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by Margaret W. Tarrant

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The following verse was sent to us by Dr. Berta Hamilton of Brattleboro, Vermont. We wish to share it with our friends, and especially with those families whose men served their country in southeast Asia.

Deep peace of the morning wave to you,
Deep peace of the flowing air to you,
Deep peace of the quiet earth to you,
Deep peace of the sleeping stones to you,
Deep peace from the Son of Peace to you.

—*Fiona MacLeod*
1855-1905

COPING WITH FAMILY PLANNING IN A RURAL AREA

by
W. B. ROGERS BEASLEY, M.D.

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In a 750-square mile mountain area of East Kentucky, the Frontier Nursing Service includes family planning as part of the total health care provided through an extensive network of nurse-midwives and family nurses decentralized into six nursing outposts supported by a physician and nurse-midwifery team located at the central hospital. During a 10-year period, the birth rate was reduced from 41 to 15; midwives inserted intrauterine contraceptive devices, achieving a continuation rate of 59 at 4 years. The continuation rate for pill users was 42 at 4 years. In the past 2 years, 70% of the women delivered accepted family planning. Sterilizations, 38% of which were vas ligations, were equal to 20% of the deliveries. Except for sterilizations, nurse-midwives provide all family planning services.

As a basis for observations on "coping with family planning in rural areas," the Frontier Nursing Service will be described as a rural model of health care which has dealt with the classic problems of all health programs—manpower, facilities, transportation and money.[1] The principles which the Frontier Nursing Service has used to solve these problems are not new,[2] but in this Family Planning Program they have been successfully applied as follows:

1. Professional manpower for family planning can be available through the use of nurse-midwives as effectively, and less expensively, than that provided by physicians.[3]
2. Facilities used can be those existing for other aspects of health care.

3. Transportation is best solved by decentralizing services.
4. And money is better spent and perhaps more available when family planning is incorporated into existing maternal and child care and general health programs.

The rural area for these observations is Eastern Kentucky; the mountains—Appalachia—where the number of physicians has decreased by 20% in the past 10 years; where the physician population ratio is 60 per 100,000 compared with 150 per 100,000 for the nation. In the particular area in which this rural health care model will be described, the physician population ratio is even less—approximately 20 per 100,000 or 1 doctor for 5000 people.[4]

In Eastern Kentucky, hospital beds are few and are principally those of the Appalachian Regional Hospital System, a non-profit corporation which now owns and manages the chain of nine modern hospitals which were built by the United Mine Workers Union a decade ago. Coal is still the principal industry, and as strip mining increases, employment decreases. Timber and manpower are the other significant exports from the region.

In such a multicounty area, covering 750 square miles and a population of 18,000, the Frontier Nursing Service is a model for rural health care. The Frontier Nursing Service is a 45-year-old voluntary organization whose staff of Nurse-Midwives and Family Nurses provide comprehensive, family centered, maternal and child care. It owns and operates a centrally located 26-bed hospital, where physicians are based and where there is an out-patient clinic servicing approximately 100 patients a day. But the chief facilities for health care are 6 nursing outposts, each of which acts both as a residence and as a clinic for District Nurses and Nurse-Midwives. Each nursing outpost (or neighborhood clinic) is staffed by 2 or 3 nurses who provide comprehensive health care to the 400 families of their district by means of their specialty skills, written medical directives, telephone or radio communication with the hospital-based physicians and specialty clinics.

The original nurse-midwives were British trained, but in 1939 the Frontier Nursing Service established its own Graduate

School of Nurse-Midwifery, at which approximately one-third of all American trained nurse-midwives have been trained. In 1970, this training was broadened to include Family Nursing, which provides special skills enabling the nurse-midwife to diagnose and manage health care problems common to the area.[5,6]

The principal health manpower at the Frontier Nursing Service is the Nurse-Midwife. She obviously must focus on mother and baby, but, in doing so, she will offer care to the entire family. The broader Family Nurse training is to assure necessary clinical skills.

In their first 10,000 deliveries, most of which were in the home, these rural nurse-midwives achieved a maternal mortality rate of 11 per 10,000 live births, at a time when that of the nation was 34 per 10,000 live births and that of Kentucky was essentially the same. In the past 20 years there has been no maternal death in the Frontier Nursing Service.[7] A great difference between the Nurse-Midwife and the Obstetrician is the Nurse-Midwife's ability—indeed her duty—to make a home visit when the patient fails to keep a clinic appointment, thus preventing many problems in pregnancy. In contrast, the Obstetrician is at the mercy of the patient who fails to come to clinic. This distinction may partially account for the decrease in maternal deaths in an area where Nurse-Midwives provide the maternal care.

In the middle of the 1950's the delivery load at the Frontier Nursing Service was over 500 babies a year; this area had the highest reported birth rate in the nation.[8] The only family planning was the traditional diaphragm and jelly; although tubal ligations were available for grand multipara with eight live born children, few sterilizations were requested.

Dr. John Rock, a longstanding friend of the Frontier Nursing Service, visited in 1957 and offered to include the Nurse-Midwifery Service as part of the research program in oral contraception. A limited number of cycles were provided for a 3-year period, and through this program the Frontier Nursing Service learned: a) that pills will prevent pregnancy; b) that the woman's motivation was the chief limiting factor for continuing the technic; and c) that nurse-midwives could maintain that motivation and also could select appropriate women for oral contraceptive use. When the FDA approved oral contraceptives in 1961, the numbers of

women who were given these increased significantly, and a formal postpartum family planning program began.

Then in 1964 the intrauterine contraceptive devices—coils, bows, loops—found their way into the mountains as an inexpensive alternative to pills, no longer supplied free for research. These were introduced by the physician at the time of the 6-week postpartum or postabortal check. They had great appeal to those student nurse-midwives who were returning to overseas mission hospitals; and soon the entire nurse-midwifery faculty and staff accepted intrauterine contraceptive devices as part of midwifery and of maternal and child health care. Including family planning in midwifery means that nurse-midwives must be trained in the use and limitations of contraceptive technics so that they are able to motivate, teach and counsel patients in family planning, as well as provide technical services, including a speculum and bi-

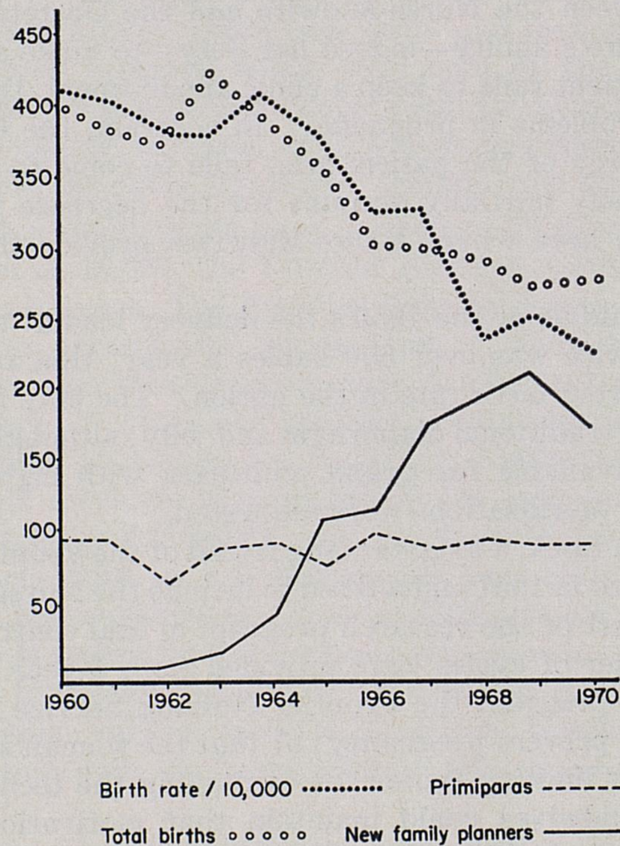

Fig 1. Analysis of 10-years of family planning by nurse-midwives—1960 to 1970.

manual pelvic examination, cytologic smear, insertion or removal of intrauterine contraceptive devices and the introduction of oral contraceptives. The readiness with which patients accepted the intrauterine device was doubtless influenced by the attitudes of the nurse-midwives.

The Nurse-Midwives' postpartum clinic then initiated contraception for the mother and immunization for the infant. And these important preventive services were continued at a combined Family Planning and Baby Clinic. These clinics, at the centrally located hospital and at the 6 nursing outposts, are managed by nurse-midwives under medical supervision—which means the physician is available on the premises or by telephone if needed. These clinics are extremely useful settings for teaching student nurse-midwives and family nurses how to examine the non-pregnant pelvis. Although family planning has been incorporated into the practice of midwifery, it is sufficiently distinct from it to receive referrals from general patient clinics, to provide premarital counseling and to undertake subfertility studies.

In the summer of 1970, the Student American Medical Association placed a medical student at the Frontier Nursing Service to study this system of health care with its nursing specialties and skills. This student analyzed the 10 years of family planning by nurse-midwives from 1960 to 1970 and discovered the very interesting data presented in Figure 1. During the 10-year period, the annual number of births decreased by 30% while the birth rate decreased by 60%. The population showed a very slight increase of 7%, and the proportion of childbearing women increased by 2%.[9] The actual number of primiparas remained stable during this time and the annual number of women begin-

TABLE 1. ORAL AND INTRAUTERINE CONTRACEPTION: CUMULATIVE CONTINUATION RATES PER 100 WOMEN

Months	*Method*	*Rate*	*Aggregate woman months of use*
36	Oral	58.1	6,213
	IUCD	65.7	9,183
48	Oral	42.0	6,705
	IUCD	59.1	10,357
60	Oral	58.2	11,034
	IUCD		

IUCD—intrauterine contraceptive device

ning family planning climbed steadily, almost reaching the number of annual deliveries.

Table 1 shows that the continuation rate for pill users was 42.0 at 4 years; for intrauterine devices at 4 years the rate was 59.1. Twelve months later, at the end of the fifth year, the continuation rate of intrauterine devices is essentially unchanged. These rates can be interpreted as great patient demand as well as adequate skills in family planning by nurse-midwives.

To confirm this encouraging 10-year scan, during which period family planning became as much a part of midwifery as are the efforts to prevent and control preeclampsia, a study was made of the deliveries by the Frontier Nursing Service in the next 2 years 1970 and 1971; of the 570 women delivered, 82% completed their 6-week check up.

Figure 2 shows that only 40% of these deliveries had used family planning before this delivery; the 70% that accepted family planning after delivery have a breakdown of: 30% took pills, 28% used intrauterine contraceptive devices and 12% had sterilizations.

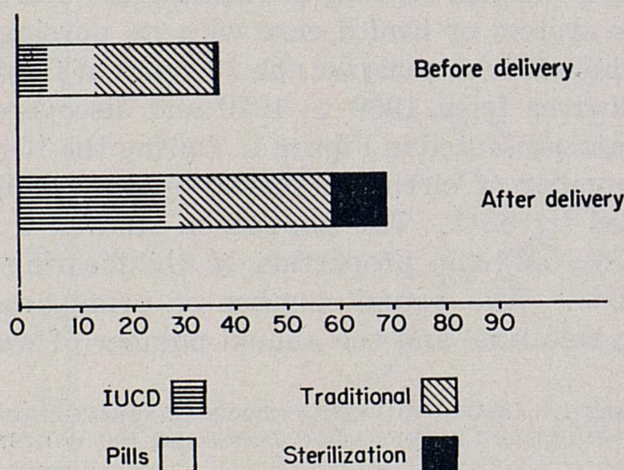

Fig 2. Changes in contraceptive practices of women delivered in 1970-1971 by Frontier Nursing Service.

A review of the sterilizations done in the past 2 years revealed a high level of community as well as professional interest in this technic. These figures are summarized in Table 2. One hundred and thirteen sterilizations were done. This number of sterilizations is the equivalent of 20% of the deliveries. Thirty-

TABLE 2. SELECTED CHARACTERISTICS OF 113 COUPLES ACCORDING TO SPOUSE STERILIZED

	Male	*Female*	*Total*
Percent	38	62	100
Median age	32	27	—
Average number of children	3.3	4.3	4.1

eight percent (38%) of these were vas ligations and 62% were tubal ligations. Furthermore, the average number of children in the sterilized couples is 4.1, and there is an average of 1 less child in those families in which the husband had a vas ligation than in those in which the wife had a tubal ligation.

These data document the effectiveness of family planning where it has been included in a rural program of comprehensive health care by the Frontier Nursing Service for a population of 18,000 scattered over 750 square miles of mountainous countryside. It has resolved the manpower problem by using a team of nurse-midwives with physician backup. In using nurse-midwives decentralized into district clinics, the transportation problem is decreased and existing facilities reutilized.

In the Leslie County area of the Frontier Nursing Service, this nurse-midwifery program has decreased the birth rate from 41 to 15 over a 10-year period in an 11,000 population area; the principal physician input has been to assist in the training of nurse-midwives and to provide surgical sterilizations to patients they have motivated.

The mechanics of birth control are thus established and can be measured. The Frontier Nursing Service can now refocus on the real aim of Family Planning—ie, the quality life—to assure a high standard of growth and development for those children whose families have planned them.

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FRANKLIN'S FRIEND, DR. G

One of the friends Ben Franklin made in Paris during his term as envoy to France was Dr. Joseph I. Guillotin, a physician who served with Franklin on a royal committee to investigate mesmerism. This was in 1784.

Yes, this Dr. Guillotin is the same man for whom the guillotine is named, and a good many think that the Doctor invented the lethal machine. Not so. He didn't invent it, nor was he a revolutionary.

In fact, he nearly became an American. Franklin expounded so eloquently on the advantages of the new world in the Colonies that the Doctor decided to organize a group and emigrate. However, he would first send an advance party headed by his son-in-law and others to scout the territory, while he stayed in Paris. Making their way to Philadelphia, the advance party was warmly received by Franklin, who by then was back in this country. They continued West, hoping to travel down the Ohio River. This was where the trouble started, and it included boat wrecks, hostile Indians, sickness and hunger. Discouraged, the advance party eventually returned to Paris. Dr. Guillotin cancelled plans for emigration.

It was not until 1789 that the Doctor entered civic life as a member of the French Assembly. His proposal for development of the French guillotine was based simply on the thought that the form of capital punishment ought to apply equally to all classes of people, the poor as well as the rich. Someone else actually designed the French machine, based on models which had been used as early as the 13th century elsewhere.

The Assembly honored Dr. Guillotin for his "reform" proposal by naming the machine after him, and as everyone knows, the guillotine got an awful lot of use during the French Revolution.

The knife fell on some 2500 necks during the days of the Terror. And in what was almost a trick of fate, one of those in prison awaiting sentence in July, 1794, was the good Dr. Guillotin himself. Robespierre went first, however, and the revolution was over, saving the Doctor for many more years. He returned to medical practice, founded the Paris Academy of Medicine, worked extensively on vaccination, and lived on until 1814.

—*The Colonial Crier,* May-June, 1971
Colonial Hospital Supply Company
Chicago, Illinois

CURING AND CARING

The graduation ceremony for the 65th Class in the Frontier School of Midwifery and Family Nursing was held in St. Christopher's Chapel at Hyden on the evening of January 20, 1973. The students had asked Dr. Anne Wasson to be their graduation speaker and she said, in part:

"Miss Browne has said several times that 'medicine cures and nursing cares'. It has always distressed me to hear this but I have come to believe that this is true. Medicine needs to learn to care as nursing does, for much of what we see as physicians cannot be 'cured' in the true sense of the word and 'caring', or understanding, makes the difference to the patient, providing hope in many chronic situations. We have made a beginning, with the broadening of this course, to bring medicine and nursing together as a team to care for families as a unit, to help them solve the problems of living. As nurses you have, with training, improved your skills to allow you to become the extended arm of the physician. As a team we can better provide the needed services so lacking in much of the practice of organized medicine today. You have accumulated knowledge and skills needed for handling the problems of living which are the background of the common ailments which many people must learn to handle and live with.

"I know I speak for the entire team of clinical instructors in all three phases of your training when I say 'we hope we have given you skills to broaden your horizons as nurses'. For my part, I hope that my small contribution has opened a new vista for you so that you now have a method of investigation of medical problems and a way to continue to learn to develop your skills through reading and thoughtful practice with your patients. Final examinations are not the end of your training. This year is the beginning of the rest of your medical experience —a base from which to grow—an exciting look into new horizons which can be yours.

"To Margaret Bartel, who joins us to work at the Bob Fork Clinic, and to Nikki Jeffers, who will expand pediatrics both by establishing clinics for well child care and as an instructor, we say 'welcome to the team'. To Jo Brady, who leaves for further

work in maternal and child health and family planning in her Florida Health Department, and to Esther Mack who leaves for work in Tanzania, we say 'go with best wishes from your hospital family on the hill'.

"Godspeed."

In speaking for the graduating class, Mary Jo Brady responded:

"When I came to FNS as a student, I decided I would do anything that was asked of me. I was determined to adjust to my situation and do my best, whatever was required of me. But when my classmates asked me to express our thanks as a class, I just about broke my resolution; in fact, I tried every way possible to wiggle out of it! It was just too monumental a task. How can one say thanks to a whole mountain? I could begin by thanking Trudy Isaacs for her guiding hand throughout, and Dr. Wasson for taking us under her wing and into her heart, knocking down boundaries we had never dared cross and making nurse practitioners of us. Then there was Phyllis Long and Dr. Beasley in the intensive midwifery course, making us believe we had never heard the word pregnancy before, and Molly Lee whose heart is bigger than her Wellington boots! I can't go on naming names as there are so many to whom we owe special thanks—the housekeeping, maintenance and nursing staff, the faculty, the supervisors, the dear patients, the town, the whole FNS. Since we obviously cannot give a tangible gift to each, we have decided we will try to carry forth in our daily lives the love and warm-hearted total acceptance we have found here and try to spread the attitudes of the FNS beyond the mountains and in our personal contacts, wherever the pathways of life may lead us. This, then, will be our way of expressing our thanks to all who have been our guiding hands during our student lives."

Overheard: Visitors on the way to the Intensive Care Unit asked for directions to the "Expensive Care Unit".

—Contributed

SANITATION

PRINCIPLES OF PROMOTION AND MAINTENANCE OF HEALTH

by
LUCILLE LEBEAU, R.N., C.N.M.

From a paper prepared by the author when a student in Family Nursing

"Sanitation is a way of life. It is the quality of living that is expressed in the clean environment."[1]

"Health Education is the process by which individuals and groups of people learn to promote, maintain or restore health. To be effective, the methods and procedures used to achieve this aim must take account of the ways in which people develop various forms of behavior, of the factors that lead them to maintain or to alter their acquired behavior, and of the ways in which people acquire and use knowledge. Therefore, education for health begins with people as they are, with whatever interests they may have in improving their living conditions. It aims at developing in them a sense of responsibility for health conditions, as individuals and as members of families and communities. In communicable disease control, health education commonly includes an appraisal of what is known by a population about a disease; an assessment of habits and attitudes of the people as they relate to spread and frequency of the disease; and the presentation of specific means to remedy observed deficiencies."[2]

The purpose of this compiled information in reference to sanitation and its related principles of promotion and maintenance of Health was motivated by a Family Nurse's need and attempt to acquire more knowledge about living habits and conditions of her rural Appalachian community. This grass-root information seemed imperative to an honest effort to promote health concepts and prevention of disease.

Rural Preventive Health Measures:

1. Prevention of soil contamination by installation of sanitary disposal systems, especially sanitary privies in rural areas,

1. Kentucky State Department of Health Information Bulletin
2. *Control of Communicable Diseases in Man*, Abram S. Benenson, Editor

supervision of indoor plumbing and septic tank where there are indoor toilet facilities.

2. Protection of public water supplies against contamination; health education of rural area population in methods of water purification.

3. Health education of the general public in personal hygiene.

4. Fly control and protection of foods against fly contamination by screening or other appropriate means.

5. Boil or pasteurize milk of animals of suspectable species in endemic areas.

6. Community survey to determine density of vectormosquitoes, to identify breeding places, and to promote plans for elimination.

7. Rat control.

8. Supervision by health agencies of the health and sanitary practices of persons preparing and serving food in public eating places; also general cleanliness of the premises.

9. Supervision of school sanitation.

10. Supervision by health agencies of waste disposals such as garbage and rubbish; health education of the general public regarding waste disposal.

11. Education of public to avoid swimming or wading in contaminated waters.

12. Education of all persons, particularly children, in prevention of infection by parasites and protozoa.

13. Health education of the need for immunizations and good nutrition.

14. Prevention and control of communicable diseases.

WATER

Water is essential to our biological, cultural and economic life.

The human body has a great need for water. Composed of more than 70% water, it needs the liquid to regulate its temperature and to help eliminate wastes; and, at least 500cc is needed daily to replenish the amount that the body loses in everyday activity.

Because of the ability of water to serve as a medium for

transmitting the etiologic agents of certain diseases, it is important that we have an understanding of the 1) principles involved in the protection of domestic water supplies and, 2) the essential steps in the preparation of potable water. It is the purpose of this report to provide basic knowledge in these two areas.

The unending hydrologic cycle of precipitation, runoff, infiltration, storage, evaporation and reprecipitation replenishes water supplies from wells and surface streams. Man gets his water at the most convenient point in this cycle. The water is used and returned to its original source or not, depending upon the method of disposal of wastes.

WATER SUPPLY SOURCES—

I) Cisterns: When surface or spring and well sources are not adequate, or the physical quality of the water from them is unsatisfactory, rain water is collected and stored in cisterns. Rain water can be contaminated and it will absorb oxygen, carbon dioxide and nitrogen. To a more limited extent, it absorbs certain rare gases, together with atmospheric dust. Rain water collected from roofs can be contaminated by dust, leaves and bird droppings that accumulate between storms. Even with a sand filter to strain the rain water before it enters a cistern, it is essential that a flapper valve be installed on the roof spout to discharge the first flush from a rainstorm to waste.

II) Ground Water Supplies: When rain falls or snow melts, some of the water seeps into the soil. This seepage varies with the capacity of the soil to transmit water. This process is called infiltration and the infiltrated water is the source for springs and wells. Wells to collect this source can be dug, driven or drilled.

Dug Wells: There is a recommended method of installing and protecting a dug well against superficial surface water. It is constructed by excavating through the top soil until a water-bearing sand or gravel formation or a creviced water-bearing rock is encountered. Dug wells are from four to six feet in diameter and range from 10 to 40 feet deep. As a rule, they are not fully protected against contamination from surface sources. If care is taken in their location and construction, protection is generally satisfactory. It is essential to locate the well above

and as far as practical from such sources of pollution as privies, cesspools and septic tanks. Otherwise, gross contamination of the water-bearing stratum can occur.

Driven Wells: Shallow wells are frequently driven where the ground water may be reached at 20 feet or less and where there is no intervening rock. They are easy to sink and can be readily protected against direct surface contamination. Since the source is near the surface, special care must be taken in locating a driven shallow well away from privies, cesspools or other pollution drainage.

Drilled Wells: When water-bearing sand and gravel formations are overlaid with hardpan and clay or rock of considerable thickness, drilled wells must be installed. They are usually deep and the water-bearing stratum is reached by drilling through the various strata. The essential considerations are to develop the water-bearing stratum free from contamination and protect the well both at the bottom of the casing and at the top. Wells drilled in limestone should not be used until bacteriological test results have been obtained. These should have bacteriological examinations made at periodic intervals, and the well should be abandoned or treated if the analysis is unsatisfactory.

III) Springs—are classified into three distinct types:

Shallow springs issue from superficial water-bearing sand or gravel and reach the surface at the foot of slopes. Such springs can be contaminated by surface sources and ordinarily can be recognized by their seasonal temperature variation. Since the source of water is near the ground surface, the spring's temperature is affected by air temperatures. The water may approach 32 F. in the winter and 60 in summer.

Deep springs issue from porous strata or fissures located between the impervious strata, and reach the surface at points where the water-bearing strata outcrops. When they are located below possible sources of contamination, care should be taken. The temperature of water issuing from deep springs varies only by a few degrees from winter to summer. The reason for the uniform temperature is that the rain water from which the spring is derived has been in contact with the deep strata long enough to be at ground temperature of about 50 F.

Limestone springs are found where water issues from outcropping solution channels in limestone.

It is essential that all springs be properly developed and protected from nearby sources of contamination.

IV) Surface water comes directly from rainfall which runs off into surface brooks, streams and reservoirs. Because the water flows over natural surfaces, it may be subject to dangerous pollution. All natural surface water supplies require treatment to assure safe, sanitary quality. Ordinarily, it is not practical to treat surface water for private domestic consumption.

Water Pollution:

One consequence of our country's growth is the problem of water pollution. The withdrawal of primitive lands for agricultural use, and the crudeness of early farming methods, reduced the cover of trees and grass, transformed good watersheds into poor ones, and so contributed to the siltation of streams. In the cities, increasing population and industrial establishments added to the pollution problem by dumping raw wastes into the rivers.

Water pollution is a menace to the health and economy of our country. Crops may transmit disease if they are irrigated by water containing sewage, and may be damaged by water carrying chemical wastes or other industrial pollution. Continued use of polluted water for human consumption and for livestock is disastrous.

METHODS OF WATER PURIFICATION:

In general, water purification may be by natural storage in reservoirs or by 1) aeration, 2) filtration, 3) chlorination.

The methods of treating water depend on the purpose for which the supply is to be used. For domestic use, it is desirable to remove distasteful impurities, either in suspension or solution. It is absolutely necessary to remove or render impotent bacteria which may be detrimental to human health.

Statements are often made that "water will purify itself in flowing seven miles," or that natural aeration occurring at falls and rapids will "oxidize" and kill bacteria. Actually, distance has nothing to do with self purification in a flowing stream. Neither does aeration have much to do with killing bacteria.

Time is the important factor, together with such complex conditions as temperature, sunlight, velocity of flow and other complex chemical, physical and biological characteristics.

Aeration: Oxygen mixed with water, permits the escape of dissolved gases, such as carbon dioxide and hydrogen sulfide, and removes volatile tastes and odors. The effectiveness of aeration in controlling tastes and odors is limited, and it cannot substitute for preventive control or more adequate treatment processes.

Filtration: When water is not clear it is said to be turbid, a condition caused by suspended materials such as clay, fine silt or living or dead plants. This condition frequently means that bacteriological pollution from sewage sources has occurred. Such water requires filtration treatment to remove suspended matter and excessive bacteria. Filtration passes water through porous material, such as sand or other suitable media. The methods include the use of slow sand, rapid sand, pressure and diatomite filters.

Chlorination: The chlorination of public supplies is the most important process used in making water safe and sanitary. The process is only as effective as the control exercised to insure a continuous supply of chlorine in an amount that produces effective disinfection. Disinfection refers to the reduction of the bacterial population of the water to a safe level, as contrasted to sterilization, which refers to the total destruction of the bacterial population. Therefore, chlorinators must be carefully selected and operated to meet the requirements of the individual water supply.

Chlorine in water is a very active chemical agent. If a small amount is added to water, its disinfectant power may be destroyed by the many substances dissolved or suspended in the water. For example, chlorine reacts rapidly with hydrogen sulfide, manganese, iron and nitrates, resulting in no disinfection by the chlorine. If enough chlorine is added to react with these reducing compounds, then the addition of a little more chlorine will react with organic matter to produce chlororganic compounds, which have little or no disinfecting action and may cause taste and odor. Therefore, enough chlorine must be added

to react with all the reducing substances, organic matter and ammonia, so that residual chlorine will be present to disinfect.

RURAL WATER SUPPLIES:

One of the prime necessities for a healthful rural home is an adequate and safe water supply. In Kentucky this is sometimes difficult to achieve because of the geological formation. A considerable part of the state is sedimentary rock with a relatively thin layer of soil on top. Consequently, it is not always possible to secure safe water from a well or spring. In many cases surface water or liquid wastes from nearby subsurface sewage disposal systems may contaminate a well, thus making it unusable unless special precautions are taken in protecting the well. It is also true that due to the various minerals found in ground waters, it will often be necessary to provide additional treatment to reduce hardness and/or iron in the water.

LOCATION

Every well, spring, or cistern must be located away from any source of contamination. The minimum distances are as follows:

Pit privies and septic tanks—50 ft.
Subsurface sewage lateral fields and barnyards—70 ft.
Seepage pits—100 ft.
Cesspools—150 ft.

No floor drain, soil pipe, main drain, or other pipe directly connected to a storm or sanitary sewer or through which sewage or water may back up should be closer than 20 feet to any well.

All sewer pipes and drains located within 50 feet of water should be constructed of cast-iron pipe with leaded joints.

No toilet, sewer, soil pipe, or drain should be located where leakage can reach any reservoir, water supply, or pumping equipment.

Abandoned wells, sink holes, or other openings in the ground must not be used for the disposal of sewage. They should be properly capped or filled with well-puddled clay to protect the water bearing strata against possible contamination.

No water pipe should be closer than 10 feet horizontally to any sewer, soil pipe, or drain that may contain polluted water. Pipes should be separated by compacted earth.

Pressure water pipes may be in the same trench with the building drain and sewer or may cross such lines if:

1) the water pipe is 24 inches above the sewer line

2) the water pipe is placed on a solid shelf excavated in the common trench 24 inches to the side of the sewer.

DISINFECTION OF NEW WATER SYSTEM:

New water systems and those which may have become contaminated by repair work should be thoroughly disinfected before being used with a solution containing not less than 50 ppm of chlorine. Not less than 25 ppm or residual chlorine should be present at the source or at points which have been in contact with the chlorine solution for a period of 24 hours. Thorough flushing should follow after 24 hours.

PURIFICATION OF DOMESTIC RURAL WATER FOR DRINKING:

Straining cloudy water: strain it through a paper towel or several layers of clean cloth to remove as much of the foreign matter as possible, or place the water in a deep container and let it settle (dip out water from top and leave residue settled at bottom).

Water purification tablets: These tablets containing iodine or chlorine can be bought at a sporting goods store, chemical or drug store or from a store that sells equipment for swimming pools. The bottle containing the tablets will give instructions on how to use them.

Chlorination: Water can also be purified by chlorinating it with a household bleach solution. Make sure that the bleach you buy for this purpose is a liquid bleach of the sodium hypochlorite type. Labels of many such household bleaches include instructions on how to use them to purify water. If the label does not carry any instructions for purifying water, use about 10 drops of bleach to a gallon of water.

Mix the water and bleach solution thoroughly and let it stand for 30 minutes. After that time you should still be able to smell a slight chlorine odor. This odor shows that the water is safe to use. If there is no smell of chlorine, you should again treat the water with the same amount of bleach solution as be-

fore and let it stand for 15 minutes before you use it. The taste or smell of chlorine in water is a sign of safety: it is not harmful. If you cannot detect chlorine by this method, do not drink the water; the bleach solution may have become too weak.

Iodine: Ordinary tincture of iodine may be used to purify small quantities of water. Add 20 drops to each gallon of clear water or 40 drops for cloudy water. Mix and allow to stand for 30 minutes before using.

Boiling: Boil vigorously for at least one minute. To improve the taste of water after boiling, pour it back and forth from one clean container to another after it has cooled. This puts air into the water and makes it taste better.

WASTE DISPOSAL

Since improper waste disposal is a menace to health, basic information is important.

Some of the diseases transmitted by human wastes through various vehicles are typhoid fever, cholera, bacillary and amoebic dysentery, hepatitis, ancylostomiasis, ascariasis, trichinosis and other hosts of parasites.

The public health objective of waste disposal is to collect, treat and dispose of wastes in a manner that will protect health, preserve our natural resources and prevent nuisance conditions. The methods of accomplishing this objective are varied, but are definite and important to the growth of communities.

Wastes include both liquid and solid materials produced from household, commercial and industrial activities of the community.

Liquid wastes include human and animal wastes, household wastes such as those of the laundry, kitchen, street and land washings and commericial and industrial wastes.

Solid wastes includes garbage, ashes and rubbish.

DISPOSAL OF LIQUID WASTES:

Rural and individual home disposal systems:

The earth pit privy offered and still offers a safe and satisfactory method of excreta disposal for rural homes, recreational areas and other units where water carriage systems of disposal

cannot be provided. The location, construction and maintenance of the privy is important.

Generally, the privy should be at least 100 feet from any source of ground water supply, at a lower elevation than the source of water supply and not on a direct line of drainage to the water supply. This provides protection of the water supply from sewage contamination. The pit should have a minimum capacity of 50 cubic feet (4'x4'x3') for the average family. The bottom of the pit should be at least 2 ft. above ground water to prevent ground water pollution. The structure should have a self-closing door and self-closing seat to prevent contact between flies and the excreta in the pit.

Earth should be mounded about the base of the structure and sloped away from the structure for a distance of approximately 18 inches to make the vault insect and rodent proof and to assist in carrying away surface drainage.

When excreta is within 18 inches of the top of the pit, the pit should be cleaned or the superstructure moved to another pit. When moved, the old pit should be filled with soil and tightly tamped. For convenience, the privy should be located between 50 and 150 feet of the building to be served.

The modern earth pit privy may consist of a concrete platform with a concrete or metal riser and regular toilet seat and cover.

A water-tight concrete pit privy is used where complete protection of a water source is required, such as near the shores of a public water supply reservoir or where soil is unsuitable for subsurface methods of disposal.

The pail or can privy is the replacement of the pit with a pail located directly under the seat of the privy. This privy serves temporary installations, such as camps. Provision must be made for daily disposal of the contents by burial or by scavenger service, with ultimate disposal preferably to a public sewer system. A small amount of household disinfectant, such as creosol, may help to control odors if a small amount is put in after each use. A tight cover is of utmost importance.

The chemical toilet is used where it is desirable to have toilet facilities in or near a building, but where running water under

pressure is not available or where soil conditions are unsatisfactory for subsurface disposal.

The commode type consists of a pail directly beneath the seat containing a chemical solution.

The tank type holds the chemical solution in a large metal tank in the ground directly beneath the seat. The tank is emptied by draining to a subsurface seepage pit. With the pail type the contents are buried.

Sodium hydroxide is the chemical generally used, in the proportion of ¼ pound of sodium hydroxide for each cubic foot of tank volume. Odor elimination is possible if the sodium hydroxide is maintained at full strength and if the contents are agitated each time the toilet is used.

Rural homes are replacing privies and chemical toilets with modern bathrooms. The most commonly accepted method for disposal of this large volume of liquid waste is by discharge to a septic tank and then to a tile field or seepage or by discharge to a cesspool. This same method is also used for suburban homes beyond the reach of existing sewers. The satisfactory design and installation of home sewage treatment facilities require engineer knowledge and should be referred to the sanitary engineer of the local health department.

The home septic tank is a watertight unit usually of concrete or steel for receiving household wastes. It should have a minimum volume of 600 gallons. The tank holds the sewage for approximately 24 hours to provide separation of the wastes into solids and liquids. The liquid is discharged from the tank by displacement by incoming wastes and is disposed of by subsurface means. The solids settle to the bottom of the tank. Some solids accumulate on the surface of the liquid, forming scum. The solids at the bottom of the tank are decomposed by anaerobic bacterial action into a compact mass called sludge. Since the primary purpose of septic tanks is to collect solids, they build up in the tank. Unless periodically removed, the solids will eventually fill the tank, discharge with the effluent to the subsurface disposal unit and clog these units.

When the scum on the surface of the liquid in the tank and the sludge on the bottom reach a combined depth of approxi-

mately 18 inches the tank should be cleaned. Therefore, every two to three years a septic tank should be checked for sludge deposits and scum and cleaned out if necessary. The sludge is removed by pumping into commercial tank trucks and trucked to an approved place of disposal. This can be a municipal sewage treatment plant or an approved isolated site.

A cesspool is the method of direct household waste disposal. This is a unit similar to the seepage pit, except that it receives raw sewage and wastes directly from the home. Its use is not generally recommended since sewage solids clog the openings in the lining. They are frequently used when soil conditions are satisfactory and when it is planned to install public sewers within a reasonable period of time. A "dry well" is similar to a seepage pit, but receives drainage from roofs and basements.

The location and construction of subsurface disposal systems is primarily important so that they do not pollute individual water supplies, such as wells and springs. In general they should be located 100 ft. from any potable water supply, at a lower elevation than the water supply and not on a direct line of drainage to the water supply. The figure of 100 feet is only a guide. If limestone areas are encountered, 10,000 feet may not be satisfactory. On the other hand, soil and geological conditions may make 50 feet safe.

DISPOSAL OF SOLID WASTES:

Solid wastes include garbage, ashes and rubbish. Disposal of garbage, ashes and rubbish from the truly rural home is generally different from disposal of community refuse. The collection and disposal of this material in the city is normally the function of the department of public works or corresponding agency, but for many years was one of the major activities of local health departments. This philosophy was based on the theory that accumulations of filth were important in the production of disease.

Refuse disposal is one of economy, convenience and general cleanliness. There are indirect relations of refuse disposal to public health. The santiary disposal, especially of garbage, is of concern to the physician, family nurse and health departments.

Methods of disposing of refuse are:

Dumping: The oldest and least acceptable method is the uncontrolled discharge of refuse to the open ground surface without covering. Dumps are unsightly and conducive to fire, odors, rat infestation, fly breeding and human scavenging.

Disposal at sea: Practiced by some communities, is the transporting and discharging of refuse into open waters. Many times the refuse is not carried out of the immediate vicinity of the shore, and even when carried out into deep water, the material may be washed back by the tides.

Hog Feeding: Has been practiced for a long time. Unavoidable nuisances, together with the frequency of animal diseases and incidence of trichinosis among hogs fed on uncooked garbage, provide concern. Interstate quarantinue regulations require garbage shipped interstate for hog feeding to be cooked for 30 minutes at 212 F.

Reduction: Cooking garbage under steam pressure with recovery of melted fats and dry residue.

Incineration: The destruction of garbage and rubbish by burning at high temperature. The essential feature in satisfactory operation is high temperature (1,800 F) combustion.

Sanitary Land Fill: This process consists of controlled dumping in depth, together with compacting and continuous covering with earth. Dumping operations are completely covered each day with earth with a final compacted two foot cover of earth. The sanitary land fill, if planned and handled satisfactorily, will not cause nuisance problems. It has the advantage of recovering land for playground and other municipal uses.

Treatment with Sewage: Some consideration has been given to the disposal of community garbage by grinding it and discharging it to the municipal sewage treatment plant. A variation of this treatment is provided by Jasper, Indiana, where the city installed individual garbage grinders in each home which discharge to the municipal sewer system. Individual home grinders are becoming common in the rural home with discharge to the private sewage disposal system.

The rural home without such home grinders must resort to individual burial or burning of garbage or disposal in a public or private dump area.

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A grandfather presented his two grandsons with bank stock for Christmas. The bank president's office sent a form letter of welcome to each of them:

"It has come to our attention that you recently became an owner of our stock. May we suggest that you recommend our bank and its services to your friends and business associates?"

After seeing the letter, the grandfather wrote the following in reply:

"My elder grandson's business associates at the moment are a number of other eight-year-olds with whom he has been swapping marbles. He says he will be pleased to recommend the services of your bank to them—if you accept marbles in trade.

"My other grandson, aged 22 months, has no business associates, and his only friend is a black spaniel. Unfortunately, yesterday he bit the dog—and at the moment he has *neither* friends nor business associates.

"However, he extends greetings and is looking forward to receiving your next financial report."

—*Modern Maturity,* December-January 1972-73

OLD COURIER NEWS

Edited by
JUANETTA MORGAN

From Linda Branch Eggeman, Lovell, Wyoming
—Christmas, 1972

We have a new addition to the family! James Raymond joined our crew on August 2nd and we are surely enjoying him. I follow the new hospital progress with interest. Please give my greetings to all those I know.

. . . .

From Bonnie Reilly, Rice Lake, Wisconsin—Christmas, 1972

I graduated from nurses training on December 7th and will take the state board examination in January. Meantime, I have a job in a small hospital near here and I am living at home.

. . . .

From Sarah Stiles, Denver, Colorado—Christmas, 1972

Right now I have a job at a department store as extra help over the Christmas rush. Hopefully I'll be able to find something else after the first of the year. I am sure you are extremely busy now—I remember my Christmas at Wendover last year so very well.

. . . .

From Diane Johnson, Rochester, Minnesota—Christmas, 1972

I have finished nursing school and I love the work more and more. I am presently working at a hospital here and am gaining valuable experience. I have the FNS to thank for my happiness because it was my stay there that started me on the road to becoming an R. N.

. . . .

From Nancy Harmon Ruekberg, Huntington, New York
—Christmas, 1972

I had a very pleasant, and much needed, vacation this summer when I spent eleven days in Greece. I visited the island of Crete and went to the Palaces of Knossos and Phaestos.

Perhaps our biggest news this year is that we shall be moving from Long Island. Hopefully by next summer we shall be

living in the place where I was raised which is about twenty miles west of Rochester, New York.

. . . .

From Candace Dornblaser Steele, Palo Alto, California
—Christmas, 1972

Our letter comes from a new house this year and we're experiencing all the fun and excitement of our first Christmas here. Moving is a headache and we are still re-arranging, re-settling, building storage and fitting ourselves into the nooks and crannies of this new home. I continue to work at Stanford Hospital on a relief basis and I am still teaching childbirth classes, so I stay busy.

. . . .

From Sandy Spicer, Durham, New Hampshire—January 4, 1973

The University of New Hampshire is great! I am majoring in animal science. I have also just received my R. N. license and think about working every so often but I find very little time for anything except studying!

. . . .

From Ann Hobson, Louisville, Kentucky—January 29, 1973

I have just returned home from a month in the East. I saw many friends and even did some skiing in northern Maine. I visited Patsy Lannon in North Haven which was great fun. I am now looking for a job—I hope to work in the mental hospital outside Louisville.

. . . .

From Anne Rice, Bedford, Massachusetts—February 9, 1973

I have a job in Boston working with the Camp Fire Girls organization. I'm responsible for coordinating the summer program for the inner-city girls. There is a lot of planning, organizing and paper work to do but I find it interesting and am glad to be busy. My best to everyone at Wendover.

. . . .

A WEDDING

Miss Margaret (Wendy) Vaughn and Mr. George David Carter, on December 16, 1972, in Grosse Pointe Farms, Michigan.

We send our very best wishes to this young couple.

In Memoriam

Mrs. Roger Kemper Rogan

Died on January 6, 1973

Mrs. Roger Kemper Rogan of Glendale, Ohio, was an active supporter of our work for many years. Her husband served as a Trustee and Chairman of the FNS Committee in Cincinnati for several years. Following his death, Mrs. Rogan headed the Committee and became a member of the Board of Governors. She rarely missed a meeting and became an Emeritus Member in her eightieth year. In memory of her husband Mrs. Rogan gave electricity to the Wendover buildings in 1949. We well remember the dedication ceremony when the Rev. Frank Moore came to Wendover with Mrs. Rogan and conducted a simple service of

dedication of light to which members of the community were invited. Much sympathy goes to her daughter, Mrs. Joseph T. Callaway, and to her niece, Beth Burchenal Jones, both of whom have been couriers with the FNS. Beth sent us one of Mrs. Rogan's favorite quotations from a poem written by her father:

> "For only what you have for others done
> Will live to mark the limits of your worth."

This Time, IT'S A GIRL!

When Dr. and Mrs. J. Huston Westover returned from vacation on March 1, they were greeted by their first grandchild, Lenore Summer Westover, born to Mr. and Mrs. Peter Westover at Hyden Hospital at 4:15 a.m. on March 1, 1973. This young lady was delivered by nurse-midwifery student Ruth Heinsohn and the hospital midwife, Ann Hamel, with Peter Westover in attendance. Lenore's mother has been helping the FNS enter the computer age and her father is in charge of the ecology program at the Pine Mountain Settlement School nearby.

OLD STAFF NEWS

Edited by
EILEEN H. MORGAN

From Ruth Boswell in Newton, Massachusetts

November, 1972

I had so hoped to see Brownie at the International Convention, but I fell a few months ago. Not only was the ankle sprained but I managed to tear a ligament also. I've had excellent care. My daughter-in-law is a nurse and I spent several days at different time intervals with my family.

Gloria is from the Philippines and Jet met her at Cook County Hospital. My four grandchildren are beautiful and bright! Deborah is eight, plays the piano, works beautifully with her hands making small ornaments for the Christmas tree. David looks very much like the young Kentucky boys, plans to be an astronaut, but he is also interested in stamps, trains, cars. He is six years old. The twins go to pre-school.

My midwifery has not been lost in all these years. I worked in a small hospital for a while, as the continuing education consultant, and ended up helping doctors with deliveries, as an RN of course, but they knew I was a nurse-midwife. I am considering possibilities for a refresher course. I liked my teaching experiences and now I want to do things!

. . . .

From Kay Doggett Gardiner in Lyn, Ontario, Canada

—November, 1972

I am always delighted to read the FNS Bulletin and always turn to the Old Staff News first. Brockville is only eight miles from us, our "home town" as we call it, with a population of about 20,000. You can imagine my surprise when I saw the letter from Mary Kaldeway. I telephoned Mrs. Kaldeway and then dropped in to see her one afternoon. I took along the Bulletin. Since she had been in Hyden last May, she was very interested in reading all the news. Mary is in Nigeria now, along with her sister and brother-in-law. Our daughter, Sylvia, is a year younger than Mary, but they went to the same Secondary School. Sylvia remembers her quite well.

I hope everything is going along smoothly with the new hospital. I surely would love to see you all again. Thirty years brings a lot of changes but I expect the mountains look the same.

. . . .

From Dolores Hall in Papua, New Guinea—November, 1972

During June and October a large part of the highlands was hit by a severe frost, adding to the food shortage of the already drought-stricken area. There are 130,000 people receiving food rations at present and they will have to continue receiving it for about another six months, or until their new gardens are ready to harvest.

The entire medical work in New Guinea is undergoing a change. There are plans to merge three hospitals here at Butaweng. At present, Betty, the Australian secretary, David, the Territorial nurse, and I share the responsibility of running the hospital.

I wish each of you a blessed Christmas and a joyous year in 1973.

. . . .

From Meta Klosterman McGuire in Chattanooga, Tennessee
—November, 1972

Greetings from the hill country of Tennessee! Jim and I went to New Mexico this summer and while there saw Anne Fox and her sister, Aggie. It was so good seeing and being with old friends. We fell in love with the State of New Mexico and now know why it is called the "Land of Enchantment"—we drove over 4,000 miles this summer and were really a couple of tired people when we got back to Chattanooga.

Our family increases yearly. We now have three grandchildren. Ellen has a boy and a girl and Terri now has a son. Terri and Tommy still live on top of Lookout Mountain in a log cabin and it is always a joy to be with them. We are always grateful that we have one portion of our little family so near. The baby is so precious.

All good wishes to each and everyone for a joyous and blessed Christmas Season.

From Janet Priebe Mirtschin in Chinchilla, Queensland, Australia—November, 1972

It has been a year since we have been back in Australia. It has been an interesting time, moving from Gatton to Chinchilla and getting settled in our new home.

Chinchilla is 200 miles northeast of Brisbane. Lawrence went to Dalby a few weeks before Christmas to apply for a job as an electrical inspector in Chinchilla. About mid-January we heard he had the job. February and March were spent in Dalby for orientation. We lived in a rented house and unpacked the bare necessities. We moved to Chinchilla on Easter Day. The house there was bought for us and we have the option to buy it later if we wish. It is quite modern, 8 years old, with a large yard and garage/workshop. The town has a population of 3,000, with a fairly good shopping center. There is a good-sized Lutheran congregation with a modern church built three years ago. Several members have left due to the prolonged drought and economic slump in the wool industry.

Lawrie has been busy planting a small orchard and vineyard. There was one lemon and orange tree and he put in about 14 other citrus and stone fruit trees and several grape cuttings. Now he is screening the house. The back patio is being completely screened in and will be a joy to use during the long hot summer. We have already had several days of ninety degrees plus weather, or I should say thirty degrees plus as Australia is gradually changing over to metric. The groceries are coming out in gram and millilitre containers. Next year the schools start teaching it, so Peter won't be confused. He starts first grade in February. The summer vacation here is six weeks from mid-December to end of January. He has been attending kindergarten since July and Andrew will go next year. The kindergartens are mostly community ventures, but the State is talking of taking them over in the next few years. The boys are getting an Aussie accent and people love to hear Peter talk. He is a chatterbox.

During the early winter we spent several Saturdays out west, about 60 miles away, fishing in the river. On the way back at night we would see plenty of kangaroos and wild pigs. Much of the land here is not suited to farming, so it is used for grazing and many cattle and sheep are to be seen. A large Australian

bird, the emu, can be seen running around in the bush and kookaburras can be heard laughing in the trees. It has been interesting to see all the different flowering shrubs and trees, especially in September and October, our spring.

My extracurricular activities have been with church choir and Ladies Guild.

It seems things are really progressing over there with the building and new programs. We won't likely get back to the States for a long time. Visitors here are welcome, though!

Greetings to all who know me.

. . . .

From Christine Morgan in Tokyo, Japan—Fall, 1972

I spent some time travelling this summer in the northern part of the islands. This part of Japan is very much like the West in appearance in that it was not developed until after Japan was re-opened to the outside world. It has been heavily influenced by Western culture, particularly European. It's strange to see a western-style barn near a Japanese-style house!

Sapporo, the city where the winter Olympics were held, is my favorite city. It is well planned and has *square* blocks! In Tokyo, you can easily end up on the other side of the neighborhood while trying to go around a block. I've learned my lesson the hard way!

My best regards to all at Wendover.

. . . .

From Carol Banghart in Owings Mills, Maryland
—December, 1972

The family will be spending Christmas Day with us. Mother and Dad will come a little before and spend a few days here. Since they have moved to the cottage it is difficult to lure them from the country. They are happy there and keep quite busy.

Valerie Jewell and I are well. She is completing another semester at the University and has 1½ years to go. With full-time school and a family planning clinic once a week she has little free time. Her parents spent the month of October here.

My work with the State Health Department requires much travel, from the mountains of western Maryland to the southern part of Chesapeake Bay. I spend about sixty per cent of the

time working as a nurse-midwife in maternity-family planning clinics. Hopefully, we will be able to establish a nurse-midwifery service in a community hospital which has no resident service. There is a great need for such a service to maintain and increase maternity care, plus the need for clinical areas for nurse-midwives in refresher-internship and basic programs.

Recently, I visited Booth Maternity Center in Philadelphia where a fledgling refresher program for nurse-midwives has started. Kitty Macdonald Ernst is the acting Director of the Program. It is small, 20 beds, but is increasing its case load. Booth offers care not only to unwed mothers but to private patients who like the kind of care given there.

Please let us know if and when you are coming near Owings Mills or Baltimore. Best wishes to all.

. . . .

From Priscilla's mother, Mrs. Kenneth Craw in Williamsville, New York—December, 1972

Pris was Acting Matron at the 150-bed hospital at Eket, Nigeria for five months, until the return of the Matron. Since then she has had charge of the pharmacy and has been doing clinic and regular nursing. There seem to be many more opportunities for social activities than at her previous post at Yahe.

For Thanksgiving she rounded up five Americans and seven other friends for a traditional turkey and pumpkin pie dinner at her house. The account of the trials and tribulations involved in getting together the traditional items for the menu made hilarious reading. Friends contributed some of the food and also the use of house-boys and everyone had a good time.

Mr. Craw joins me in wishing the whole staff very happy holidays and God's blessing on your work in 1973!

. . . .

From Bobbie Hunt Bane in Fairport, New York—December, 1972

I do want to get down there when the hospital is done. The boys are always asking when they can go to Kentucky and ride horseback and a jeep.

It made me sad to see the Wendover Chapel building has to go. That was where I slept the very first Christmas I came

down. I was in the room directly below the Chapel. What marvelous memories it brings.

Todd is nearly eleven and in the fifth grade and Troy is just eight and in the second. They are a handful, but fun. Never a dull moment around here!

Happy Holidays and my love to all.

. . . .

From Emily Kroger in Cincinnati, Ohio—December, 1972

I think often about the FNS. How is the new hospital coming along?

Since leaving there I have completed a course in anesthesia and have become a CRNA.

Nieces and nephews keep me busy! I hope the winter is not too hard on you. Greetings to all who remember me.

. . . .

From Carlie Stillman Muncy in Mystic, Connecticut
—December, 1972

Our two sons are at the University of Connecticut and our daughter, Lavinia, ought to qualify as a courier soon. She is a member of the Future Farmers of America and takes Vocational Agriculture courses in addition to her college requirements as a freshman at Ledyard High. She rides well Western and is taking English riding lessons at a neighboring horse farm at present. She plans to be a veterinarian. I am still working for Ledyard Public Health Agency on a part-time basis, my sixth year in the position of staff nurse. Mark is still in the office at Electric Boat.

Please remember me to those who knew me when we lived in Hyden.

. . . .

From Dr. and Mrs. Howard M. Freas, Red Bank, New Jersey
—Christmas, 1972

The big news of our year is that we have moved! Yes, we sold our little home in West Orange and are settled most comfortably in a lovely two-room apartment overlooking the Navesink River. There is a beautiful view of the river from our living room windows on the eighth floor as well as from the terrace and the lovely garden which it overlooks. Just five miles off the

Garden State Parkway, we are right in the middle of a very nice town, convenient to shops, only three blocks from church.

Navesink House, under American Baptist auspices, is a beautiful twelve-story Retirement Residence built three years ago, open to all. One entire floor is a nursing unit, available when needed. Delicious meals are served in the spacious dining room. It really is more like a residential hotel, only far more homey. We have our own furniture, prepare our own breakfast and lunch, lead our own independent life while in the midst of about two hundred congenial "neighbors".

We did leave our new home for two weeks to vacation at Chautauqua Lake, but returned in early August in time to see several of our missionary friends off for Zaire (Congo) and to entertain some of them. Our first overnight guest was Rev. Paul Lusala, arriving from Zaire for a year's studies at Central Baptist Seminary in Kansas City.

God bless you all!

. . . .

From Bobbie Rawson Stidham en route to the United States from Australia—Christmas, 1972

We're on our return trip to the States after two years in Melbourne. We're travelling on the R. H. M. S. "Elloris", a Greek ship en route to Europe. We have called in to the ports of Sydney, Auckland, Tahiti, and will be in Balboa in two days' time. This morning we crossed the equator and had the King Neptune ceremony to baptize those people crossing the equator for the first time.

The hospital is at near capacity. There are eight children in quarantine with measles and many suspected cases confined to their cabin.

We would like to visit Kentucky in the spring to see the hills dotted with flowering trees.

We wish you a happy Holiday Season.

. . . .

From Joanne Rizzo in Cambridge, Massachusetts
—Christmas, 1972

I constantly think of my days with FNS in Kentucky and remember the great experience I had there and all the tremendous

people I met. I will never forget it. Thanks for a really terrific learning experience and a super enjoyable one besides.

I hope everyone has a merry, merry Christmas.

. . . .

From Marie Sullivan in Fall River, Massachusetts
—Christmas, 1972

I am home on furlough. A month after I returned, I was on the road to Dallas, Texas, Chicago, Michigan, Washington, D.C., Maryland and Philadelphia. I have received final acceptance to a nursing postgraduate course in the study of tropical diseases. It will be a nineteen-week course of study in the city of Toronto. I hope to receive much from this course to help me in treating the Indians when I return to Brazil.

After February 6 my address will be: International Health Institute, 4000 Leslie Street, Willowdale (Toronto) Ontario, Canada. I hope to be ready to go back to my same field of service at Mucajai in Brazil sometime in July.

. . . .

From Sue Warner in Denver, Colorado—Christmas, 1972

I miss my friends in the mountains more at Christmas than at any other time.

I finished my first semester last week and have vacation (meaning I am just working without going to school) until January 17. I finished my challenging exams the last of November. If all goes well, by this time next year I will have that piece of paper and can get back into the sort of nursing I love, possibly a return to FNS.

My love and best wishes to my "family" at Wendover.

. . . .

From Tricia Ware Sturgeon in Birstall, Leicestershire, England—January, 1973

It really was good to have all your news. Things certainly are happening to you all.

Jonathan Edward is quite gorgeous now, grey eyes, fair curls, chubby cheeks, six teeth and chuckles and gurgles galore. He had a great time at Christmas. Mind you, he played with the wrappings rather than the presents, but he gave us all a lot of pleasure just watching him.

I am still working in our Geriatric Hospital. It is an old building, a relic of the "Work House" era, and is due to close in a few years when a couple of hospitals are built.

You may remember that Pat Stevens and I toured 10,000 miles in a hearse called Bu-Bu, and that I wrote it up as a sort of story. A woman's magazine is to publish it as a serial. Fame at last! The same magazine would like me to write an account of "My Life and Times in the FNS".

Love to all friends.

. . . .

From Elaine Douglas and Mary Nell Harper in Ethiopia

—January, 1973

We're having a "small reunion"—just two of us and we've been reminiscing about our time at FNS. A photograph album brought back wonderful memories.

Greetings to everyone.

. . . .

From Grace Miller in Revere, Massachusetts—February, 1973

I have been home since December, but with torn ligaments in my right knee. I am working on exercises to strengthen the muscles in preparation for surgery in March. I had a freak accident at the mission station in Liberia. An older lady became confused and knocked me down. My knee hit the handlebar of my cycle. I was on my way to deliver this lady's grandchild, but, needless to say, I didn't deliver that baby!

I have had a good term and our midwifery service has grown, including family planning. I appreciate my FNS training very much. If you went to River Cess I think it would remind you a little of FNS. I have set it up in much the same way, even our records are on the same line.

. . . .

Babies

Born to Mr. and Mrs. James Knapp **(Carol Herron)** of Philippi, West Virginia, a son, Shayne Scott, on November 6, 1972, weight 8 pounds, 2½ ounces.

Born to Dr. and Mrs. Gerald F. Sabol **(Nancy Wagner)** of Bridgeport, Connecticut, a son, Jonathan Daniel, on January 7, 1973, weight 9 pounds, 6 ounces.

Congratulations to the proud parents.

CAVY

I was on the door of our wartime Rabbit Club's show when a committee member said, 'We want you to judge the cavies'. I had never heard of a cavy, and told him so. 'Not to worry. There are two judges there already, but we must have three. Just agree with all they say.'

A small room was lined with cages in which were what I took to be guinea pigs. Two worried-looking men were standing by a table. 'This is Mr. Upton come to judge the cavies.' Relief spread across their faces and they stepped back. The only thing was a brave face. I huffed and I puffed at the first animal. I stood it up, set it down, flipped it over; did everything judges do to rabbits, dogs and horses, except ride it or look at its teeth—I was afraid it would bite. The two men went through the exercise after me. We put the whole lot through it. In the end I suggested the first three numbers that came into my head and the others respectfully agreed. Rosettes were fixed to cages and I hared for my office.

'Thank you very much, Harry,' said our attractive typist, 'You gave my brother first, second and third prizes in the cavy class'.—*H. G. Upton.*

—*The Countryman,* Autumn 1972, Edited by Crispin Gill, Burford, Oxfordshire, England.
Annual subscription for American readers $5.50 checks on their own banks.
Published quarterly by The Countryman, 23-27 Tudor Street, London, E. C. 4.

FIELD NOTES

Edited by
PEGGY ELMORE

To add to our collection of addresses which amuse us have come communications to the Window Nursing Service and to the Front Tear Nursing Service!

. . . .

We are looking forward to entertaining the Frontier Nursing Service Board of Governors at Wendover for its spring meeting on the week end of April 6-8. The FNS Annual Meeting will be held in Lexington, Kentucky, on Wednesday, May 23, 1973. Notices of the meeting will be mailed in April but we hope that Trustees, members and friends will put the date on their calendars.

. . . .

We are delighted to report that tangible progress is being made in the construction of the Mary Breckinridge Hospital and the Frontier Nursing Clinical Training Center. We are beginning to be able to see what the building is going to look like and the contractor expects to finish all structural work by June of this year. At a meeting with the architects in January, the contractor gave September as the "optimistic" completion date but we feel the late fall is a bit more realistic as some delays are bound to occur. It is exciting to think that we may be in the new hospital before the end of 1973, and we have our fingers crossed that the bulging seams of the present Hyden Hospital won't split before we move!

. . . .

Last year we shared with our friends the sad news that The Cabin at Wendover had slipped and buckled to the point where it was no longer safe and that we would have to tear it down. Demolition has begun and the work will be completed as the men have time this winter and spring. Until the building is down and the sub-soil can be investigated, no decision can be made about future building on that spot.

. . . .

We are most grateful to Dr. Phillip L. Smith of Ft. Wayne,

Indiana, for the gift of five examining tables which can be used in the present hospital and moved to the new building, and to The Rev. Thomas Douglas who delivered them to Hyden in February.

. . . .

We are revelling in the joy of having four physicians on the staff of Frontier Nursing Service. Dr. J. Huston Westover joined Dr. Wasson and Dr. Howald at Hyden Hospital on December 1, and Dr. E. Fidelia Gilbert arrived on January 3. Dr. Westover is acting as a consultant for medical patients, helps Dr. Wasson with some of the teaching in the first trimester of the educational program, provides in-service education for the district nursing staff and is devoting some of his time to administration. Dr. Gilbert has as her primary responsibility medical back-up for the nurse-midwifery staff and medical lectures for the nurse-midwifery students.

When Dr. Westover was away in February we had help from two volunteer physicians—Dr. Ray Zickl, an internist from Cambridge, Massachusetts, and Dr. Walter Meyer, a pediatric intern from the University of Arizona.

. . . .

Enrollment in the first trimester (Family Nursing I) in the Frontier School of Midwifery and Family Nursing was increased from ten to twelve in the class which began on February 1, 1973. Mary Elizabeth Dickey, Diane DuPont, Mary Hermiz, Sylvia Hostetler, Marion James, and Betty Mulder have been staff members for some months. Doris Bailey was sent to us by the Virginia Department of Public Health Nursing, Susan Pennington has come from the University of Kentucky Student Health Service, and Valda Raine, a British nurse-midwife who has worked with us before, returned to Kentucky from Canada. Sheila Wright, who is also a British nurse-midwife, and who has been working in Afghanistan, and Katherine Marquis joined the staff in December for two months of staff experience. The twelfth member of the class is Susan Grosser of Midland Park, New Jersey.

To replace staff entering the School, we welcome:

Rita Birgen, Yankton, South Dakota
Kathleen Gremel, Springfield, Ohio
Julaine Johnson, Seattle, Washington

Sister Maureen McCarthy, New Rochelle, New York
Cynthia Sherwood, Highland, Michigan
Nancy Staheli, Remer, Minnesota

We are also pleased to welcome Elizabeth Kindzerski, Linda Levenhagen and Sally DenBleyker Vink back to the nurse-midwifery staff at Hyden Hospital. Sally will be working part-time and her husband, Jay, will be full-time as a laboratory technologist in the hospital lab. We are glad to have Jerry Pennington back at the hospital as a relief x-ray technician while his wife is taking the Family Nursing course.

We continue to be grateful to Miss Nolie McDonald who has willingly filled in in x-ray when needed. She is looking forward to her retirement and expects to be moving south in the near future.

. . . .

Sabine Weichmann, a senior student from the University of Colorado School of Nursing, has just arrived to spend several weeks with the FNS.

. . . .

Our Couriers for the winter term were Amelia Emerson, Concord, Massachusetts, Roberta Blumberh, Westfield, Massachusetts, Margaret Hargrave, Rochester, New York, and Emily Lippert, University City, Missouri. Mimi and Robbie leave at the end of February and Berit Pratt of Cambridge, Massachusetts, will arrive March 1.

. . . .

During the winter we have had visits from three "old" couriers—Holly Cheever, Cathy Williams and Christopher Klosson—and from one "old" staff member, Darline Wilke of Chicago. As the Bulletin goes to the printer, we are expecting a visit from Mimi Emerson's parents who are coming down to give Mimi a ride home.

Dr. Robert S. Lawrence of the University of North Carolina School of Medicine spent a night with us when he came to give an oral examination to Family Nurse Students. Dr. and Mrs. Theodore Kotchen of Lexington spent a night at Wendover when Dr. Kotchen came to lecture to the students. It was good to see Joyce Cameron again when she came to give the American Col-

lege of Nurse-Midwives national certification examination to the senior midwifery students. Dr. William P. McElwain, the Commissioner of Health, was a welcome guest at Wendover and we were glad to have the opportunity of showing something of the FNS to Mr. Yasin Khosti of the Afghanistan Ministry of Public Health and to Mr. Terrence O'Conner of the Management Service for Health, Inc., Boston, Massachusetts, who accompanied Mr. Khosti to Wendover and Hyden.

. . . .

Dr. Anne A. Wasson, three staff nurses and two Family Nurse I students attended St. Joseph Hospital's 1st Annual Symposium on the Recognition and Treatment of Patients with Ischemic Health Disease in Lexington, Kentucky, on February 22. The program was designed for family practice physicians, internists, surgeons and nurses and featured speakers from Vanderbilt, Duke and the University of Kentucky.

. . . .

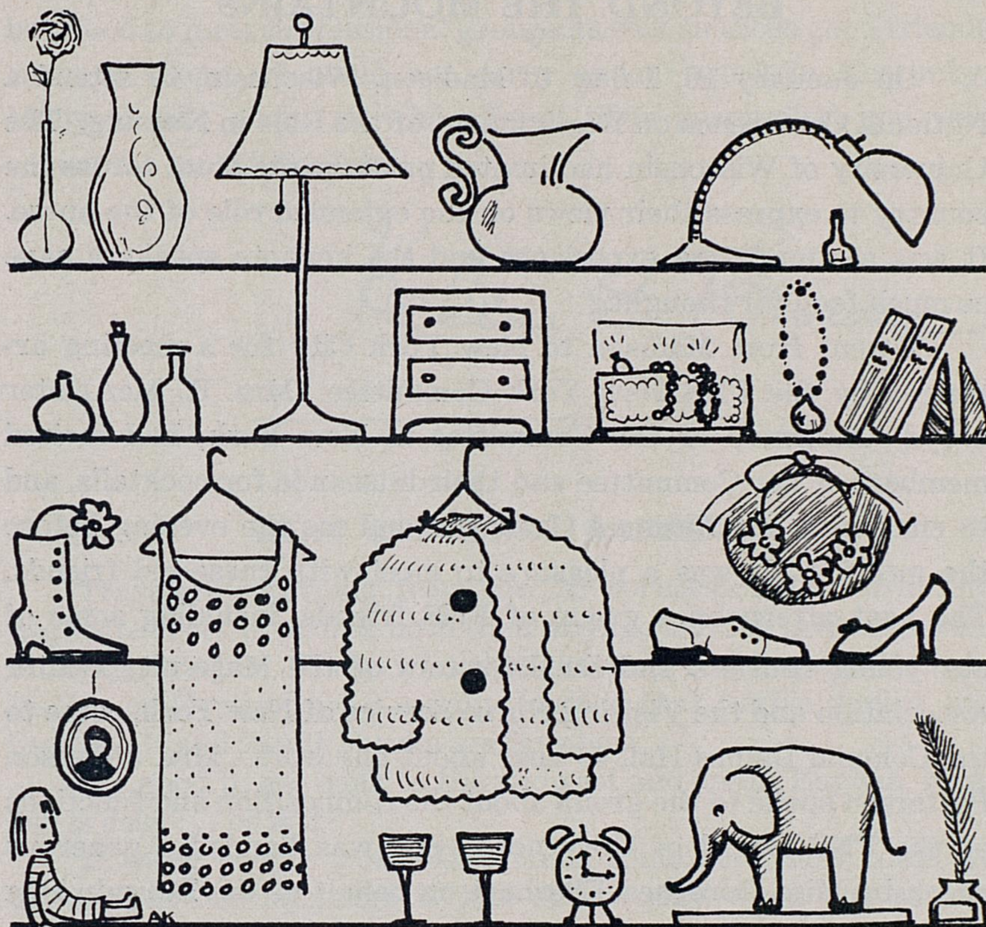
The snowdrops are blooming in front of the Big House at Wendover and a few brave crocuses are poking their heads above the ground. So, in spite of the groundhog having seen his shadow, we are confident that spring is just around the corner.

On the way home from church, the mother turned to her small daughter. "Nancy," she scolded, "how many times do I have to tell you that we *always* keep our eyes closed during prayers?"

"I know, Mommy," the child murmured, "I'm sorry." Then, after a moment's pause, she asked, "But how do you know that I *don't?*"

—*Modern Maturity,* October-November 1972

WHITE ELEPHANT



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If you want our green tags, fully addressed as labels, for your parcels—then write us here at Wendover for them. We shall be happy to send you as many as you want by return mail. However, your shipment by parcel post or express would be credited to the Frontier Nursing Service at the Bargain Box if you addressed it

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BEYOND THE MOUNTAINS

On January 16, I flew to Madison, Wisconsin, to attend a National Conference on Realignment of the Role in Nursing. The University of Wisconsin had invited participants from across the country to express their views on the extended role of the nurse. It was a stimulating experience and the keynote speakers gave us much food for thought.

I went from Madison to New York City for a meeting arranged by the FNS New York Committee. Mrs. R. McAllister Lloyd, Chairman of the Committee in New York, had invited members of her Committee and their husbands for cocktails, and to chat with our National Chairman and me the evening before the meeting. It was a pleasure to meet with these old friends. The next afternoon a group of FNS friends, including some of our young couriers and the Directors of the Maternity Center Association and the Visiting Nurse Service of New York, came to the Colonial Dames Hall to hear about our work. Mrs. Jefferson Patterson spoke to the group about the composition and functions of the FNS Board of Governors. She was handed a generous check by Miss Dorothea Eberhart on behalf of the Bargain Box Committee who work throughout the year. We are grateful to the many friends who send shipments to be sold at the Bargain Box for the benefit of FNS. (See page 45.) I spoke on activities in the field during the past year. A delicious tea was enjoyed following the meeting.

The next day I flew to Columbus, Ohio, where I had been invited to speak to the Public Health Nurses section of the Ohio State Nurses Association. I was one of three speakers in the morning and in the afternoon we served on a panel for a group discussion which centered on the extended role of the nurse. I was delighted to meet three graduates of our School of Midwifery in the group—Alberta Morgan, Margaret Oracko Novotny and Pat Stevens. I flew to Lexington that evening and the next day

drove back to Wendover. It was somewhat of a whirlwind trip, but good to meet professional groups as well as those good friends without whom we could not carry on our work in Kentucky. Many thanks go to all who offered their hospitality, and welcomed me on my travels.

Helen E. Browne

THAT LANGUAGE BARRIER

Travelers returning from the far corners of the world find exquisite relief in ending both their voyage and the problems with a foreign tongue. Those who thought they could speak French, Italian or German have usually learned that native dialect and the "See It and Say It" books are far apart.

It's good to get back to the midwest and speak English. English is easy . . . or is it?

If those people from other lands come here, how could we prove that our language is just child's play when you run up against things like this:

One fowl is a goose, but two are called geese; it's mouse if there's just one, but mice if there are more. The plural of foot is feet, but that of a boot is not beet!

The plural of man is men, but mostly in words like that you just add an "s" to make it pans or pens. Then there are the pronouns which are simple; just he, she and it, and to make them possessive you simple say his, hers or its, only if you want to say it is, then that is it's with the apostrophe.

Really nothing to it. Our kids learn it, why can't you, M'sieur, Signor, Mein Herr?

—*The Colonial Crier,* Nov.-Dec., 1971
Colonial Hospital Supply Company
Chicago, Illinois

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For the convenience of those who wish to remember the Frontier Nursing Service in their wills, this form of bequest is suggested:

> "I hereby give, devise and bequeath the sum of .... dollars (or property properly described) to the Frontier Nursing Service, a corporation organized under the laws of the State of Kentucky."

HOW ENDOWMENT GIFTS MAY BE MADE

The following are some of the ways of making gifts to the Endowment Funds of the Frontier Nursing Service:

1. **By Specific Gift under Your Will.** You may leave outright a sum of money, specified securities, real property, or a fraction or percentage of your estate.

2. **By Gift of Residue under Your Will.** You may leave all or a portion of your residuary estate to the Service.

3. **By Living Trust.** You may put property in trust and have the income paid to you or to any other person or persons for life and then have the income or the principal go to the Service.

4. **By Life Insurance Trust.** You may put life insurance in trust and, after your death, have the income paid to your wife or to any other person for life, and then have the income or principal go to the Service.

5. **By Life Insurance.** You may have life insurance made payable direct to the Service.

6. **By Annuity.** The unconsumed portion of a refund annuity may be made payable to the Service.

. . . .

The principal of the gifts will carry the donor's name unless other instructions are given. The income will be used for the work of the Service in the manner judged best by its Trustees.

FRONTIER NURSING SERVICE, Inc.

Its motto:

"He shall gather the lambs with his arm and carry them in his bosom, and shall gently lead those that are with young."

Its object:

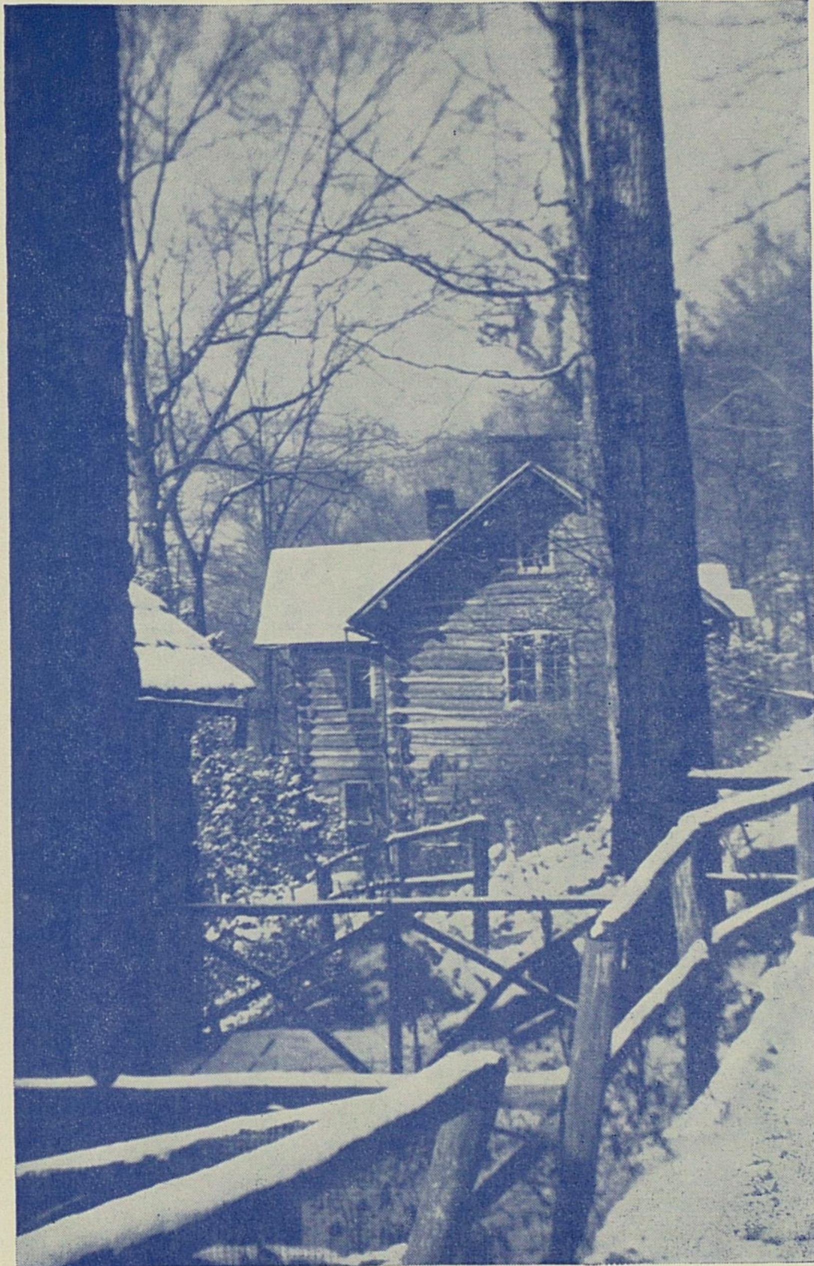
To safeguard the lives and health of mothers and children by providing and preparing trained nurse-midwives for rural areas in Kentucky and elsewhere, where there is inadequate medical service; to give skilled care to women in childbirth; to give nursing care to the sick of both sexes and all ages; to establish, own, maintain and operate hospitals, clinics, nursing centers, and midwifery training schools for graduate nurses; to educate the rural population in the laws of health, and parents in baby hygiene and child care; to provide expert social service, to obtain medical, dental and surgical services for those who need them at a price they can afford to pay; to ameliorate economic conditions inimical to health and growth, and to conduct research towards that end; to do any and all other things in any way incident to, or connected with, these objects, and, in pursuit of them, to coöperate with individuals and with organizations, whether private, state or federal; and through the fulfillment of these aims to advance the cause of health, social welfare and economic independence in rural districts with the help of their own leading citizens.

Articles of Incorporation of the
Frontier Nursing Service, Article III.

DIRECTIONS FOR SHIPPING

We are constantly asked where to send gifts of layettes, toys, clothing, books, etc. These should always be addressed to the FRONTIER NURSING SERVICE and sent either by **parcel post to Hyden, Leslie County, Kentucky 41749, or by freight or express to Hazard, Kentucky.**

Gifts of money should be made payable to
FRONTIER NURSING SERVICE,
and sent to the treasurer
MR. EDWARD S. DABNEY
Security Trust Company Building
271 West Short Street
Lexington, Kentucky 40507



THE BIG HOUSE IN THE SNOW