Hygienic Disposal of Household Wastes

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The hygienic disposal of household wastes is one of the greatest
problems of the day. Inasmuch as they contain all of the excretions of
the body and also garbage and refuse, inasmuch as they may contain
infectious material, the safe and proper disposal of wastes is one of
the first necessities of hygienic living.

The health of the community depends largely upon the disposal
of the refuse matter. Death rates have been permanently lowered
since the introduction of even fairly efficient disposal of wastes.
The dumping of refuse upon vacant lots or around houses alwaysleads to disease. Thirsts, animals, flies, and mosquitoes may become
carriers of disease.

The wastes are divided into three great classes: first, refuse as
ashes, dust, paper, rags and bulky seconds. Garbage, scrape of food and
kitchen slops. Third, seewage, human excreta and bath and toilet water.
The refuse in many households is disposed of by burning. Webster says "dust is fine dry particles of earth or other matters attenuated that it may be raised and carried by the wind." The dust we sweep from our floors may consist of cellular fragments of sand, fine hair, fibers of cloth, ashes, and other pulverized matter to which may be attached unnumerable micro-organisms. Dust is rich in bacteria and frequently contains pathological bacteria. There is but little doubt that infectious diseases are frequently transmitted by it. That it would always be regarded as a possible source of disease. It often contains virulent disease germs such as tuberculous, diptheria, small-pox, scarlet fever, and measles and to a less extent germs of typhoid fever and other diarrheal diseases. There are the great cleansing agents found out doors that are not found in the home, namely, cooling, sun-shine, air, and frequent wetting. Rain carries the dust and germs into the sun.
and risers and down into the soil where other micro-organisms destroy them. In houses the dust settles on furniture, shelves, pictures, and draperies. It is not necessary in this to find out how all of the dust reaches the interior of the house but to find out the best way of preventing or dispersing of it. Dust may be blown in through open windows or carried in on clothing. Fibrous dust is produced by the wear of carpets and rugs. In order to cleanse a room in the most hygienic way we should take the rugs out, doors and also all draperies, the windows should be raised, walls should be wiped with cloths, and the floor should be wiped up; all furniture should be dusted with a damp cloth and woodwork and windows washed. If carpets are used, before sweeping they should be sprinkled with coarse salt, salt and bran or damp tea-grounds and in this way the dust is kept from rising. We all know from pers.
some experiences that if we sweep without using these precautions, the dust raised in the air causes a choking sensation. It rises in the air and resettles upon other portions of the floor and upon walls, etc., etc., in the nursery or sick-room. The floor should be bare and should be frequently wiped up with some antiseptic. The final disposal of the dust should be by burning which will kill all disease germs.

The second factor is garbage. The term garbage in some of the southern states is applied to dry refuse or a mixture with vegetable or animal wastes. By some the word "swill" by others the word "stop" is used to designate kitchen waste. By garbage is usually meant the solid organic waste of the kitchen, the more liquid wastes being discharged through the sink pipes into the sewer. The quicker garbage is disposed of the better. There is little objection to disposing it by feeding it to swine. In warm
weather, this garbage should be collected daily in hot weather, every other day in cold weather. It should be collected in water-tight receptacles and should be well covered so as to present pollution of the air or soil and to keep it from the flies which would spread the noxious material. The garbage may be disposed of in many ways as cremation, dumped into the sea or rivers, and by feeding to animals and by burial. Much garbage is burned in the kitchen stove without drying, much more may be dried and then burned in open grates in certain stoves being provided for this purpose. By another method, burning involves much inconvenience, and is likely to produce disagreeable odors. Some of the objections to dumping into the sea, when the sea is under favorable conditions of winds, tides, and currents, are that much material may be washed ashore.
and become a nuisance and eye sore. In the country and suburban districts, much of the kitchen waste can be disposed of by feeding in a fresh and sweet condition to swine and poultry and the remainder by burning or burying in the soil. If buried in the earth, it should be covered only a few inches as decomposition occurs rapidly near the surface and the soil is sufficient to prevent contamination of the atmosphere. Liquid wastes can be used to a great advantage for watering gardens. Buckets may be kept for this purpose and applied daily or a kitchen drain may empty into a small cistern constructed for this purpose from which the water may be drawn for the garden where convenient. It may also be conducted to irrigation ditches. One objection to burning might be that it leaves the soil in a good condition for the growth of disease.
The third class sewer is the most important consisting as it does of the solid and liquid excreta of the body, wash-water, laundry-water, urine-water, bath-water, ad water from the kitchen. It also is a possible factor in the production of disease.

The gases from severs must be kept out of the house. In well ventilated severs they are probably not as dangerous as has been supposed but are in any case unpleasant. They contain most fer-living organisms but are rich in carbon dioxide, hydrogen sulphide, ammonia, and other gases produced by decay. The sewerage should be removed from the premises as soon as possible and always before decomposition begins. If the drainage is to comply with a cess-pit, it should be wellestrophated and ventilated. A cess-pit should never empti into a sewer because it is one of the best places for the
growth of bacteria. It is thought that certain disease germs grow and multiply in the cess-pool. Country dwellings and small towns have a wide field for the disposal of their wastes than do cities. They may have discharge units into the sea or other bodies of water, public system, chemical treatment, irrigation, filtration or cess-pool. If cess-pool is used they should be made of brick and stone and then cemented. A cess-pool made in this fashion will require emptying often and one of the best ways of doing this is by having an overflow pipe leading to some place where the overflow can be utilized and in this way the soil will not be polluted, or it could be drained to a forest or thicket and then be used as a fertilizer. Cess-pools should be as far as possible from the house and lower than the house so that the drain will have a good fall. One of the
first thing to be considered is the ventilation of the cess pool. Then there is a profit of not using sewage for irrigation. This should be kept in the background and the primary object ever in view. It is for irrigation should be under supervision of municipal authority to insure public good and not private gain. So far sewage irrigation has not been responsible for occurrence of extensive outbreak of typhoid fever, cholera, or dysentery. A case has been reported of an outbreak of typhoid fever which was thought to be due to vegetables from a garden watered with the contents of an infected cess pool. No such outbreaks have been due to products from a large farm. If the contents of the cess pool is used for irrigating gardens all vegetables that grow in the garden should be thoroughly cooked before eating. A salt system is both economical and healthful if properly kept clean and ventilated.
Foul system is used, loam and clay should always be kept at hand to throw on the objects after the foul-closet is used. Lifting ashes or sand and dirt will answer the purpose. When the foul system is used it is best to have the house slope, wash-water, laundry-water, and bath-water carried by a drainage system to the garden. This way being both hygienic and economical. The sewage is disposed of by chemical treatment, it should be treated in as fresh condition as possible and before putrefaction processes begin. Some of the substances most used as precipitants are lime, ferrous sulphate, and alum. Even with the greatest care and at high cost, the filtrate cannot be obtained sufficiently pure to be turned into a water-course. The discharge of sewage into the sea or other bodies of water may be an easy method but the community's farther down may suffer.
from it if the stream is used as a public water supply. If the water below is to be used for public use, the process of purification should give good results.

The soil pipe is the pipe that is used to receive the sewage from the closets and from waste pipes as lavatories, bath tubs, and sinks. This pipe is best made of cast iron about four inches in diameter. The size of the pipe depends upon the amount of work it has to perform. There must also be a pipe connected with this going to the top of the house for ventilation. This pipe must be at least fifteen feet from any window. It can be covered with a wire basket to keep foreign material from entering. The soil pipe should always have round elbows, whenever two pipes meet and all points must be gas tight. These pipes should be uncovered so they can be inspected or repaired at any time. If it
is necessary to hide them they should be made of extra heavy material. A trap consists of a gate seat in the pipe. The pipe is bent in an S shape and is filled with water so as to prevent the entrance of sewer or drain air into the house. The trap used should be square. The seal of the trap should be deep enough as otherwise in case of water it might be broken. Each pipe from the different fixtures in the house should have a trap just below them. If the pipes are carried down into the cellar, they should be well supported at each joint and strongly attached to the ceiling or they may have a good brick foundation built up under them and cemented.

In considering household waste disposal, it should be born in mind that it is a public necessity as much as fire patrol; it costs money and it cannot be a source of income.
expenditure. No community expects returns for resolvers, fire engines, hose-carriages, or police stations, but these things are needed for protection of life and property, so a hygienic system for the disposal of household wastes is necessary for the protection of health and must not be treated as a source of public revenue.