which became effective March 13, 1972, requires all retail food stores that sell their own prepackaged meats and produce to make it easy for the customer to check the weight and price on the package.

This means merchants selling their own prepackaged meats will have to candy-stripe the scale with red tape or paint and post conspicuous signs saying "For Customer Use. Reweigh your purchases here." If the scale is more than 30 feet from the counter where the prepackaged meat or produce is displayed, there must be a sign at the display counter directing customers to the scale.



Neighborhoods:

NEIGHBORHOOD CENTERS FOR HUMAN DEVELOPMENT

Centers for Human Development, a collaboration program with Indiana Northern University, New York Theological Seminary, and The Grow Society opened a new Center in the Park Slope area on May 19, 1972. This latest addition to its network of Neighborhood Centers is located at the Prospect Heights Presbyterian Church on 8th Avenue between 10th and 11th Streets.

Human development groups will be offered in the areas of: parent education, young adult groups, couples groups, children's groups, sensitivity training workshops, communication skills workshops, personal growth through creative expression workshops, and dream workshops.

For further information please call Centers for Human Development at 499-7093 or 595-5330.

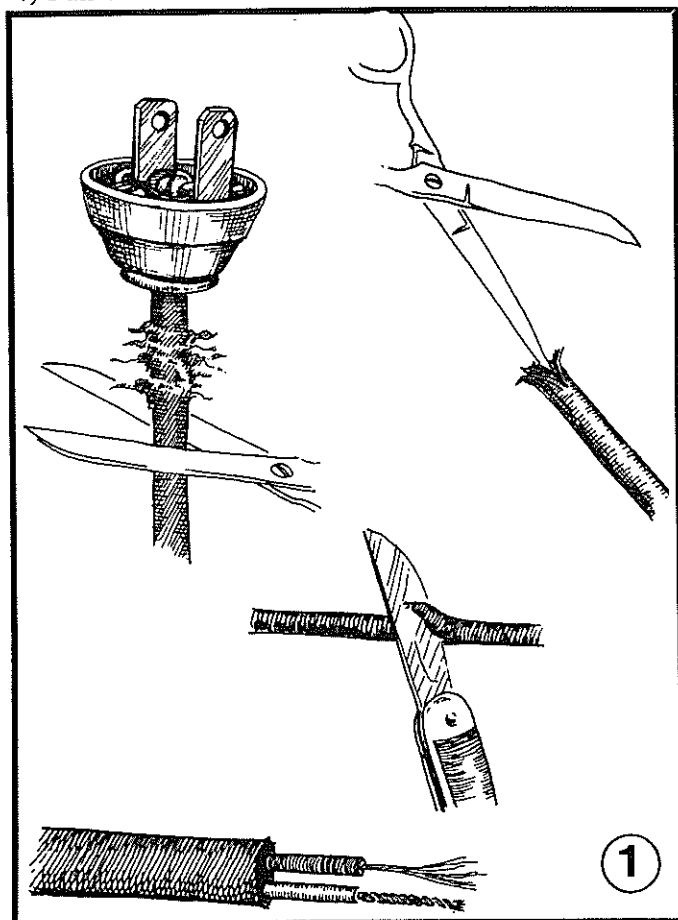
Frayed electrical cords; cracked, bent, corroded, or loose plug prongs; and defective lamp sockets are some of the most common fire hazards and should be replaced as soon as possible.

With a little know-how you can make minor repairs of these fixtures and prevent what could turn into a disaster. *Major electrical repairs are best left to an electrician.*

Plugs: There are two main plug types—open construction and those with the prongs sealed in rubber or composition. Use only the open construction plug for replacements. *Do not attempt to repair or replace three-pronged plugs unless you are an expert.*

Plug Repair:

- 1) If a sealed plug is broken or cracked, cut it off and throw it away. Use sharp scissors and cut off any frayed cord. If only the cord attached to an open construction plug needs repairing and the plug itself is in good condition, you can use it again.
- 2) After cutting the plug away from the cord, remove the fiber disc and note carefully how the wires are fastened to the screws.
- 3) Loosen, but do not remove the screws.
- 4) Pull out the wires and save the plug.



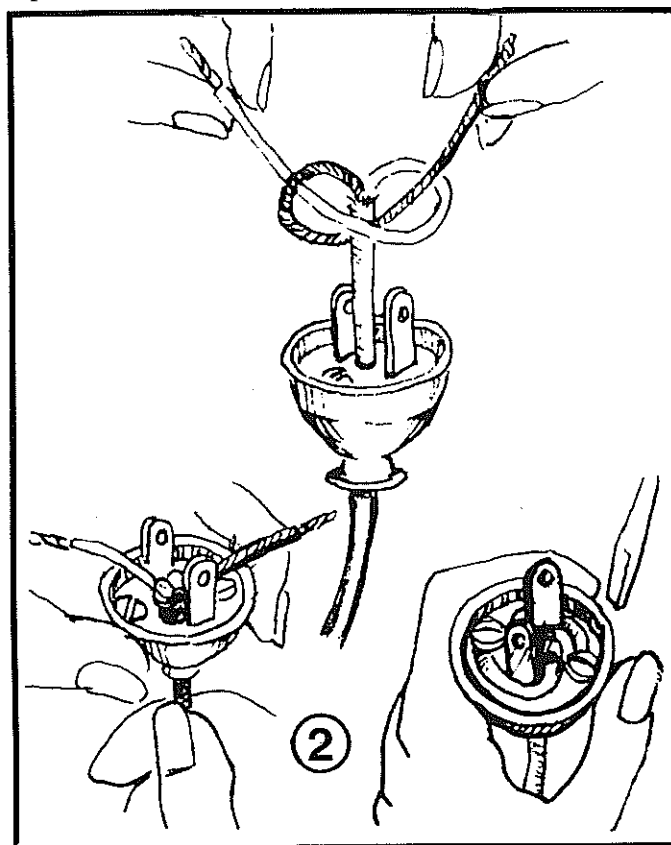
To Prepare the Cord:(See illustration 1)

- 1) With scissors or a sharp knife remove fabric covering at end of cord; separate wires about two

inches. If you have a molded rubber cord, carefully cut or pull the wires apart—about two inches.

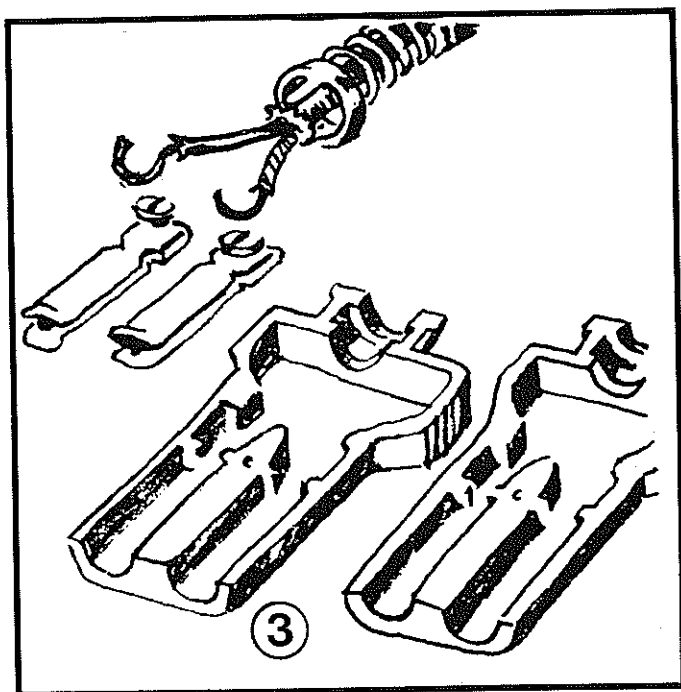
- 2) Pare away the rubber insulation at the end of each wire, exposing about three-quarters of an inch.
- 3) Do not cut the strands of wire—scrape them clean with the back of a knife blade and twist the fine wire strands tightly together.

Cords: Service cords are not all alike and they are not interchangeable. They differ in type and construction. Always replace a worn cord with the same type. Use a new cord if a break is too far away from the end to replace a plug. Buy a cord with a UL listed label. *Splicing service cords is not recommended.* Appliances with permanently attached cords should be taken to a service center for cord replacement.



To replace an attachment plug (This is the plug that plugs into the wall):

- 1) Bring the two prepared wires through the hole in the back of the plug. (If yours are fabric covered cords, wrap some black friction tape around the end of the outside fabric).
- 2) Tie the wires in an Underwriter's knot (illustration 2).
- 3) Pull the knot back into the recess in the plug between the two prongs.
- 4) Loop each wire clockwise around each prong and wrap the exposed strands around the terminal screw.
- 5) Tighten screws making sure no loose wires stick



out. Replace the fiber disc.

To repair an appliance plug (*illustration 3*): This is the plug that plugs into an appliance. It looks different from an attachment plug but repair procedures are similar:

- 1) Disconnect the cord.
- 2) Cut off the plug and any frayed cord.
- 3) Take the plug apart and note carefully the position of wires, clips, and terminals.
- 4) Remove and discard wires from terminals and coil spring guard. If the body of the plug is in good condition, use it again.
- 5) Put the cord through the spring guard.
- 6) As with the attachment plug, prepare ends of wire, tie the Underwriter's knot, and attach wires to terminal clips.

- 7) Put the plug back together again by placing wires and clips in grooves in half of the plug. Then replace the cover and screws.

Lamp Sockets: A defective lamp is a dangerous fire hazard. It should be repaired immediately. Check first to see if the cord and plug are in good condition. If they are, the problem is most likely in the socket. Most sockets are constructed of a brass shell with a cardboard lining and a built-in switch in the body. The wire enters through the cap at the bottom and is fastened to terminal screws inside the body. *To repair:*

- 1) Disconnect the lamp.
- 2) Find the word "Press" on the brass shell and press hard while twisting the cap and pulling the shell off. You can then lift the body off the cap.
- 3) Check the connections where the wires wrap around the terminal screws. If the screws are loose or the wire broken, the necessary repairs can be made and the socket reassembled. Otherwise, install a new one. Usually the original cap can be left in place and you need only to install a new body and shell.
- 4) If the cap needs replacing, check the lamp's construction so you can put the parts back properly and in order.
- 5) To install a new socket, wrap the wires (repaired if necessary) clockwise around the terminal screws. Press the shell, lining, and the body back into the cap.



CITY PLANS TO OFFER DATA ON APPLIANCES

The city is developing a plan to conserve electrical energy by informing consumers of the most efficient types of large electrical appliances.

In what might eventually effect changes in the building codes, the program is considering a future prohibition on inoperable windows and the provision of standards and figures for efficient fuel and energy consumption to building owners. These would include energy conservation plans for the heating, cooling, and lighting of buildings.

Standards would also be developed for judging electrical appliances as to their efficient use of electricity.

The first step of the program would concentrate on air conditioners. According to Consolidated Edison, about 250,000 air conditioners are sold every spring in the city. Milton Musicus, Municipal Service

Administrator, has stated that one of the biggest problems concerning air conditioners is that the public buys cheaper models which use more energy than more expensive models.

After assessing the efficiency of various air conditioners, the program would deal with other major appliances such as refrigerators, freezers, washing machines, dryers, and dishwashers.

Next, the program would set standards in cooperation with architects and illuminating engineers for more efficient lighting in buildings.

Standards would also be developed for insulating materials to make air conditioning and heating more effective. Various window types would be studied with the possibility of changing the building code so that all windows would be openable. This way "fresh" air could sometimes substitute for the use of air conditioners.

SPROUTS:

16

MIRACLE FOOD FOR A NICKEL A POUND

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One of the basic tenets of the (Heaven forbid!) Protestant Ethic is *you don't get something for nothing* . . . and the way we've allowed the system to become organized, that's certainly true. In fact, you could say *more* than true.

Consider the rather small pile of devitalized and fortified, homogenized and separated, treated, processed, preserved, bleached and embalmed plastic food the local supermarket just traded you for that rather large stack of hard-earned bills. Clearly a case, say the malcontents among us, of *getting nothing for something* . . . and they may be right.

Well, there *is* a way out of this dilemma because you can grow your own completely natural, unprocessed and unpoisoned food at home . . . on pennies a day . . . fresh all year round. Yep. And unbelievable as it may sound, you can do it without a degree in agriculture, complicated machinery, fourteen kinds of fertilizer or a single, solitary cubic inch of soil.

What's more, you can raise this "garden" anytime and anywhere . . . in your own kitchen, crossing the country in a camper or sitting on a flagpole. And finally, the "vegetables" you produce will be many times tastier, much more nutritious and far less expensive than *anything* you can buy. If that's not something for nothing, it's an awful lot for mighty little.

Naturally, since such a food is almost too good to be true, our Western heritage—famed for DDT, thermonuclear bombs and the pop-top beer can—has neglected to advise us about it. (Maybe because it's so hard to exploit commercially?) Yet almost every primitive tribe and the entire Eastern world—back to the dawn of recorded history—has made good use of . . . sprouted seeds, or sprouts.

SPROUTS: MIRACLE FOOD

Sprouts are truly a miracle food. You can grow them almost any time and any place on only water, air and—sometimes—a little sunlight. You can produce a new crop every two to six days with a total of, maybe, 10 minutes work. They're more nourishing than milk, fresh meat . . . or anything: you could live almost indefinitely on nothing but sprouts if you wanted. They store exceptionally well in a refrigerator and can even be dried. You can eat them thousands of ways . . . on breakfast cereal, in fresh salads, steamed, in scrambled eggs, sprinkled on soups, in meat loaf, as a major ingredient of the world's absolutely best tasting and most nutritious bread, fried, in stews, blended into health drinks, as a sandwich filling, in desserts, as a snack. And even at today's inflated prices, sprouts will cost you only about *five cents a pound*.

Sprouts, in short, are so fantastically great that—if General Mills or the President's Commission On Poverty had developed them—they would most certainly be ballyhooed as The Complete, Transcending Nutritional Miracle Of All Time. Neither God nor Mother Nature ever hired a press agent, however, so most residents of the United States eat sprouts only occasionally and only by accident when they happen to dine in a Chinese restaurant.

WE ARE WHAT WE EAT

And more's the pity. Because a mere twenty or twenty-five million dollars (pin money in the current federal budget) well invested *one time* in sprouting containers and instructions distributed to the residents of tenant-farm shacks and crumbling tenements across this fair land . . . could conceivably wipe out malnutrition in the U.S. . . . completely.

That's a sweeping statement, but look at it this way: we think we're pretty smart here in the U.S. of A. because "with the world's most technically advanced agribusiness", we successfully raise enough food (even though we don't distribute it) to feed our 200 million people *and* have some left over to export. Of course we're rapidly poisoning all our potable water with nitrates and pesticides, we're "farming out" the top soil in the midwest and we're silting and salting away hundreds of thousands of acres in the irrigated southwest . . . but, as they say, "that's the price we have to pay".

Now consider creaky old, backward, underdeveloped China. With less really fertile farm land, almost no chemical fertilizers and hardly any modern farm machinery, China also exports grain . . . and feeds nearly *one billion* citizens. One billion! A thousand million. Have you any idea what a tremendous accomplishment that is . . . and how impossible it would be for our "modern" agricultural system? Pretty clever, these Chinese. How do they do it?

Well one of China's secrets is sprouts. Matter of fact, the earliest recorded mention of the tremendous food value of germinated seeds occurs in a book attributed to the Emperor of China about 2939 B.C. . . . and it probably wasn't a new idea even then. Now, five thousand years later, Chinese cuisine—among the most delicious and nutritious in the world—still puts special emphasis on sprouts. If that doesn't make the little beasties "time tested", nothing will!

Now, if you will, reflect a moment on the fantastic difference in life style that the lowly sprout can wield. Sprouts are home-grown by nearly every Chinese family, thus assuring each living unit of a steady supply of high-energy, low-cost food and automatically eliminating much of the wasteful transportation, processing, packaging and retailing costs of our "more highly developed" food production system. The Chinese thus wisely avoid the equivalent of giant trucks belching diesel fumes as they haul frozen lettuce from California to Chicago, vast networks of concrete creeping in upon the last open spaces and sprawling supermarkets selling plastic produce, which is to say that we are what we eat in far more ways than one.

To make a long story medium-length, then, the Chinese have been relying heavily on sprouts ever since that ancient Emperor wrote his book on plants and foods . . . and so have a lot of other folks in the Eastern world and a number of underdeveloped nations. And well they might, because modern research is continually proving and reproving the nutritional qualities of sprouts.

MODERN SCIENCE DISCOVERS SPROUTS

Dr. Pauline Berry Mack, at the University of Pennsylvania, has tested sprouted soybeans for Vitamin C (the ungerminated seed contains none) and found that—when sprouted 72 hours—one-half cup of the shoots contained as much Vitamin C as *six glasses of orange juice*.

Similar incredible leaps in vitamin content have been recorded for other sprouts. Yale's Dr. Paul Burkholder, for in-

stance, discovered that oats sprouted five days had 500% more B₆, 600% more folic acid, 10% more B₁ and 1350% more B₂ than unsprouted oats.

It should be noted, of course, that such vitamin increases are not always a straight-line thing. Vitamin B₁—to cite one example—runs up and down like a yoyo in soybeans as they sprout . . . but the general trend is always spectacularly *up* and sprouted seeds are an excellent source of vitamins A, B-complex, C, D, E, G, K—even U—and minerals such as calcium,

You can successfully grow sprouts in any number of common kitchen containers if you adapt your technique to the equipment at hand. Just keep in mind that the ideal sprout "garden" provides a warm, dark, moist—*not wet*—environment for the developing seeds. It's also a good idea to use one jar, strainer, pan or whatever exclusively for raising shoots (to help prevent tainting them).

Probably the simplest container of all is a large-mouthed quart jar (use a smaller or bigger jar, depending on how many sprouts you want to grow at a time). Most folks who use such a jar simply dump in the seeds, stretch a piece of cheesecloth over the top and secure the cloth with a rubber band. Others prefer to cut a circle of wire mesh which is clamped to the jar top by a screw-on canning ring. Either cover allows convenient and thorough flushing of the shoots every four to six hours as they develop. Such a sprouting container is usually kept in a dark cupboard between rinsings. A large bowl makes an ideal holder for the jar during these growth periods since the container should be held top down at about a 45° angle to insure proper drainage of the sprouts.

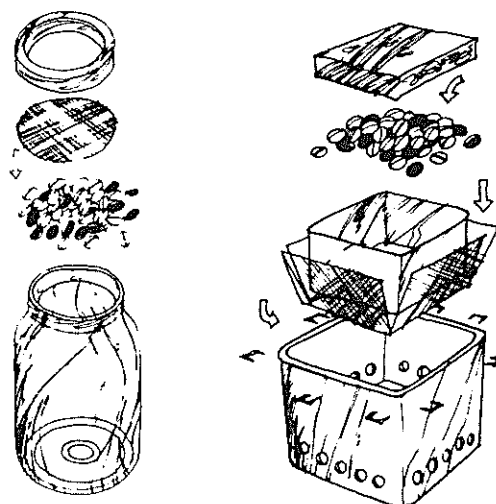
An earthenware flowerpot with its bottom drain hole partially blocked by cheesecloth or a wad of cotton also makes a good sprout garden. Unglazed pottery is best because it absorbs water and thus insures that the shoots will be kept moist but not wet. Cover the pot with a saucer and set it in a shallow pan of water. Remember, however, that even though moisture will "wick" through the bottom of an unglazed flowerpot, the sprouts will still need regular rinsings of clean water to retard the development of mold.

Tea strainers, collanders and coffee percolators are excellent sprouting containers and—several years ago, while living in Seattle—I modified two plastic freezing cartons, a small square of screen wire and a piece of sponge into a "never fail" version of the tea strainer sprouter (see illustration). The large cans and metal mesh-covered trays used by commercial sprouters are another variation on the same idea.

SPROUTING CONTAINERS AND HOW TO USE THEM

In a pinch, seeds can be sprouted between moist towels, sponges or layers of paper although lack of ventilation usually leads to souring and molds when using paper and the shoots have an annoying habit of growing through the towels.

Small sprouters are also sold by a few mail order companies but are usually overpriced and work no better than the quart jar described here. As a matter of fact, few expensive store-bought sprouters work as well as the freezer carton-screen wire-sponge combination illustrated with this piece.—JS.



GREEN THINGS

PHASE II GARDENING or Plant It—You'll Like It By Leslie Blum



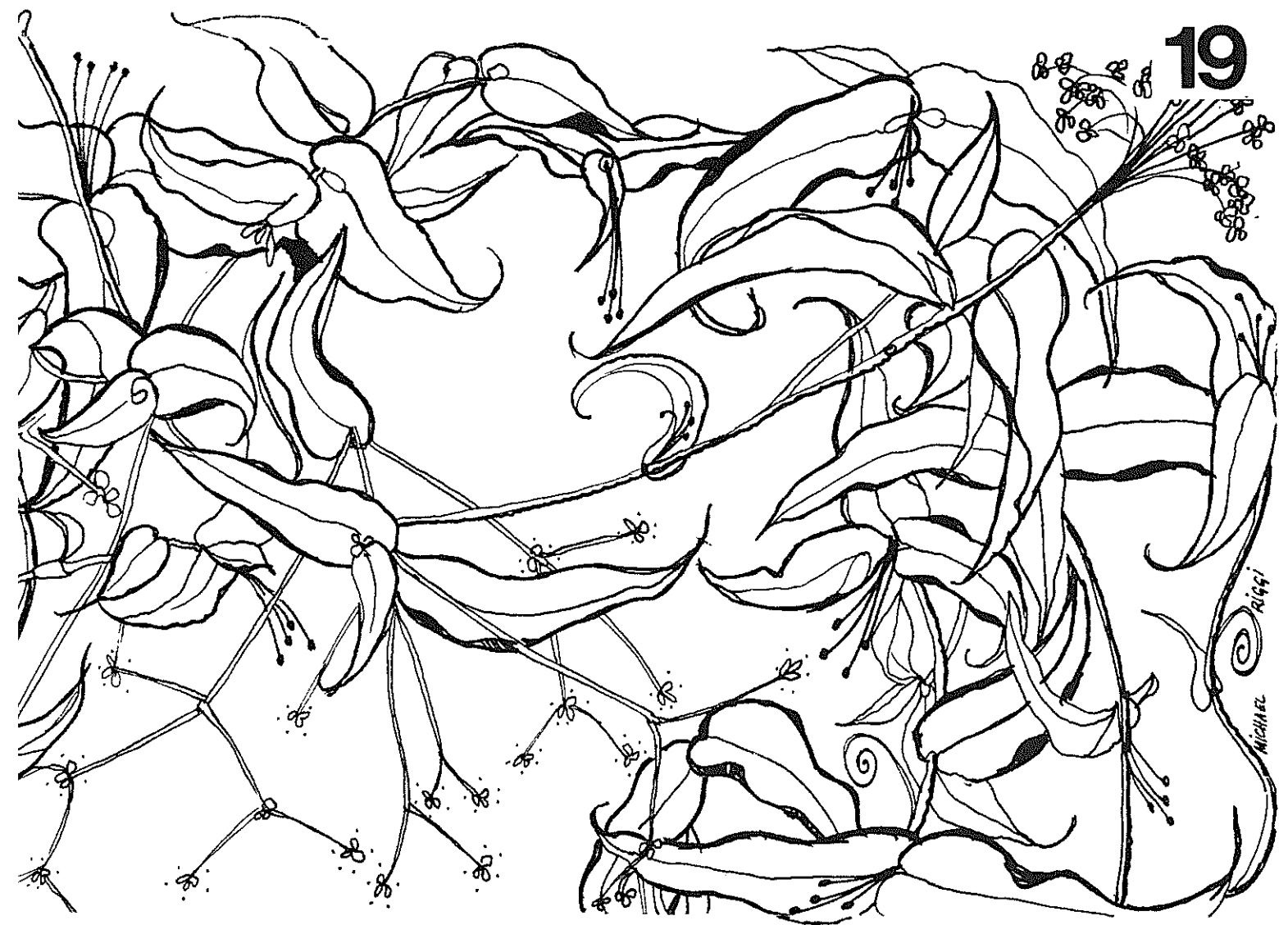
Once again Mother Nature has managed to make it through all the asphalt and concrete, not to mention the air, water, and dog pollution, to give a verdant quality to a city that has become hopelessly grey. It would be great to bring some of the greenness into your home to celebrate spring, but money's tight because it's Phase II and we've all got to eat, right? Right! Here's a way to eat and garden with the same money; plant leftovers. There are numerous pits, parings, and seeds that can be planted and that will give you an apartment garden as lush as if you went out and spent a bundle on exotic plants with names you can't pronounce.

One of the simplest and most successful plants is the avocado. Buy one that is soft to the touch: not only will the pit be more likely to grow, but that's when the avocado is definitely tastiest. Sometimes there will be a root coming out of the pit already, but if not, you've just got to be a bit more patient. The first thing to do is to remove the brown skin surrounding the pit. If it doesn't come off right away, let the pit sit overnight in a warm spot, and then you're ready for planting.

Avocados like rich, moist soil, but will grow in almost anything. If you want to make an investment in potting soil, it will improve your chances of success, but it is not necessary. For containers you

can use coffee or large fruit juice cans (recycling in action!) with a few holes punched in the bottom for drainage. Plant the pit with the flatter end down. Leave about one-third of the pit exposed above the soil level, as avocados are one of the few plants that need light in order to germinate. Once the main stem of the plant is about six inches high, you've got to decide if you want a tree or a bush. If left to grow unpruned, the avocado will grow five to eight feet before branching. If you want a sturdier, bushier plant, you can begin pruning back the plant at this point (six inches) and cut thereafter as often as you want, but never cut back the main stem more than one-third. Keep watering the plant as usual after pruning, and in about two to three weeks a branch will break through the trunk. Although avocados like full sun, they will do well even in a north window.

Another good plant to start is a pineapple, which closely resembles its exotic cousins, the bromeliads. All you need is the crown of the fruit, cut off from the base about an inch below where the fruit meets the crown. In order to prevent mold, allow it to dry overnight. Bury the fruity part so that the soil comes right up to the bottom leaves and then water it thoroughly. If you want to make the pineapple feel really at home, you can throw a handful of dried out coffee grounds or tea leaves into the potting mixture



to make the soil acidic. Keep the plant in the shade for the first few weeks, and then expose it to as much sunlight as you have. If you're blessed with a southern exposure, the center leaves of the crown will turn a shiny red hue after several weeks. When fertilizing the pineapple (all potted plants need periodic fertilizing since their food sources are limited), apply the fertilizer to its leaves; nutrients are absorbed much more readily through the leaves than through the roots. Dilute the fertilizer to one-fourth the strength recommended on the label, and then spray it on using an old, well-cleaned windex bottle. Repeat this procedure about twice a month and you might even start Brooklyn's first pineapple plantation.

Two plants that can be grown even without soil are carrots and sweet potatoes. Next time you or your friendly neighborhood rabbit munches a carrot, save the fat end and place it in a shallow dish of water. Within a few weeks you'll have a plant that looks like a lacy fern. Just make sure the water doesn't all evaporate and that you add some fertilizer about twice a month.

Sweet potatoes produce luxurious vines, but you need to use the whole potato. Just balance the potato in a glass jar (you can put some toothpicks around the middle if it's too thin to rest on the neck of the

jar) and in a week or less you'll see some roots emerge from the bottom. Soon after that, reddish buds will break through the sweet potato's skin, and eventually those buds will become large, soft, green leaves. You might drop a small hunk of charcoal into the water so that moss and scum doesn't form on the roots. The only problem with sweet potatoes is that modern technology has come up with growth inhibitors so that we consumers won't be offended by roots and buds forming on the potatoes that sit on our local grocers' shelves. The best thing to do is to buy potatoes at a variety of stores and record which ones grow.

If you want to put the sweet potato in soil there are two things to remember; the container should be twice as deep as the potato itself, and be sure that the entire potato is covered by the soil.

There is no limit to what plants you can grow from the ingredients of your last meal; almost any fruit or vegetable offers possibilities of a prize specimen. Eat, plant, and be merry.

For further information on the subject:

The After Dinner Gardening Book by Richard Langer

All About House Plants by Montague Frye

The New York Times Gardening Book

magnesium, phosphorous, chlorine, potassium, sodium and silicon. All in natural forms which the body can readily assimilate.

Furthermore, according to Dr. Francis Pottenger, Jr., sprouted grains and legumes supply all eight essential amino acids which make up "complete" protein. Other investigations have shown that many of the proteins in sprouts are already "predigested", or broken down into their constituent amino acids.

Sprouts also just happen to be packed full of enzymes—the complex catalysts which initiate and control almost every chemical reaction that takes place in living organisms—too. Since the body gradually manufactures fewer and fewer enzymes as it ages, since enzymes are killed by temperatures greater than 140° (cooking) and since our stock of enzymes must be replenished by eating fresh produce . . . it seems that we've just discovered another darg good reason for consuming goodly quantities of raw, freshly-grown sprouts.

Then too, it's interesting to note that Dr. Loa of Yenching University in Peking reports that the high level of simple sugars in sprouts puts the little shoots in the category of "quick energy" foods, since the monosaccharides they contain require little digestive breakdown and enter the bloodstream almost immediately.

Perhaps most amazing of all—particularly in comparison with the chemically preserved but nutritionally next-to-worthless foods from the supermarket—all the body builders which appear as sprouts grow . . . turn out to be almost *perfectly stable*. Even after dehydration or freezing, sprouts retain their enhanced nutritive values.

HOW DO THOSE LITTLE BITTY SEEDS DO IT?

But where do all these great things come from? How can seeds full of fat and starches . . . plus plain old air, water and a little sunshine . . . add up to vitamins, proteins and enzymes?

Simple. During sprouting, those fats and starches are converted into vitamins, simple sugars and proteins as they absorb the air and water.

Seeds, you see, are divided into two basic parts: a miniature replica of a plant (the embryo) and a supply of stored carbohydrates, oils and proteins (the endosperm). When environmental conditions are suitable—here's where the warmth, moisture and air comes in—a seed germinates. That is, the tiny embryo feeds upon the endosperm until it has roots sunk into the soil and leaves opened to the sun.

During this process, much of the until-now-inactive endosperm is converted into readily-available nutrients . . . and that metamorphosis is the key to the miracle food value of sprouts. If we harvest the little shoots *after* the endosperm has been transformed into rich vitamins, enzymes, amino acids, etc. but *before* the embryo gets a chance to consume the nourishment . . . we've got about the best-for-us food imaginable!

Well, the theory is beautiful . . . but what about practical results? "I'm glad," said he, in his best W.C. Field's voice, "you asked that question." Here are just a handful of astonishing health cures credited to sprouts:

During WWI, Dr. Cyrus French used sprouted peas and lentils rich in Vitamin C to rid British and Indian

troops in Mesopotamia of scurvy symptoms.

In the Philippines, a Dr. Santos cured patients of beriberi by administering sprouted mung beans as the only source of B-complex vitamins.

Ann Wigmore of Boston has demonstrated the beneficial effects of sprouts in retarding and curing problems ranging from diabetes to ulcers to cancer.

Fertility was restored to barren cows at the Agricultural Experimental Station in Beltsville, Maryland by feeding the animals Vitamin E-laden oat sprouts.

Major Wiltshire of King's College in England, finding that Algerian laborers in France suffered from scurvy (although they'd been healthy at home), traced their diet deficiency to commercial beer . . . which lacks the Vitamin C of their native sprouted millet beer.

If you need more convincing, Catharyn Elwood packs a lot of examples into a few pages of her book, *FEEL LIKE A MILLION* (Pocket Books, Inc., 75¢). For now, let's just say that sprouts are *powerful* food.

Inexpensive too. If you buy a hundred pounds of organically-grown soybeans for fifteen dollars plus freight, say, your cost per pound will average twenty cents. If you then soak and sprout the beans, you'll find you harvest four to eight pounds of shoots from each pound of dry beans. Your cost for the delicious, vitamin-packed sprouts, then, is *less than five cents per pound* . . . nothing to sneeze at in these days of funny money, recession and unemployment.

BUT DO SPROUTS TASTE GOOD?

I can appreciate questions about the taste of sprouts because I don't care for cooked okra, turnips, cabbage and a lot of other garden fare. I *do* like fresh green salads and raw vegetables, however, and that's what most sprouts—especially raw alfalfa sprouts—are all about. Soybean shoots served the same way have a little too much raw bean taste for me but become magically delicious with only the slightest (about one-two minutes) steaming. Sprouted wheat goes well on cereal and is excellent in home-baked bread, rye sprouts add a mouthwatering wild rice taste when sprinkled into soups just before serving and sprouted peas are fantastic if lightly steamed and served with a pat of butter melting down through them. Almost everyone, of course, has a favorite Chinese recipe built around mung bean sprouts.

Which is to say that there's almost as much variety in the taste of sprouts as there is in "traditional" vegetables. Personal tastes vary but you're sure to find at least half a dozen "kinds" of sprouts and a couple of hundred sprout recipes that suit you to a T. Almost any natural foods cookbook features a great number of ideas for using the little critters, starting with raw salads and ending with "pick-me-up" beverages made by blending the shoots with various combinations of fruit juices, nuts and honey. The possibilities are truly endless.

So, if you recognize a good thing when you see it, you're probably gonna run right out, get you a sprouter and start tapping all the goodness Momma Nature has locked into seeds. To coin a phrase, "Start sprouting . . . and start living!"

HOW AND WHAT TO SPROUT

Almost any seed, grain or legume can be successfully sprouted although most devotees of the art think that alfalfa, soybeans, mung beans, lentils, peas and the cereal grasses—wheat, oats, barley and rye—give the very best results. Unhulled sesame and sunflower, radish, mustard, red clover, fenugreek, corn, lima beans, pinto beans, kidney beans, chick peas, cress, millet and nearly any other seed you can think of will work, however (never eat potato sprouts though, the plant is a member of the poisonous nightshade family).

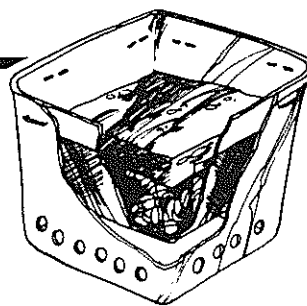
Select clean, whole seeds . . . the best you can find. Make certain they haven't been chemically treated in any way, however, because the poison could have damaged the embryo which might cause the seed to rot instead of sprout. Needless to say, the treatment might also sicken or poison you.

Wash the seeds thoroughly, pick out any chaff or cracked hulls and check the grain or whatever for fertility (sterile seeds float).

It only takes about a tablespoon of alfalfa seeds and two or three times that amount of beans or peas to "plant" 25-30 square inches. Soak the seeds overnight in a warm, dark place (such as a kitchen cupboard) in about three times as much water as you have seeds. The water should be warm (70-80°) and free of chlorine and flourine (which can sterilize the tender embryo). Some of the smaller seeds—alfalfa, clover, etc.—will sprout without this overnight soak but it won't hurt them.

Pour the water off the next morning and save it to add to fruit juices or use as stock (it's loaded with water-soluble vitamins and minerals). The seeds will have doubled in size and should be rinsed carefully to avoid mold.

Place the seeds in a warm, moist, dark container. Flush every four to six hours with water to clean



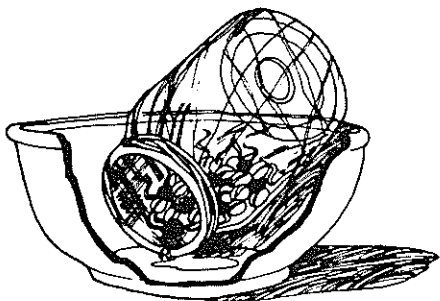
the developing sprouts and to insure adequate moisture for their growth. Be absolutely certain the seeds drain well after each rinsing, however, for they'll sour and rot if left standing in water. Remember too that some heat will be generated by the sprouts. They'll need a little ventilation so don't cover them too tightly.

In three to six days, depending on temperature (80-90° is best for most) and seed variety, your sprouts will again have doubled or tripled in volume and you'll have yourself some mighty good and nourishing eating. The greater number of shoots are at peak vitamin potency 60 to 80 hours after germinating . . . but personal preferences in taste, texture and appearance may persuade you to let yours grow longer.

Soybeans, peas and alfalfa are about right when their sprouts are two to three inches long. Grain shoots should be eaten when much shorter—about the length of the kernel itself—or they're bitter. Sunflower sprouts also develop a rather unpleasant tangy taste when they exceed the length the seeds from which they develop. The lentil sprout is best when about an inch long, while shoots from the mild-flavored mung bean may be allowed to reach a length of three or four inches before harvest. By the way, some people pluck the seed hull from each sprout before serving but that's a waste of time and good nutrition . . . eat the whole shebang!

If you expose your sprouts to indirect sunlight during their final several hours of growth, they'll develop chlorophyll. Too much of this green substance causes the shoots to toughen, however, so don't overdo it. Some chlorophyll is good, though, because its molecule is very similar to hemoglobin—the only difference being that chlorophyll has magnesium at its center while hemoglobin has iron—and, consequently, acts as a kind of blood booster.

You may have some difficulty getting soybeans to sprout successfully, especially in warm weather, so be particularly careful to use beans from the current year's crop (this is good advice generally). Varieties which sprout best include Chief, Ebony, Illini, Lincoln and Richland . . . and, happily, all beans lose their gas-producing qualities as they turn into shoots.





Some 5,000 to 6,000 Paris bicyclists, some wearing gas masks, staged a brief rebellion against the automobile. The bicyclists contributed to one of the biggest traffic jams in recent years, creating one tieup after another as they pedaled through Paris in protest against mounting pollution and noise from cars.

Civic groups such as Friends of the Earth and the Committee for Ecological Liberation called for banning cars and distribution of free bicycles.



Stockholm housewives recently utilized direct action to lower rising food prices in Sweden. The action took the form of a boycott of selected products of local food shops.

When the women started their boycott last February they said they had been forced to protest because their families had been reduced to extremely basic diets and could no longer afford meat.

Their boycott caught on, setting off a nationwide campaign against rising food prices. Within two weeks thousands of housewives were marching in the streets, and at least 120 action committees had formed around the country, severely shaking the retail food trade.

The first targets of the boycott were milk and beef. Within days milk sales in some areas dropped 35 percent and six percent in the Stockholm area as a whole. Beef sales also dropped, but a meat market spokesman declined to say by how much. Pork is the next target.

The village of Briarcliff Manor, N.Y. (population 6,500), has been in the garbage recycling business for less than a year and is breaking even on costs. By the end of the year it may even be making a profit.

It sells its newspapers to a contractor in Queens, its cans to a chemical plant in New Jersey, and its bottles in Orangeburg, N.Y. It has reduced the amount of solid waste it sends to the Westchester County landfill at Croton Point by 15 percent.

Village administrator Michael Markl credits the town's success to the fact that recycling was not something generated by the village and sold to the people, but rather something generated by the people and sold to the

ELSEWHERE

village administration. The idea came from a group of high school students who approached the village board in November, 1970.

Since June, 1971 the village has taken in \$4,462 and saved \$620 in dumping fees. It receives \$20 a ton for glass and tin, \$10 for other metals, and from \$8 to \$15 for paper. The main expenses are rental for the bins for glass and fees to the contractor for hauling the bins away.

Although other Westchester towns are seeking to follow Briarcliff's example, the village officials doubt if Briarcliff's success could be duplicated by large towns as long as recycling generally remains voluntary.

THE ENVIRONMENT AND PACKAGING CONTINUED FROM PAGE 12

E=the ease of traveling; if returns are carborne, they would be more easily transported than if they were carried.

C_c =ease of carrying which is itself a function of:

W=weight of container and

S =size of container

U=number of units sold which also depends on:

Y=the time of year, i.e., seasonal variations in sales should produce seasonal variations in returns.

It is not clear what the level of deposit must be to produce sufficient returns. Given the types of factors which will influence returns, it is reasonable to expect that responses will be better in less densely populated areas, if the returnable mechanism is located as close to the shopping cycle as possible, i.e., in every food retail outlet not in remote recycling centers.

b. *The convenience to the retailer of one-ways may prevent adequate return.*

Returnables mean less store space available for other merchandise, higher handling costs and possible problems of cleanliness. Any unclaimed deposit might help defray the costs to the retailer. Recent acceptance of returnables showed that the problems of the returnable were not insurmountable, however, retailers would be reluctant to accept them again, unless they were legislated.

c. *Returnables are heavier than one-ways and if not returned, would pose a greater disposal problem.*

The typical returnable glass bottle which must be sturdy to withstand many trips weighs .98 pounds, whereas the one-way is lighter, weighing .6 pounds.

d. *Beverage and beer containers are a relatively small part of the solid waste problem, though definitely a problem.*

They account for less than 5% of the total municipal solid waste load, although their contribution to incinerator residue is estimated at 20-25% from metal and glass beverage containers alone. Including the ultimate disposal of returnable containers after they have made their many trips, a reversion to a wholly returnable system might reduce solid waste by 3-4%.

e. *Potentially refillable containers are limited primarily to carbonated beverages and beer whose large utilization of water in the*

manufacturing process make local bottling more profitable than shipping the filled bottle from regionalized central plants.

However, 40% of the containers sold are sold for food items which are generally packaged at regional centers, primarily in the mid-west, and could not be locally filled. Of the remaining 60% non-food containers, about half are non-beverage containers and even of the 30% beverage containers, not all can be locally refilled.

f. *The returnable mechanism is frustrated by sorting problems.*

No more than fifteen years ago, the brewing industry sold their beer products in standardized containers which were mutually interchangeable between brands. This diminished sorting problems considerably. Of course, now no standardization in the U.S. exists, although Canada successfully enjoys almost unanimous standardized and easily interchangeable returnable beer containers. Any legislation to ban non-returnables should, for convenience and lower handling and sorting costs, legislate standardized containers as well.

Uniform containers have a further advantage in that they are generally cheaper than containers with specialized shapes. They can often be filled with greater speed and molds need not be specially designed and changed for each style.

g. *Limiting returnables may cause undesirable market shifts to products which are not returnable, but which might cause more of a disposal problem.*

Returnables would discourage the use of paper containers for milk and fruit juices which would be replaced by heavier and less compactible glass containers. Some of the non-returnable legislation has covered only metal and glass and not plastic. The new types of plastic Borex and Lopac bottles apparently release cyanide, when incinerated. Fortunately, CN^- is unstable and combines with other incinerator ingredients before release into the air is possible; however, other disposal problems may arise as similar substitutes are found. These could include a polyvinyl chloride bottle of the type being experimented with for wine and liquor.

h. *Returnable bottle legislation, if it is to be adopted, should not be local but should be national.*

CONTINUED

Otherwise, consumers who did not purchase their containers in a jurisdiction which has a mandatory deposit system may transport their bottles into that jurisdiction and claim the deposit. At five cents per bottle, which is more than the initial cost of many one-ways, the trip would be worthwhile.

i. *A returnable system allows little recycling flexibility.*

The interests of recycling are served if wastes are removed and reutilized in some way. Credits for recycled content such as those given in the tax proposal developed by New York City, allow a flexible reclamation and recycling system. For instance, the steel scrap from automobiles which is recovered and used in containers receives liberal tax credit.

j. *A returnable system ultimately may be a more costly form of recycling.*

Since hand sorting is highly labor intensive, it may ultimately be more costly to pursue a returnable system (notwithstanding the initial cost advantages of the returnable as outlined above) than an automated and comprehensive separation and recycling system which would allow the widest range of primary,* secondary,** and tertiary*** recycling. Such extra costs could, however, incur an increase in goods-handling or lower skilled jobs, which would be particularly beneficial in the inner city where blue collar jobs are scarce. However, if such jobs increase at the expense of many small retailers and bottlers who can ill afford the extra payroll cost, the trade-offs may not be so clear.

k. *The returnable will have to be thrown out eventually.*

Even though its usage would result in less solid waste generation, the ultimate need to dispose of returnables cannot be ignored. Therefore, reclamation systems of a comprehensive nature would be more effective in reducing the long-term solid waste load.

1. *A complete reversion to returnables would reduce employment in the glass making and the steel and aluminum industry. (See above analysis on employment potential for recycling.)*

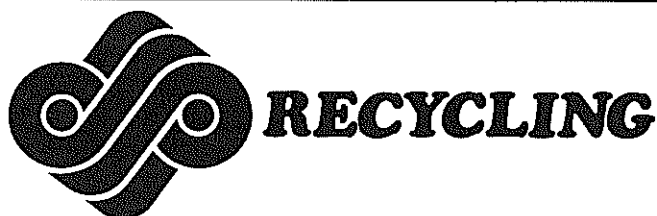
3. *Conclusion.*

In summary, while we recognize that returnables are more environmentally sound than one-ways, and they may be more profitable, their limitations in pursuing a comprehensive recycling effort necessitates our rejection of legislation directed to foster only them. As will be discussed later, the New York City tax proposal allows both a flexible recycling system and one which favors the use of returnable bottles by giving them the most liberal tax credits. However, bottlers are not forced to convert if it is unprofitable to make any necessary reinvestment in refilling machinery. The New York City system would provide an incentive, but not a mandate for conversion. This is especially important since returns in highly densely populated New York City may be minimal and forcing conversion to the returnable bottle may prove unproductive.

**Primary Recycling* occurs either through reuse (by cleaning and refilling containers) or through recycling (by crushing and remolding). In either case, the end product from the container scrap has the same configuration and material as the original, i.e. another container is produced.

***Secondary recycling* occurs when scrap is utilized and the end product is of the same material type as the scrap but is a different configuration, i.e., when steel scrap from automobiles is used to make steel containers.

****Tertiary recycling* occurs when scrap is used and both the configuration and the materials of the end product are different from the original, i.e., glass is recycled into building bricks. (These terms were developed by Jack Milgrom, Arthur D. Little.)



If a recycling program is of interest to your group, the Environmental Action Coalition is ready to help. Their containerized recycling program, in cooperation with the Department of Sanitation functions in the following way:

1) A 12 cubic yard container (7'2"x8'0"x7'2") is located at an available school site. This site must be free from overhead obstructions and accessible to a

truck 8'3" in width. Some 8½ cubic yard containers (6'8"x5'10"x7'6") are available, but more difficult to obtain.

- 2) Bundles of newspaper, securely tied, are stored in container and when full a pick-up is scheduled through E.A.C.
- 3) Sales revenues are shared 50-50 with sponsoring group (i.e., school, club, etc.)

For full details contact:

Stephen M. Batty, Project Assistant
 "Trash is Cash" Recycling Program
 Environmental Action Coalition
 235 East 49th Street
 New York, N.Y. 10017

486-9550

Innovative Education: IT'S HAPPENING IN COLORADO

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Get Out and Learn!

by Robert E. Samples

Tilford was the biggest guy in the class and it was pretty obvious that he greeted school with a healthy suspicion. He was the one that led the class in the exclamation, "You mean we're going *outside*? You mean outside of the *school*?" That we said we were going outside didn't seem to my colleague Dorothy Curtis and me to be such a source of amazement, but it certainly did to the class. They were ninth graders and it was a junior high school in a large city, and we were about to attempt to get a pilot approach to Environmental Studies under way. It seemed perfectly obvious to Dorothy and me that the best way to study an environment was to get out into it.

There was a moment of bewildering confusion when the students were asked to get their coats, as they had never before needed them until school was dismissed. The hall patrolmen glowered their disapproval at the students who babbled their confusion to each other amid their locker door version of the "Anvil Chorus." When they had finally gathered up their coats and returned to the room it occurred to someone to ask what we were going to do outside.

"We are going to go outside and photograph evidence of change."

"Photograph? You mean take pictures?"

"What are we gonna take pictures *with*?"

By this time Dorothy and I were unpacking a half-dozen Polaroid Swinger cameras from a box we had carried in. I asked the students to divide up into five-man teams so that each team could have a camera. They quickly broke up into a reasonable facsimile of five-man teams, but the perfection of the symmetry was strongly influenced by personal friendships. There were six-man teams, three-man teams and even one seven-man team. The students were all ready to argue the validity of their assemblage of teams but never had the chance to as we didn't complain about the unevenness of their grouping. Instead we passed out the cameras and film.

"Do you people know how to use these cameras?"



"Sure, man." And they reached out for them.

Armed with cameras and film, we left and locked the room, passed the glowering hall patrolmen, and proceeded out the locked school doors into the outside world.

ESCP's Instructional Materials Development Program had for a long time considered the creation of Laboratory Block materials that represented extensions of the investigations in *Investigating the Earth*. Through exploratory work done at two NSF-funded leadership conferences, guidelines were set to assess the need for such materials. The conferences and two advisory group meetings with urban educators from various parts of the country suggested strongly that the new materials should be more than mere extensions of earlier investigations. In fact, nearly all the advice suggested that we carefully rethink pur-

poses of instructional strategies and the nature of materials for student use.

We at ESCP knew that the materials we had created for *Investigating the Earth*, though a remarkable step forward in earth science education, were not panaceas for all students. In addition, we were sensitive to the fact that the content progression of the text had determined the kinds of investigations that provided the actual experience for the students. In a manner of speaking, the content was served by the investigations, rather than the opposite. Though there is merit in such an approach, our advice from the advisory sources strongly recommended that we reverse the procedure. That is, we should *let the investigations serve to structure the content*. In addition, the argument became stronger that we should *let the students choose the investigations*.

CONTINUED

Everyone whose council we sought suggested that many of the students in the cities were strongly alienated. They felt we should be as concerned about lessening the qualities of alienation as we were about conveying content and concept. Further, we were told in corroboration with our own ideas that the students' self-image must be enhanced; that self-confidence and an awareness of one's aspirations, capacities and potentials are vital in creating a viable human being.

"Do you know how to load those cameras?"

"Yeah . . . sure."

With the students' assurance of expertise, Dorothy and I retreated to a neutral area and began an animated conversation that allowed us to watch the gaggle of confused students attempt to load the cameras. The frustration we experienced in trying to ignore the inept way these students proceeded with the task was excruciating. They had lied when they said they knew how to load the cameras, but they most vehemently wanted to succeed. Finally Tilford edged away from the group and approached us.

"This ain't the model I got at home."

"So?" I said.

"Can you load it for me?" he said.

"Sure." And I loaded the camera carefully, slowly, and even discovered I needed to check the procedure again so as to be sure it was correct. Tilford watched with a total kind of involvement. When I handed him the camera he went quickly back to the group and conducted an in-service course in loading Polaroid Swingers.

Everyone quickly became involved in taking pictures. They took pictures of each other, of the school grounds and of anything else that came into their minds. That is, everyone but Tilford. His leadership qualities were confined to getting everyone else going, but he wouldn't take a single picture of his own. When I asked him if he had taken any his answer was, "No . . . I'd just mess up."

In creating curricula, scholars and educators have always concerned themselves with content. Since content has been the fiber of the classical curricula from the time of the Greeks, there was little precedent for totally abandoning history. Content was still to be served. However, those who wrote curricula after the now-famous Woods Hole conference in

1958 focused on two qualities of content: one, its basic, inherent rational structure; and two, how the human intellect accumulates knowledge. Jerome Bruner and others were some of the best possible spokesmen for the times. Physicists, chemists, biologists, and anthropologists were eager to try to discern the inherent structure of their areas of academic expertise. The psychologists had arrived at recipes for the working of the rational side of the intellect and, at this Sputnik-spurred turning point in national embarrassment, rationality was easily identified as the quality that would get through.



The curriculum-makers took the cue from the times. A logical, internally consistent approach to the structure of knowledge and the techniques of the acquisition of knowledge was all one could ask for. Onward to the books, the equipment, the lab manuals, the teacher's guides that now nostalgically populate our classrooms. Ten years later other voices began to provide a counterpoint melody to the tunes of the first decade of curriculum revision. The counterpoint had to do with the *other half of the human being*. A decade had been invested in what one knows. Now the murmur was focused on how the human being *feels*.

"You'll what?"

"I'll just mess it up!" Tilford said. He looked at the ground. I grabbed as quickly as I could at the inadequate straws of my experience. I *knew* he could do it, but that suddenly became unimportant because I realized—he *didn't know he could do it!* I then became aware of the unused film in my right hand. I said as casually as I could:

"Hell, man . . . nobody can mess all this film up!"

It was as though everything became heavily weighted as in a dream

and the world slowed to a stop. Tilford looked at me, then turned and took the camera from his group. He gestured to two girls and a boy and directed them into position, and then I think he smiled at me as he raised the camera to take their picture. I closed my eyes and prayed that if ever a picture turned out this one would. . . .

Currently a host of psychologists are vitally concerned with how people feel in the learning process. These psychologists, along with other varieties of social critics, have attacked the coercive institution called the school. Their argument is clear. They defend the students' right to "feel good" as well as to "know good." Some of those who have acted as spokesmen for this effort are John Holt, David Hawkins and Leonard Engle. All seemed to influence the pragmatic approach of Postman and Weingartner in their *Teaching as a Subversive Activity*. Their arguments can be summed up in the claim that school and what happens in it should be more compatible with the social and personal condition called *life*.

Meanwhile the ritualistic enterprise through which curriculum-makers inform young people of the structure of knowledge became known as the "new" in school. In addition, if it was "really new" its strategies and tactics were guided by cognitive psychologists who regimanted not only what a person can know but how they can know it. All the while the murmuring group asking, "How do they feel?" began to get stronger.

Recently Dick Jones put a fine argument for the case in print with his *Fantasy and Feeling in Education*. Jones argued, as does Michael Polanyi in *The Tacit Dimension*, for that fantastic realm of intuitive knowledge that sculpts our pre-conscious thought processes. To put it more simply, we each have emotional-intuitive inputs into our lives as well as rational-logical inputs. Schools for generations have been concerned with that which was rational and logical. Jones and others are making a strong plea for allowing more access to the emotional and intuitive in the educational process. They argue that we should, in school as in life, allow the emotional self to be as apparent as the logical and rational self.

The sound of Tilford's camera shutter pealed like thunder above timberline. He seemed to take ages pulling the tab and picture pack from the Swinger. But when he did, I don't remember breathing for the ten seconds needed for the positive to develop. I swear he smiled at me before he stripped off

his perfect portrait of Linda, Amelia and Ernie. He handed it to me with the pronouncement:

"How do you like that, man?"

"I guess that's pretty good." I grinned.

Arguments about what one can do to make a student feel better fall into two camps. One group argues that, by pre-determination, activities for the young can guide students into intellectual involvement that insures that the cognitive psychologists' intellectual progressions are met. These same theorists are convinced that the student's sense of self-



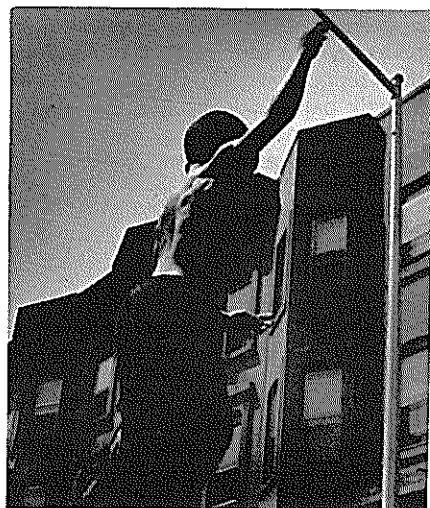
worth is nourished by his ratio of success in conforming to the external intellectual criteria that they have in circular argument set up-as standards for success.

The other camp is more suspicious. They argue that conformity to external criteria is a trivial indicator of personal success. This group argues that those qualities *inside* the child are more important than those outside the child. In essence their position is that, regardless of the nature of the external coercion, the important thing a child can know about himself is that which resists conforming for the purpose of sustaining personal honesty. The clichés put it this way: A child who knows himself will learn more capably than a child whose entire extrinsic response is toward adult coercion. That's a nice cliché, and it could easily be disproved if it weren't true. This internal or intrinsic group wants to see the fruition of the individual potential, aspiration and capacity in the presence of what happens to the child in the process of education.

As an example, students working in the presence of ambiguous assignments which require personal or intrinsic definition become quickly self-reliant. Their arguments become concerned with how

to meet the constraints of the assignment as *they* see it, as opposed to how *I* (as teacher) see it. Upon getting involved in this fashion, the students all develop acumen in meeting the goals that each sets for himself.

The teacher's role is to focus on making each student reach in the direction in which he points. Since "change" provides conceptual as opposed to content constraints, the students have far greater degrees of freedom than otherwise. This tactic is compatible with the Environmental Studies approach. Ambiguity has a higher potential for relevance than



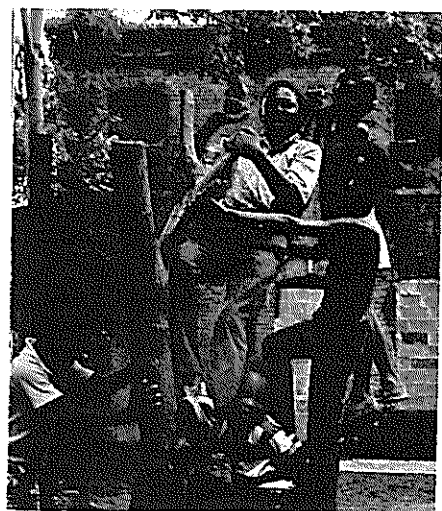
does specificity. In the face of ambiguity concerning a conceptual topic (like "change"), a student has a far higher potential for serving his own (intrinsic) needs than he does if the teacher announces, "Go outside and get evidence of erosion." Erosion is content, whereas change is conceptual. Conceptual involvement is far less constraining than content.

Tilford then engaged in an activity that rejuvenated all my anxieties. He got involved with proving that the sun apparently moved. His technique was to go to the south side of the school and photograph the sun atop a steeple of a church adjacent to the school. He positioned himself so that the sun was directly aligned with the steeple. His next problem was to learn how to override the YES electric eye system of the camera so as to get an adequate picture of the sky and sun. He asked no one how to do this. It was all determined after a thoughtful stare at the camera mechanism. The proper adjustment was made and the picture was taken.

It was beautiful. Intertwined among the lacy branches of Novem-

ber trees, the sun sat in a starburst pattern, perched upon the top of the church steeple. Immediately I wondered if Tilford would be clever enough to mark the point at which he took the photograph so he could return to it later. I almost started forward to tell him. But then he relieved my concern with a great smile across his face. . . .

Creativity research is replete with data that testify to the validity of openness. These data are philosophically in conflict with the tendency toward step-by-step organization (either content-focused



or psychologically-focused) of modern curriculum offerings. The researchers in creativity have found that divergent thinking is the most rewarding quality in the early stages of problem solutions. These same researchers do not discredit the convergent thinking that inevitably emerges in the final stages of solving problems. However, they voice concern about the pressure toward convergent thinking established in modern curricula as a result of the content and process biases.

The research coming from models created to insure content integrity and cognitive integrity has biased the scene so that we are only currently becoming concerned with the qualities of divergence in creativity research. In the tradition of our Judeo-Christian heritage we have been coerced into believing that virtue lies within the tidy boundaries of logic and internal consistency. Psychologically, convergent thinking was most compatible with such a philosophical view. History, however, does not allow such an operational view to prevail. The great historical turning points were always accompanied by divergent production. The Renaissance, whether Arabic or Christian, was a refutation of Aravic

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gent, internally consistent traditions of the contemporary scene. Bacon's break with Aristotelian precedents freed science from dogma and plunged it into an age of experimentation.

In education there seems to be a tacit assumption that the greatness of an individual student will exceed the constraint of the times. To me, the urgent question of modern education is simple. . . . "Why wait?" Why should we as educators, in an effort to preserve the sanctity of precedent, wait for students to exceed our constraints *when by changing the constraints we could insure it?*

Tilford (thirty minutes later) returned to the south side of the school. I had followed him and had promised myself that I would offer no cogent, adult, educated guidance (commonly called interference). I just stood there. Tilford looked at his first picture and sidled about on the sidewalk. Eventually he was happy with his position and he took the second picture of his sequence. He was sure he had photographic evidence the sun apparently changed its position in the sky.

I wanted, with my adult experience, to run up to Tilford and announce to him the names of the Greeks that had wrestled with the problems he had only moments ago confronted. I wanted to pour forth the rational verification of Tilford's intuition. I would have invoked the names of Eratosthenes, Ptolemy, Galileo, and even Brahe. But somehow I avoided the compulsion to inform Tilford that the brilliant insight he had just gained had preceded him by 2,000 years.

Somewhere down in my viscera I was able to avoid putting Tilford down by citing precedent. That history is replete with men who have thought our thoughts is no excuse

for us to avoid thinking them. Minds explore independently of time. Only societies and historians are time-conscious.

The burning question is . . . *can curricula be written that can insure that we will create environments in which students can intrinsically emulate Eratosthenes, Ptolemy, Galileo and Brahe?* The evidence so far suggests that it is possible. We are hopeful that with appropriate admixtures of ambiguity and trust students will be able to re-create and procreate thought patterns that will accomplish two purposes. The first is that through involvement with actual and real environments the student can experience data sources that can promote the replication of classical scientific thought patterns. The second is that by utilizing primary sources of data, such as the actual environment, students will become more confident in themselves as instruments of inquiry.

The materials we hope to develop in the Environmental Studies program will reflect the notion that in true self-directed inquiry situations students have access to the entire process of research. Giving ambiguous directions such as, "Go out and photograph evidence of change," forces the student to begin the inquiry episode by making a series of decisions. He must decide on an operational definition of change, then decide what the evidence for that change is, and then attempt to photograph the evidence. Because "change" has more of a conceptual quality as opposed to a content quality, the students' arenas of inquiry are less defined.

Such "forced" decision-making, in concert with the ambiguity of the assignment, quickly turns the effort into something that is more child-sponsored than teacher-sponsored. Although it is true that the initial assignment is a teacher-stated, extrinsically moderated di-

rective, the students quickly take over.

Tilford's photographs were masterpieces of proof. By comparing the foregrounds of each of the pictures, it was clear that the branches of the trees were identically matched. He had returned to nearly the exact spot from which he had taken the first picture. I knew I wouldn't have attempted the same task without a tripod. In addition, the star-burst pattern of the sun had shifted appropriately to the right. Tilford had his proof.

The rest of Tilford's team used a variety of other techniques to prove the sun's apparent motion. He was active among the team members and assisted them in getting over hurdles of their own. They were all deeply engrossed in making marks on the sidewalk, photographing shadows and sketching shadow patterns on the side of the school building when a loud yell slammed down from above.

"Hey, you take my picture."

It came from one of several now open windows on the third floor of the school. Others chimed in with garishly animated gestures.

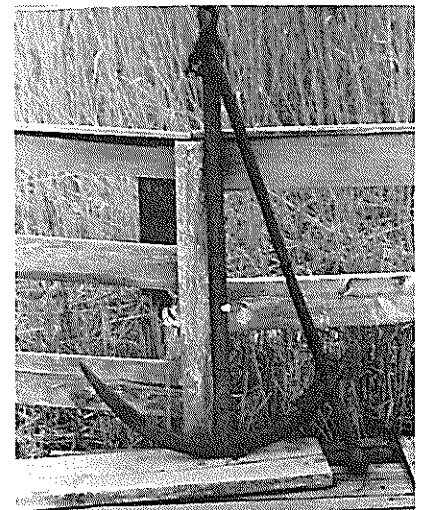
"Mee tooo."

"I'm beautiful."

"Look at me." It was obvious the teacher was out of the room, so I started to say something, but I was too slow!

"CLOSE THEM WINDOWS!" exploded from my right. It was Tilford. Let me tell you, THEM WINDOWS CLOSED. Tilford and some members of his group muttered among themselves about "them damn kids could queer this thing for us."

I didn't say anything. After the time we spent outside was finished we started back into the school. I





the action:

Take a picture of something you really dislike in the classroom or school ... and see what you can do to change it.

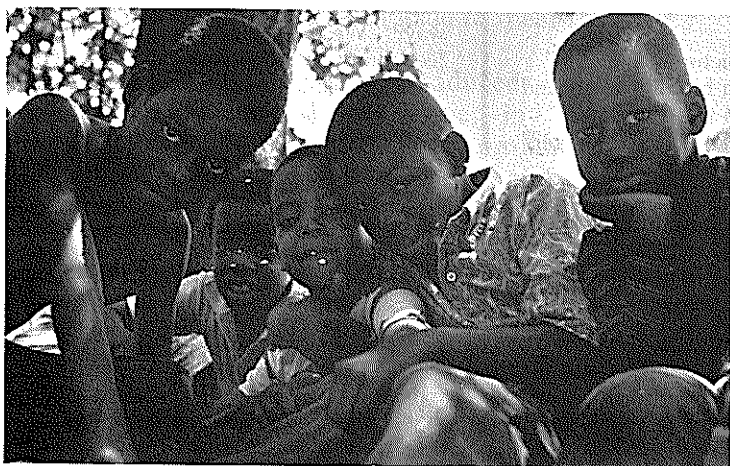
What they photograph:

- teacher
- principal
- math room
- gym
- defention hall
- books
-
-



the action:

Have the students take familiar objects from their environment and find and demonstrate a new use for each of them.



more:

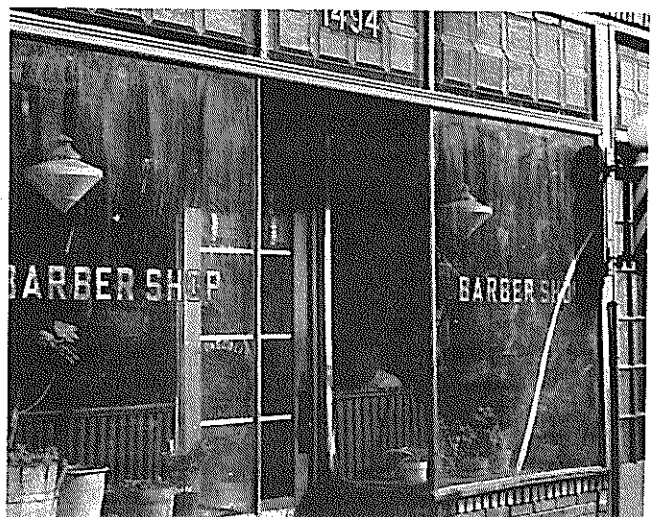
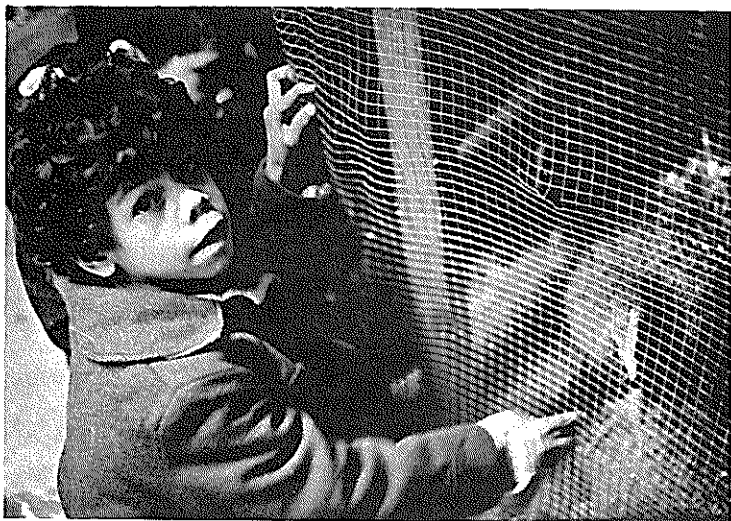
- try the community
- try the state
- try the country
- try yourself
-



If this assignment flops, it may well be that you do not believe in invention. Check your conformity compulsion. This assignment is a key factor in the whole process of invention. An old cliché says, "Turn every disadvantage into an advantage." Most of the effectiveness of this idea depends upon one's attitude. This assignment tends to reward an attitude of non-conformity.

Watch yourself on this one; if you are singled out, deal with it. Stay away from dark places in the classroom, and do what you can to help the student resolve his feelings. HIGH TEACHER RISK

TRUST COMES ONLY FROM A SATISFACTORY RESOLUTION OF A HIGH RISK SITUATION.



noticed several of the class members picking up the debris from the Polaroid film wrappers. That's *all* they picked up, however. The school ground remained covered with trash and food wrappers, but they had picked up *their* mess.

All the students in the class accepted and demonstrated responsibility in a variety of ways. Other faculty members in the school had warned Dorothy and me that "these kids have no sense of responsibility. They will break or steal the cameras." Because of this we immediately gave the students the right to check out the cameras for home use. They could even take them home on weekends. We still have the original set of cameras. . . . intact and working.

These early pilot efforts provided a basis for the work we are currently doing. With a sizable grant from the Polaroid Corporation, we equipped about 35 teachers in 20 cities across the country

with the pilot materials. At the briefing meetings we had with these teachers we were excited by the intensity of their concern about meeting the needs of the young. In our discussions we agreed that in free instructional environments the *real* needs of students would prevail. This had been proven in our experience with the inner-city ninth graders. None of these students asked questions about the management aspects of the class. No one wanted to know how we would grade. No one asked how lab reports should be filled in. No one asked about how he should organize his data. Instead they made all these decisions themselves and asked other kinds of questions such as these:

"How can I take two pictures on one?"
(double exposure)

"How can I get pictures at night?"

"Where can I get a brick so I can find out how long it takes to wear down?"

"Where do they take all the garbage?"

"Can I take pictures of the stars to see if they move as fast as the sun?"

Somehow the experience left us with a warm conviction that school *can* be made more like life. The students had nurtured their interests and at the same time accumulated knowledge. By focusing on the immediate environment the students could return to their data sources if they needed more information. In doing so they began to be more alert to the nuances of strangeness in their commonplace environment. Bushes they had passed a hundred times became sources of information. Even the cracks in sidewalks developed new meaning. In addition, they began alerting themselves to each other as people.

Did we succeed in any significant way? We cannot be sure, but we did feel pretty good when we discovered several members of the class *sneaking back into school to attend this one class each day.*

Openness is not anarchy. In the kind of openness we talk about, you can do your thing, not in a vacuum, but in a rich seductive environment of resources that beg you to engage your mind in exploring the unknown. You look, touch, smell, and listen to it all. And soon . . . you begin to feel, value, and love. When all this happens you are swept up in a driving torrent that tumbles you past your first shallow findings into deeper more orderly ways of knowing. You become aware of order . . . you invent it . . . and compare what you have found to the exploration of others. Percy Bridgman's description of the Scientific Method was only half the argument. He said the scientific method was doing your damndest with your mind with no holds barred. To provide the other half one must engage his heart. Then it becomes the Human Method. Heart and Emotion provide the will Mind and Rationality provide the way. Only in openness can both exist.

Robert E. Samples

Environmental Legislation

LEGISLATORS CALL FOR \$1.2 BILLION BOND ISSUE

Excerpted from *New York State Environment*, March 9, 1972.
A publication of the Department of Environmental Conservation.



Senator Bernard C. Smith, chairman of the Senate Committee on Conservation and Recreation, and Assemblyman C.D. "Larry" Lane, chairman of the Assembly Committee on Conservation, have called for a \$1.2 billion bond issue to meet the state's environmental needs.

The Bond Act was introduced by Senator Smith and Assemblyman Lane in the State Legislature as S.9511 and A.11500 on March 8 with bipartisan support from 44 Senate and Assembly co-sponsors.

The Bond Act would provide \$650 million to continue cleaning up the state's waters; \$150 million to meet air pollution needs, and \$400 million to preserve and enhance the state's land resources, combat solid waste and provide fishing and other recreation opportunities. If approved, the following question will go before the voters on the November ballot:

"Shall chapter (the number of the chapter) of the laws of nineteen hundred seventy-two, known as the environmental quality bond act of nineteen hundred seventy-two, authorizing the creation of a state debt in the amount of one billion, two hundred million dollars (\$1,200,000,000) to provide moneys for the preservation, enhancement, restoration and improvement of the quality of the state's environment be approved?"

The main thrust of the bond issue is local assistance aid to help communities achieve environmental quality. Some \$903 million of the \$1.2 billion is slated for state grants to local governments for water pollution control facilities, air pollution control, solid waste management, wetlands restoration, environmental education centers and for fishing and small boat access.

At a press conference announcing introduction of the legislation, both Senator Smith and Assemblyman Lane stressed that it was essential that the state substantially aid localities in meeting the air and water pollution standards which, by law, they must meet.

"The only practical way for the state to assist localities and meet environmental needs in the next five years," Senator Smith said, "is by providing the needed funds now. The benefits will be realized for

generations to come."

"Major investments must be made to protect our environment," Assemblyman Lane said, "and if the commitment is not made quickly the opportunity to act may be lost forever."

"We are convinced that the people are ready to make the needed commitment and should have the opportunity to vote on it," the Legislators said. "The people know that additional water pollution controls are needed, that fish and wildlife resources are hampered by outdated facilities and haphazard public land ownership problems and that our wetlands are being destroyed at an alarming rate."

The Committee Chairmen based their estimate of funds needed on studies done by the Department of Environmental Conservation. Commissioner Henry L. Diamond told the Senate Finance Committee and the Assembly Ways and Means Committee, during a joint hearing on the department's budget in February, that as much as \$1.2 billion in state capital investment would be needed over the next five years if New York is to achieve quality for each of the basic building blocks of the environment—water, air and land.

Chairmen Smith and Lane said that \$650 million would enable the state to take full advantage of any new federal funding for water pollution control; to fund the state share of currently approvable and other municipal sewage treatment projects that will be needed over the next five years, and provide a state share for special needs such as nitrate and phosphorus removal on Long Island to permit recharging into groundwater aquifers.

The \$150 million to improve air quality will provide 50 percent matching grants to aid in upgrading major municipal incinerators to reduce particulate emissions; 50 percent aid for upgrading space heating equipment in municipally owned buildings.

The second major chunk of the Bond Issue—\$400 million—would go to preserve the state's land resources: protecting and extending the Forest Preserve, preserving irreplaceable wetlands, disposing of ever-mounting volumes of solid waste, increasing outdoor recreation facilities and providing new and expanded fishing opportunities.

Environmental Legislation

SENATE PASSES ENVIRONMENTAL BOND BILL

In its April 26th session the New York State Senate unanimously approved the 1.15-billion environmental conservation bond issue bill. The bill now goes to the Assembly where passage is expected.

Both houses of the Legislature passed a companion bill that enumerated the purposes of the bond issued and designated certain water quality improvement projects as being eligible for some of the \$650-million pure-water funds. Five of the water pollution control projects are in the New York City area—Red Hook, Coney Island, Owls Head, Oakwood Beach, and Newton Creek.

At a public hearing on the bond issue proposal in April, Jerome Kretchmer, head of the city's Environmental Protection Agency, said he would not support the measure unless it could be shown that the city would get its fair share of the money. He stated that solid waste is the city's highest priority with more than 29,000 tons being produced per day. Although he did say he supported the proposal on a broad scope, he contended that it did not reflect environmental priorities as perceived by EPA.

STATE GETS FEDERAL AID FOR WATER

U.S. Senate and House conferees have agreed on an additional \$1 billion federal appropriation for the current fiscal year for sewage treatment plants, which will provide some \$80 million for pure waters projects in New York State.

The \$80 million will be used to reduce the \$1.3 billion total which New York State and its municipalities have pre-financed as the federal share of the sewage treatment projects. The funds will be apportioned among previously approved projects now under construction where the lack of federal funds is particularly crucial.

Commissioner Henry L. Diamond hailed the support of the New York Congressional delegation in obtaining the additional federal appropriation. "I hope this is a sign that we will see a new long term federal commitment. This, coupled with favorable action by the State Legislature on Governor Rockefeller's request for a \$410 million appropriation for state grants, will get the pure waters program moving at full speed, and we will have only suffered a few weeks' delay," he said.

In January, the department withdrew 45 pending grant applications from the Environmental Protection Agency because there were no funds available for federal participation or for reimbursement of state and local pre-financing. It was also announced at that time that another 112 projects would not be forwarded to the EPA until new federal legislation was enacted and the program became clear.

Commissioner Diamond expressed hope that

Congress would take additional action in the near future which would not only close the gap on past federal debts, but would also initiate a new program allowing the state to move forward on additional projects.

Reprinted courtesy of *New York State Environment*, March 9, 1972. A publication of the Department of Environmental Conservation.

NYC UPGRADING SEWER TREATMENT

New York City is currently in the midst of a \$1.9 billion program to upgrade and expand its sewage treatment facilities. The goal of this program is to provide a high degree of secondary treatment for all the dry weather flow of sewage. This will be accomplished by constructing two new plants and upgrading 12 of the existing 14 plants.

Every day the City produces 1.5 billion gallons of sewage. Currently, about 75 percent receives secondary treatment. There are three basic ways of treating sewage: primary, secondary, and tertiary. Each one of these adds a step on to the simpler one. They can be thought of as being similar to the wash, rinse, and spin cycles on a washing machine.

Primary is the simplest method and involves letting the collected sewage run through a large tank where the solid particles settle out to the bottom and are called sludge. This process is like doing your wash without rinsing and spinning it—the dirt is out, but the wash is still not clean.

BOD Removed

Primary treatment removes 55 percent of the BOD or biochemical oxygen demand, which is one measurement of how strong sewage is. To get your wash cleaner, the machine goes to a rinse cycle. Similarly, in secondary treatment, the sewage is treated further by a process called aeration. In this process, bacteria feed on the sewage, turning it into gas. Bigger particles settle out, leaving cleaner water with 90 percent BOD removed. (The lower the BOD, the cleaner the water.) In New York, this is all the treatment that is necessary. Just as the spin step in the washing machine isn't needed for cleaning, tertiary treatment, which involves filtering the water to make it cleaner, is not necessary and is very expensive.

At the present time, 12 plants (four in Brooklyn) remove from 70-90 percent BOD. However, 375 million gallons of raw, untreated sewage flow daily from the West Side of Manhattan and the Red Hook-Brooklyn Heights areas into the Hudson and East Rivers.

The construction of the North River plant in Upper Manhattan and the Red Hook plant in the Brooklyn Navy Yard will end all raw discharges of



sewage in dry weather. In addition, the Owl's Head plant in Bay Ridge and the Coney Island plant will be modernized so that all of Brooklyn's sewage will be treated to 90 percent BOD removal.

Your Help Is Needed!

The Senate recently passed a bill which would require the Federal Government to pay what it has already promised. The bill is now being held up in the House of Representatives. Please *write* your Congressman and the Chairman of the House Public Works Committee, the Honorable John A. Blatnik. Following is a sample letter:

The Honorable John A. Blatnik
House of Representatives
Washington, D.C. 20515

Dear Representative Blatnik:

I heartily approve of the Water Pollution Control Bill just passed in the Senate and strongly urge you and other House members to pass intact

HR 11896, which would authorize the reimbursement of the \$2.4 billion the Environmental Protection Agency owes the states and communities, like New York, which went ahead with construction on \$3 billion worth of water treatment facilities.

Very truly yours,

Brooklyn cannot afford to lose the proposed projects. The Red Hook plant would intercept all the waste currently being dumped raw into the Gowanus Canal and the East River. It would also treat the waste of Governor's Island, the area from the Navy Yard to Erie Basin, and from the East River to Grand Army Plaza. Finally, the upgrading of the Owl's Head and Coney Island plants might help make Plumb Beach safe for swimming again.

Prepared and researched by Bay Ridge Action Toward a Healthy Environment (BREATHE).

Where It's At

by Arnie Korotkin

Social workers and other persons involved in assistance and referral have an obligation to clients, agencies, and themselves to know how to get and use resource materials which will enable them and their clients to negotiate "the system." The materials listed below will help provide such information.

Where to Go for Consumer Information and Action is an 18-page booklet which outlines services available to City, State, Federal, and private agencies. General areas covered include health, legal, and social welfare. The booklet can be obtained free from the New York Department of Consumer Affairs, 80 Lafayette Street, N.Y.C. 10013.

Call for Action is a 134-page general reference source. It provides information for contacting public and private agencies in connection with day-to-day city problems, i.e. housing, welfare, legal aid, recreation, etc. Available from the New York Urban Coalition, 55 Fifth Ave., N.Y.C. 10013. Cost is \$2.00.

The New York City Handbook is a comprehensive guide to the problems and pleasures of living in New York City and to the neighborhoods, people, institutions, employment, health, community profiles, etc. The Handbook is available from Doubleday and Co., or at local bookstores. Cost is \$3.95.

The Organizer's Manual by the O.M. Collective (336 pages). The book is an excellent guide for community organization. It covers all aspects of mobilizing people around issues that are of concern and also has an extensive bibliography of essential books and organizations. Available from Bantam (Q6516) or at bookstores. Cost is \$1.25.

Directory of Major HRA Programs provides the names, addresses, and phone numbers of programs sponsored by the New York City Human Resources Administration. The directory is divided into six categories: (1) social services, (2) manpower programs, (3) community action programs, (4) youth services, (5) child services, and (6) addiction programs. The directory is available for free from HRA, Office of Public Affairs, 250 Church St. N.Y.C. 10013.

Social and Health Agencies of New York City is a directory of voluntary and public welfare and health agencies. Names, addresses, phone numbers, and brief descriptions of agencies' functions are provided. The agencies are listed according to function (e.g. aged, day care, health, legal aid, recreation, etc.) and alphabetically. The directory is commonly referred to as "The Red Book." Most agencies and municipal libraries have a copy of this volume. If not,

it can be ordered from the Columbia University Press, 136 Broadway, Irvington-On-Hudson, N.Y. 10533. Cost is \$17.50 per copy.

Editor's note: The Pratt Center still has copies of the **South Brooklyn Guide to Community Resources** detailing services provided by both local (South Brooklyn) and city agencies. The guide is divided into 17 sections covering (in alphabetical order) emergency and quick reference, business, community development/action, consumer protection/education, drug addiction/abuse, education, employment, health, housing, human rights, legal services/law enforcement, mental health, municipal neighborhood services, public officials/elected representatives, recreation and cultural activities, social services, and descriptions of local community organizations. The Guide is free.

Announcements!

New Yorkers can dial 472-1003 and find out about free events in the city. In response to public interest, the Parks Administration has extended the use of its summer information number on a year-round basis.

Monday through Friday from 9 A.M. to 5 P.M., and on weekends from 10 A.M. to 5 P.M., 472-1003 will inform people about free programs and entertainment in parks, museums, libraries, and streets in the five boroughs.

After 5 P.M. the number will carry a tape recording with highlights of events happening that evening.

* * *

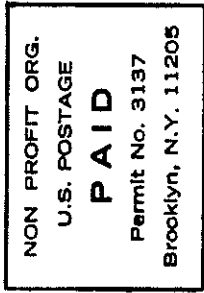
The Bushwick Relocation Center, the first of its kind in New York, has been opened by the Bushwick Family Service Center. The Relocation Center is designed to provide emergency housing for those deprived of their homes by fire or other disasters.

Information about the center's services is available at the Community Corporation of Bushwick, 1316 Bushwick Avenue.

* * *

The *Cobble Hill Newspaper Depot* (for newspapers only) opened the first week in April. It's located at Christ Church and the Holy Family, Kane Street at Clinton Street (Kane Street entrance) in Brooklyn Heights. The Depot is open on Saturdays, 10 A.M. to 1 P.M. Volunteers are always needed. Call Connie Snodgrass, 858-2176 or Eileen Jones, 852-1326. Remember to tie your bundles of newspaper securely.





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