

A TEACHING GUIDE FOR A TRAINING COURSE IN SANITATION
FOR FOOD SERVICE PERSONNEL

by

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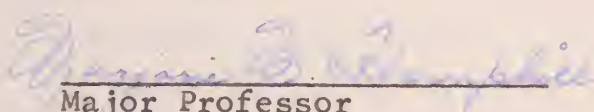
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INTRODUCTION

One of the most rapidly expanding areas of food service is that of student feeding, whether it is in public school cafeterias or college and university unions and residence halls. Factors influencing this trend are the population explosion, today's emphasis upon the importance of education, and growing acceptance by educational administrators of the responsibility for feeding students.

Because of the nature of food, its perishability and its susceptibility to bacterial growth and possible subsequent toxin formation, good management cannot be separated from good sanitation practices. Bond (1960) pointed out that spectacular results of poor sanitation are publicized episodes of food poisoning and lost food licenses. Richardson (1959) stressed that all types of feeding facilities could be involved in food-borne outbreaks of disease and that many kinds of food when improperly handled could be capable of causing such illnesses. The Public Health Service lists 62 communicable diseases, 25 or 40 per cent of which are associated with vending of food or drink.

A primary responsibility of management is to protect the health of customers by serving safe, wholesome food. This goal can be achieved only through cooperative efforts of both administrators and food service workers. However, the manager must be the key person in the sanitation program; since not only his own, but the business's reputation and success may be affected by the sanitary status of the operation. He can expect

cooperation only from informed employees. According to Lundberg (1955), training employees in sanitary methods of food handling should be a must in any restaurant operation, since there is no quicker way to go out of business than to serve infected food.

At present, the University of the Philippines Cafeteria is charged with the responsibility of feeding over 8,000 students, university faculty members, and personnel. An average of 5,000 meals is served each day during the first and second semester. For some time, the need for a sanitation training program for employees has been recognized. Plans have never materialized due to lack of facilities and willing and qualified persons to initiate the program. Sanitation in each serving unit is taken care of by the unit supervisor. If an organized sanitation training program could be started, the possibility of a food-borne disease outbreak could be reduced greatly and the customers would be assured of being served safe and wholesome foods at all times.

The purpose of this report was to develop a teaching guide in sanitation for food service personnel, to be used in training employees. Specifically, it is hoped that, with the aid of this guide, the University of the Philippines Cafeteria employees may be given instruction in the sanitary aspects of their jobs.

REVIEW OF LITERATURE

The Need for Sanitation Training Programs

Influence of the food service industry upon public health has increased in importance as more people have meals outside the

home. Good nutrition, which among other things calls for wholesome food served under sanitary conditions, is necessary to keep physically fit. Thus, the obligation to serve patrons wholesome, palatable, and nutritious food should become a "public trust" assumed by the entire food service industry (Distributive Education Series No. 32, 1961).

In the United States, the food and beverage industry ranks fourth in size among all industries (Food Service Sanitation Manual, 1962). Necessity for and popularity of eating out have been attributed to the following factors: distance from job to home, employment of women in business, mobility of population as brought about by improved transportation facilities, and changes due to advances in technology and automation.

Growth of Food Service Industry. The United States Department of Commerce, Bureau of Census, in 1940, reported over 160,000 food establishments such as restaurants, cafeterias, lunchrooms, and soft drink and ice cream stands; over 80,000 drinking places serving meals; about 50,000 taverns, bars, and clubs not serving meals; and nearly 40,000 drug stores with soda fountains. In 1954, 169,867 eating places, 25,261 refreshment stands, and 123,887 drinking places were reported in the United States. During this period, over 540,000 food services served more than 78 million customer meals daily or 28 billion meals yearly (Public Health Service Publication No. 281 Revised, 1961).

Number of Food-borne Illnesses Reported. The total amount of food-borne illness in the United States is not known, since reporting is neither complete nor accurate. Despite precautions

taken to protect food served to the public, food-borne disease outbreaks continue to occur. Lundberg (1955) stated that figures of the U. S. Public Health Service showed 23,765 cases of food-borne disease throughout the nation in a 12-month period. If, as one estimate indicated, only 5 per cent of disease caused by food was reported, the above figure would project to 475,300 cases of food-borne disease for that particular year.

Sanitation Education. Freedman (1957) commented that even though progress has been made in improving public health measures, disease controls were inadequate for the increasingly complicated modern social organization. To achieve disease control in the food industry, cooperation of owners and workers is essential. Enforcement of sanitary regulations is but one phase of a program of good sanitation. Another phase should be education. Food handlers must be taught to understand both the rationale of regulations and individual responsibility for disease control. This can be accomplished most effectively where management has recognized its responsibilities to the public and has understood that good working conditions engender respect and goodwill among employees (Freedman, 1957).

In 1938, the Texas State Health Department and, soon thereafter, the Health Department of Flint, Michigan, developed courses for instructing food handlers. These courses quickly spread their influence over the country. The United States Public Health Service pamphlet "Guide to Safe Food Service" (1946) summarized experiences up to that time in organizing and

conducting classes for food handlers.

Adams (1947) believed that if food handlers were taught elements of personal hygiene and proper health habits, instructed in fundamentals of safe food-handling practices, and shown various channels through which contamination of food and drink was possible and how to avoid it, health of the public would be better protected.

Successful sanitation in the food operation can result from a well-planned and well-organized training program, supported by full cooperation of top management, staff, employees, and outside sources interested in the program. Bond (1960) stated that food managers may benefit from the use of information and possible teaching aids obtained from outside sources such as cleanser salesmen, equipment representatives, kitchen-design consultants, exterminators, sanitation experts, government health inspectors, and professional sanitarians.

The new Food Service Sanitation Ordinance and Code recommended by the U. S. Public Health Service in 1962 was designed for orthodox food service establishments and for application wherever food was prepared, served, or displayed. Therefore, the Public Health Service recommends that the provisions of this ordinance be applied to such establishments as commissaries supplying vending machines, delicatessens, and similar types of operations that prepare food for consumption. The 1943 ordinance and code was officially adopted by 37 states and over 1,100 county and municipal health jurisdictions. The 1962 version should be as widely accepted. It is written in clear and simple

terms and covers such subjects as food, personnel, food equipment and utensils, sanitary facilities and controls. It recognizes that public food sanitation is, in part, an educational process.

Food Service Training

The subject of employee training has been widely discussed, and most administrators agree that it is a necessary tool of management. Terry (1958) defined training as planned development of individuals. It assists people to acquire skill through the use of what they have learned. It is useful in solving production problems by teaching new or improved work habits.

Advantages of Training. Employee training should be considered an everyday activity. Progressive managers have recognized this by setting up definite training programs for employees. Lundberg (1955) stated that a 25 per cent increase in efficiency resulted from training. Management gains cited by the same author were: increased learning rate, increased quality of performance, decreased breakage and spoilage, reduced number of accidents, reduced labor turnover, and reduced absenteeism.

The trained employee is not only more valuable to the enterprise, but he is worth more to himself. According to Lukowski (1963), the trained employee gained job satisfaction, larger earning power, more chance for advancement, and a greater sense of security.

Wolcyn et al. (1962) reported that the Minnesota Department of Health and Minnesota Dietetic Association, with local hospitals serving as hosts, presented a series of educational programs

called "Conferences On Dietary Procedures" during 1960-61. The objective was to raise the level of practice in food service departments of hospitals. Three important results were achieved: (1) added stature for the dietary service; (2) recognition for dietary employees among hospital personnel, and (3) better understanding of the role of dietary employees in the total care of the patient.

Objectives of Training. The trainer's goal, according to Davis (1962), should be to change part of a man's behavior by changing his knowledge, skills, and attitudes. Objectives of training depend upon the particular needs of the enterprise. Terry (1958) offered a guide to use in determining training objectives: complete knowledge of what constitute the job and its relationship to other jobs in the organization; knowledge of best methods of doing job; opportunity to do job under normal working conditions; knowledge of operating policies and procedures for doing job; and ample opportunity for recognition and advancement when satisfactory ability is demonstrated.

Developing a Training Program. After establishing the desired objectives, the following segments should be given careful consideration in planning the training program (Terry, 1958; Calhoon, 1963; and Lukowski, 1963): (1) learning processes, (2) trainee, (3) instructor, (4) training period, (5) locale of training, (6) type of training, (7) methods of training, (8) training materials and tools, (9) cost of training, and (10) effectiveness of training.

The Learning Processes. Any sound training program should be based upon knowledge and understanding of the following fundamental processes of learning (Davis, 1962):

1. Law of effect. The individual tends to repeat behavior that brings rewards and to eliminate behavior that brings punishments.
2. Personal change. The individual's total behavior is determined by a combination of inheritance and experience. Training should give new experiences that will lead to new behavior.
3. Motivation. The individual will learn what he wants to learn. One way to motivate is to help the trainee to see that he needs help or to apply the training to the trainee's problems rather than problems in general.
4. Dynamics of learning. The trainee learns best by doing. Learning is most efficient when the learner is actively involved in the learning process, rather than merely listening to a description of it.
5. Transfer of learning. The learning of one task assists in learning another. Transfer occurs when tasks are similar.
6. Individual differences. Since people are different, each learns at his own rate. There is no sure way to assure uniform results and they should not be expected.
7. Recall. Though people forget, they can recall something that has been learned in less time than was required in the original learning.

Trainee. Terry (1958) reported that proper selection of employees to train was of major importance if permanent, gainful results were to be obtained. Ideally, a trainee should be trained for the kind of job he likes and is fitted to perform both mentally and physically. In order to do this, certain things should be known about the individual concerned, such as his background, likes, dislikes, physical skills, mental ability, educational level, interest, and ambitions.

Instructor. Lukowski (1963) believed that the key figure in a successful training program should be the instructor. In the first place, he should have an appreciation for the value of training and its relationship to the organization. He should have knowledge of the material or work to be included in the program. He should have an understanding of what the employee goes through in order to acquire the skill and knowledge the program is designed to transfer to him. The instructor must have the desire to teach. He must be willing to take the time to plan and prepare the training program carefully.

According to Beeuwkes (1959), teaching has a creative side. A teacher seemingly may know all he should know in a specific subject area. He may present the information in an accepted fashion and yet fail to teach creatively. Without dedication, faith, respect, a sense of humor and of justice, humility, and love, facts can become as dead as a pile of cold-storage notes. Without these attributes in the teacher, creative learning will not occur. A good teacher must have the skill to instruct and must be tolerant, understanding, and patient. An agreeable

personality does not imply necessarily, the ability to arouse interest in a learner.

Training Period. Terry (1958) believed that length of the training period would depend upon the skill to be acquired, trainee's learning capacity, and training media. In order to maintain interest and to secure greatest accomplishments, he recommended that no single session should last longer than one and one-half hours. Adams (1947) reported two sanitation training programs, one in Flint, Michigan, which held classes in four one-hour class periods; another in Texas in which classes were held in six two-hour periods.

Dukas and Lundberg (1960) stated that learning was more efficient when the training period was spread out. One-half hour a day was recommended for training for most jobs. Both authors believed that learning goes on in the mind between training sessions.

Locale of Training. The traditional place for training, according to Calhoon (1963), was on the job. Under certain circumstances, this still may be the best locale. Some of the major advantages were cited by the same author as follows: the employee can see a connection between what he does and other operations in the organization; a sense of accomplishment may be felt more quickly; and standards of performance concerning quality and waste have more meaning.

The vestibule type was described by Spriegel (1960) as a special work-place set up near the production operation. This location should have the same equipment as that used in production.

It has the advantage of providing trained instructors and an environment conducive to learning. On the other hand, the absence of pressure for production may cause the learner not to try so hard as he would on the production floor.

Classroom teaching may be necessary for imparting knowledge or special information. Classes may be held in any selected and convenient place for learning. Equipment and machinery used for training may not necessarily be the same as that in actual operation (Calhoon, 1963). In both classroom and vestibule training, equipment is likely to be second rate, and methods may be outdated; this could result in inefficient and interest-killing job training.

Types of Training. Training can be classified in many ways. Range and types may be outlined as follows: pre-employment, induction, on-the-job, and supervisory training.

Pre-employment training is generally provided by educational institutions outside the enterprise, such as colleges and universities, vocational schools, business colleges, night schools, and correspondence courses. The college and university seek to provide an intellectual background and to develop the art of thinking and reasoning, whereas the others may teach mainly skills (Strauss and Sayles, 1960).

The purpose of induction training is to give the new employee information necessary for complete knowledge and understanding of practices and procedures of the enterprise. It should present the employee with a picture of the organization's structure, the employee's place in it, the job he is expected to do, and the

importance of his job to other jobs (Dukas and Lundberg, 1960).

On-the-job training is used most frequently in food services. The employee is offered a chance to learn while earning a living, and is taught the necessary skills required for a specific job. Successful on-the-job training needs careful planning. The manager must plan the objectives of the program in advance; select the trainees and instructors carefully; determine what methods and equipment are necessary; put into writing what is to be taught; and adhere to the principles of learning (Lukowski, 1963).

One of the most important types of training in any enterprise is supervisory training. Supervisory training assumed importance during World War II, and this trend has continued. Top management support and active participation is a prerequisite to any successful training program for executives and supervisors. Training methods used ranged all the way from informal understudy assignments to highly specialized training programs for executives conducted by Harvard, Columbia, Northwestern, Michigan, Texas, Stanford, and many other universities (Spriegel, 1960).

A management course for Air Force Supervisors was developed in June, 1955. Its objectives were to increase supervisory competence and to assist supervisors in better understanding of management practices and techniques and how to apply them on the job (Air Force Manual No. 50-19, 1955).

Davis (1962) suggested that improvements were accomplished best by training all levels of the department or the whole business. Trainees may be grouped in two ways. In a horizontal

group, each level is trained separately, preferably beginning at the top. A vertical group places men together from several levels. As a result, supervisors may be more confident about managerial support of new practices. This method may not always be possible where qualified persons are not available to conduct the training course.

Training Methods. According to Yoder (1962), current programs use a variety of training methods. They may provide extensive reading material or lean heavily on conferences, projects, and cases. In the conference method, mutual problems form the subject of discussion, and participants pool ideas and experience in attempting to arrive at improved methods of dealing with these problems. Conferences may include buzz sessions that divide conferees into small groups of four or five for intensive discussion. Many variations of the conference method have been developed. In brain-storming, conferees are given a problem and are asked to be creative in suggesting solutions. They are encouraged to think broadly and to give new and different answers. The role-playing technique is used widely as one variant from formal conference. It trains by engaging in a game of "let's pretend" and by carefully evaluating the performance of actors in the game. In the usual procedure, a "case" is outlined and the principal roles are described. Members of the study group are selected to act out each of these roles. The audience makes notes on these presentations. The group then discusses and criticizes the attitudes and actions of the players.

Conference groups or sub-groups may undertake projects with the goal of improving conference leadership. Cases may be discussed with attention focused on an illustrative situation and on usable principles (Yoder, 1962). On the other hand, job rotation assigns assistant supervisors to a series of jobs in which they gain broad experience and meet a wide variety of problems. This method is more common in management training.

Terry (1958) stated that the lecture method was an effective means of initially explaining material to trainees. The presentation should be carefully prepared, supplemented by the use of charts, sketches, and models, and be presented by a qualified speaker. Demonstrations provide a forceful method of showing how the job is done.

On-the-job training was considered by West and Wood (1955) to be the most important of all training methods. Each employee learns how to apply what he knows to the problem that confronts him at that particular time. In this form of training, the instructor may use lecture, discussion, demonstration, and other methods to assist the employee in developing skill in performing the task more effectively. Four steps outlined for on-the-job training by West and Wood (1955) were:

Step I Prepare the learner

- Put the trainee at ease.
- Find out what he already knows.
- Get him interested and eager to learn.

Step II Demonstrate the operation

- Tell, show, illustrate, and question carefully and patiently.
- Stress the key points, safety factors.

Instruct clearly and completely, one point at a time.
Check, question, and repeat.

Step III Application in try-out

Have trainee tell and show you how the operation is performed.
Have him explain key points.
Observe performance and correct errors.
Repeat instructions if necessary.

Step IV Follow-up

Put him on his own but tell him where to get help.
Encourage questions; check frequently.
Get him to look for new points.
Taper off watching as he progresses.

Choice of training methods emphasized by Terry (1958) depends upon many factors including objectives of training, number of trainees, preference of instructors, type of materials to be covered, cost, time allotted, and wishes of the trainees.

Teaching Materials and Tools. Instructors must be sure to have the right materials, tools, and equipment, in the right quantity and at the right time, so that a healthy, unconfused atmosphere is created (Avery, 1964). A text or some written material usually is desirable for instruction, review, and reference. A complete outline of the entire course with main topics included under each meeting or session may be helpful (Terry, 1958).

Audio-visual aids are useful in employee training programs. According to Calhoon (1963), 80 per cent of readily recallable memory is visual for most individuals. Other investigators (Sands, 1956) believed that 96 per cent of learning is associated with visual experience. Teaching is only instrumental to

learning. It can make use of auditory, visual, or tactile machinery which can give meaning to words for guidance of students into profitable educational experiences. When properly used, these aids can reduce verbalism, make learning more permanent, and arouse and concentrate interest (Dale, 1954). Hall and Paolucci (1961) grouped the various audio-visual materials under three headings: materials for viewing, materials for listening, and materials for reading. To be meaningful, the visual experience must be related to the student's own experience. For maximum retention and transfer, it must result in appropriate, purposeful student activity. Real experiences are the basis of understanding, thinking, and attitude formation. Quality of thinking is dependent upon quality of understanding about a subject (Schorling and Batchelder, 1956).

Success of using teaching aids, Sands (1956) indicated, depend to a large extent on the teacher's planning, preparation, guidance during the activity, and ability to evaluate learning experiences presented. Audio-visual materials change rapidly and teachers must keep abreast with new methods and tools.

Schorling and Batchelder (1956) gave four important principles to be kept in mind for effective use of visual aids:

1. Audio-visual aids must be used for educational purposes.
2. They should be integrated with learning experiences.
3. Use of audio-visual aids does not relieve the teacher of responsibilities for guiding the learning process.
4. They must be selected in terms of maturity and comprehension level of students.

The teacher must be aware of the limitations of the use of teaching aids. Preparation of visual aids is often time consuming, commented Sands (1956); and they take time to present. They also may replace more productive classroom activities or be irrelevant to the needs of the group. Planning ahead will provide time to obtain materials to come at the right time when needed, and will give time to analyze the relationship of the planned presentation to the goals and objectives sought.

Audio-visual techniques cannot be made into a sure road to learning, pointed out Fleck (1963); but they can and do lessen some of the learner's difficulties. Teaching by means of such aids demands of a teacher thorough preparation for effective presentation. Students may be irritated with the teacher who shows slides upside down or backwards. Sensory aids rashly invoked or heedlessly applied are perhaps even more liable to produce disappointment than older traditional procedures (Fleck, 1963).

Effectiveness of Training. Training costs money. Management should have some idea of what is being accomplished for the expenditures being made, declared Terry (1958). Therefore, from the management viewpoint, effectiveness of the training program should be measured. For certain types of programs, progress charts may be a part of the training schedule. They should provide knowledge of results for both trainees and instructors.

Management Roles in Training. Calhoon (1963) believed that top management has the responsibility for seeing that an organization's climate is receptive to training. Management must show

a sincere interest in a training program. Unless management is interested, supervisors and employees will seldom enter the training program willingly and cooperatively.

Lukowski (1963) stated that management must convince employees that training is to their advantage, transmit management's interest to employees, provide adequate training conditions, and establish effective communication and instruction. At the same time, management should expect from the employees courteous attention, cooperation, and a desire to learn.

Dukas and Lundberg (1960) listed the following training pointers:

1. Have patience.
2. Avoid criticism of the old way.
3. Put yourself in the learner's place.
4. Speed learning with plenty of praise.
5. Set realistic goals.
6. Recognize different mental capacities.
7. Start with a job breakdown.
8. Spread the training periods.
9. Be positive, encouraging, optimistic.

Adult Education. Food service administrators, managers, dietitians, and supervisors spend a large portion of time teaching adults. Wagner (1964) defined adult education as all activities with an educational purpose that are carried on by people engaged in ordinary business life.

Adults can learn and in many ways learn like children. In some ways they are different because, according to Verhaalen (1964): adults have had more experiences, and learning is more rapid when it can be related to experiences; adults have a purpose; adults give up their own time to gain knowledge; and adults want immediate use of learning. They learn fast if the teacher

relates his teaching to immediate objectives. However, if the teacher forces the adult to do more than he is capable of producing, or discourages him by negativism, the adult becomes just another adult drop-out.

Martin (1963) mentioned certain physiological and psychological changes that occur in adulthood as a part of the normal aging process as follows:

1. Vision and hearing become impaired.
2. Speed, intensity, and endurance of neuro-muscular reactions are decreased.
3. Strength decreased.

Because physiological and psychological changes do affect learning, teachers must be sensitive to the peculiar needs and characteristics of adults as learners. Teaching implications for these changes must be recognized in order to work more effectively with adults. Basic principles of learning apply to adults, as well as children. There is no essential technique or method by which adults are taught. Teachers should utilize the knowledge of learning characteristics and recognize the implications of the physiological and psychological changes occurring as parts of normal adulthood in the approach to adult education.

Teaching for Concept Development

The emphasis today in teaching is on concept development. Advocates of this theory believe that its use prompts clear, conscious, and directional thinking on the part of students as well as teachers.

Definition of Concept. Numerous definitions have been given for a concept. Burton, Kimball, and Wing (1960) gave the following definitions:

1. A concept is a defined idea or meaning fixed by, and as extensive as, the term used to designate it.
2. A concept is a defined idea or meaning a person has for any thing, person, or process.
3. A concept is a suggested meaning which has been detached from the many specific situations giving rise to it and provided with a name.
4. A concept is a logical construct capable of interpersonal use.
5. A concept is a word or other symbol which stands for the common property of a number of objects or situations.

Hunziger (1963) believed that an appropriate definition for concept was a mental image a person has for something resulting from experience, a combination of meaning or understanding, value or feeling, and symbols or language.

Value and Use of Concepts. The value and use of concepts in education were pointed out by Burton, Kimball, and Wing (1960). Concepts give a relatively stable, permanent system of knowledge so that it can be recalled and used. Class concepts and abstractions enable the student to generalize. Ability to generalize allows students to transfer understanding from one thing to another; to identify and place individual items in a system; and to add knowledge about specific things by referring to the total connotation of the concept. Concepts provide a framework and guidepost for thinking. Woodruff (1961) described the process of attaining a concept as five steps: perception, conceptualization, thinking, evaluating, and choosing.

Dalrymple (1964) reported the work of the Home Economics Education Division of the U. S. Office of Education and the Home Economics Division of the American Association of Land-Grant Colleges and State Universities in combining forces to define the structure of home economics through identifying basic concepts and generalizations in various subject matter areas. The Home Economics Education Division had the initial concern for providing a basis for curriculum development of home economics at the high school level, whereas the concern of the land-grant group was the problem of articulation and differentiation of home economics subject matter at various teaching levels; secondary, college, university, and adult.

Hunziger (1963) concluded in her study of identifying and attaining concepts in a Home Economics Education course that the concept approach to learning has been recognized as a way of identifying, organizing, structuring, and unifying significant subject matter content or major ideas in a field. When students and teachers identify and understand significant ideas in a body of knowledge, ability to apply principles, to build and develop depth and breadth, and to use knowledge effectively is made possible.

When a teacher plans a curriculum, the first step is to identify the concepts to be developed. Once the concepts have been chosen, a teacher can devise a procedure to accomplish desired behavioral outcomes for students in any specific field of study. The first step of this procedure involves consideration of a sequence to determine where each concept is introduced, when

it is given major emphasis, what degree of understanding is being sought in each step, and where the ultimate level of understanding can be expected. The second step is the stating of generalizations, or major understandings, which would emerge and develop within the students. In the third and final step, teachers plan specific objectives, content, experiences, and evidences of learning that fit into the overall scheme for the emergence and development of concepts (Dalrymple, 1964).

DEVELOPMENT OF A TRAINING PROGRAM FOR FOOD SERVICE PERSONNEL

The purpose of this report was to develop a teaching guide in sanitation for food service personnel to be used in training employees. Although planned for food services in general, it also was designed with one specific food service in mind, the University of the Philippines Cafeteria.

University of the Philippines Cafeteria

The University of the Philippines Cafeteria was formed in 1937. Upon recommendation of the Finance Committee and University President, the Board of Regents resolved that a "Cafeteria" be established as a training laboratory for students in Home Economics. This laboratory was financed by laboratory fees collected from home economics students and an appropriation of ₱450.00 (about \$110.00) from the University fund for the purchase of kitchen utensils and other equipment needed for the Cafeteria.

The university campus was in Manila and occupied a block bounded by Taft Avenue, Padre Faura, Florida, and Isaac Peral

streets. The original cafeteria was built adjacent to the Home Economics building located at the corner of Florida and Isaac Peral. Lunch meals for about 100 were cooked by home economics students under the supervision of an instructor and were served to students, faculty, and other personnel at a reasonable price. One helper was employed for tasks such as peeling and cutting vegetables and cleaning the kitchen. A janitor was asked to help as a busboy and dishwasher during rush hours. Students were rotated through various duties and responsibilities from manager to waiter and even dishwasher for laboratory experience.

During the Japanese occupation, the University was closed. Shortly after the liberation of Manila in 1945, it was reopened and the Home Economics Cafeteria resumed operation in the Cancer Institute on Padre Faura Street. Because food and supplies were expensive, a revolving fund of ₱500.00 (about \$125.00) was given to the Cafeteria by the university administrators. A native cement stove using firewood was installed in the kitchen. An instructor's table serving as counter was set up in the dining room where customers got their food served on mess trays. Customers bought meal tickets for either ₱0.50 (\$0.12) or ₱1.00 (\$0.25). Only lunch was served. Regular personnel were employed to work as cooks, busboys, dishwashers, etc.

In October 1948, the University was transferred from Manila to Diliman, Quezon City. The Home Economics Cafeteria was housed at Gregory Terrace, formerly a club house for the University of the Philippines armed forces. The dining hall had a seating capacity of 300 and served about 600 customers. A regular meal

was priced at ₱0.80 (\$0.20). By this time the Cafeteria had 23 regular employees.

In November 1950, the Cafeteria and the Home Economics Department were moved to the new South Women's Dormitory (now Camia Residence Hall). Here the Cafeteria served three meals a day. The new dining hall had a seating capacity of 300. The minimum wage law was enforced at this time and the Cafeteria personnel started to receive at least ₱4.00 (\$1.00) per day.

Reorganization of the Cafeteria. In 1952, two small cafeteria units were set up at the Liberal Arts building in order to relieve the congestion at the South Women's Dormitory. In January, 1959, upon recommendation of a group of American consultants on university administration, the numerous private caterers within Diliman campus were requested to leave. The problem of feeding students, faculty members, and other personnel became an administration responsibility. President Vicente Sinco directed the Head of the Home Economics Department, Dr.

Presentacion Perez, to extend the food service of the Home Economics Cafeteria to as many units of the university as possible. Thus, in June, 1959, an expanded program was instituted by Dr. Perez wherein branches of the Cafeteria were put in various residence halls and in or adjacent to some academic buildings.

A central kitchen was set up in the University Union where most cooked foods were prepared and distributed to the different units. In some units having enough space and facilities, as in the residence halls, rice, vegetables, and certain special dishes such as fried chicken and steak were prepared.

By 1961, the Cafeteria had grown to such an extent that Dr. Perez recommended that it be transferred to the office of Auxiliary Enterprises which is directly under the office of the Business Executive. The University food service system is called the University of the Philippines Cafeteria and is referred to as either the U. P. Cafeteria or the Cafeteria.

Cafeteria Today. At present, the Cafeteria has a total of 15 units. The largest unit is the central kitchen and dining hall located in the University Union. The next units in size are those in the residence halls, two for men and two for women. Lunch meals and snacks are served in ten academic buildings. Monday through Sunday, three meals are served each day in the Union Dining Hall and four residence halls. A complete meal is priced at ₱0.80 (\$0.20) and consists of soup or milk or juice; a meat or fish dish; a vegetable or noodle dish; rice; and dessert. Meal hours are: breakfast, 6:30 a.m. to 7:30 a.m.; lunch, 10:30 a.m. to 1:00 p.m.; and supper, 5:30 p.m. to 6:30 p.m.

The Cafeteria serves an average of 5,000 meals a day. It also caters to special parties and official functions of the University. The Office of the President frequently calls on the Cafeteria to serve luncheons, snacks, or dinners. Faculty and student groups and other organizations also make use of the catering service.

Food Purchasing. The Cafeteria has a Food Supply Officer responsible for procurement of all food and other supplies under the supervision of the Administrative Dietitian. Unlike other government institutions where purchasing is done by contract

bidding, the Cafeteria buys everything on the open market, cash on delivery, or by negotiated purchase. Fresh fruits and vegetables are purchased three times a week from nearby markets or other sources. Meat, fish, and poultry are purchased from dealers who offer the lowest price for the same cut and quality. All meats are inspected by a veterinarian from the College of Veterinary Medicine. Beef and pork are purchased by the carcass. Sometimes live hogs are bought and slaughtered for use in the Cafeteria. Groceries and other supplies are ordered directly from the manufacturers or their authorized distributors.

Cafeteria Organization. The Cafeteria is a centralized food service operated by the University of the Philippines under the Office of the Business Executive and the Office of Auxiliary Enterprises. The Business Executive has under his care all income-producing units of the University. The Director of Auxiliary Enterprises is under the Business Executive and takes care of the different income-producing units such as dormitories, rentals of houses, piggery, bookstores, and the Cafeteria. The Administrative and Cash Disbursing Officer assists the Director of Auxiliary Enterprises in some administrative and financial matters pertaining to the Cafeteria. Working under her is a Food Accountant and a Clerk Accountant.

The Cafeteria Manager hires and selects employees; determines equipment needs of the Cafeteria and writes requisitions for equipment to be purchased; plans with the Administrative Dietitian work schedules and work procedures for all workers; and directs and supervises general food production, distribution, service,

and sanitation for all of the units.

The Administrative Dietitian plans the work schedule of the personnel, plans menus, supervises, checks food orders and deliveries as accepted or purchased by the Food Supply Officer, and prices and accepts orders for parties. Assisting her is a Food and Work Overseer. The Food Supply Officer and the Catering Supervisor also report directly to the Administrative Dietitian. The Catering Supervisor plans menus for parties and takes care of her unit personnel and sanitation.

Each serving unit is supervised by a Food Service Supervisor who is responsible for all personnel in her unit as well as that which the unit needs for its operation. Since the Cafeteria has a central operation, all orders are sent to the central kitchen.

The Cafeteria has a total of 147 employees (staff and personnel). Ninety-seven of the workers are men and 41 are women. Student assistants are also employed. They work three hours a day for their three meals. An average of 15 student assistants are employed each semester.

Development of a Teaching Guide in Sanitation

The review of literature pointed out certain basic factors to be considered in planning a training program. These were: objectives of the training program, principles of learning, trainee, instructor, training period, locale of training, type of training, method of training, training materials and tools, cost of training, and the effectiveness of training.

The proposed sanitation training program for food service workers and specifically those at the University of the Philippines Cafeteria was developed with these factors in mind. Each factor, as it applies to the training program, will be discussed separately.

Objectives. The objectives of the sanitation training program were determined to be that the food service employee would:

1. Understand the importance of sanitation to food service.
2. Know approved methods and procedures for achieving high sanitation standards in food service.
3. Develop ability to apply principles learned in the training program to attain effective sanitation practices in food service.

Principles of Learning. Because the majority of food service workers in both the United States and the Philippines will have at most a high school education, technical and scientific principles should be taught in simple, easily understood terms. At the University of the Philippines Cafeteria, the instructors might find it feasible to use "Tagalog," the Philippine national language, for certain portions of the more difficult material. Illustrations, demonstrations, and discussions should be related to everyday problems and activities of the food service and its employees. Time should be allowed to assist trainees who are slower to learn than others. The job supervisor should continue the sanitation education in the work unit. The employee should

be praised when he applies what he has learned in class to his daily routine.

The teaching guide was planned to be used for a course in sanitation for those workers who had reached the second year in high school or higher. Plans should be made for a similar presentation for employees with less education.

Trainee. The trainee will differ within and with each food service that might use the training guide. The University of the Philippines Cafeteria, in the 1963-1964 academic year, had a total of 147 employees of whom 12 were on monthly basis. Ninety-seven of the workers were men and 41 were women. Most of the employees were either high school graduates or at the high school level. The remainder of the employees had the equivalent of elementary education or less. Most of this group were employees who were hired at the inception of the Cafeteria. Also, an average of 15 university student assistants were employed each semester.

Instructor. Qualified instructors could be obtained from the Cafeteria staffs. The Cafeteria Manager and the Administrative Dietitian might take turns in conducting the sanitation training classes. Food Supervisors with a college degree in Home Economics could very well handle the classes upon the decision of the Cafeteria Manager. The instructor should adjust the teaching guide according to the needs of the workers and their educational level; she must have a full knowledge of the principles of sanitation as effectively applied in food services; and must be able to recognize the implications of the principles of

learning. Two or three instructors could be assigned to teach the entire course, each one handling the units in which she was most interested. Plans could be made to include resource persons such as the city sanitarian or the university physician.

Training Period. The entire training course would consist of six lessons, each one hour in length. Time for the class should be convenient for both employees and management. At the University of the Philippines Cafeteria, summer would be the best season in which to conduct the training program since the food service would not be in full operation. The ideal time for the class would be between 2:30 and 3:30 in the afternoon.

Locale of the Training. At the University of the Philippines Cafeteria, classes could be held in the Tea Room at Camia Residence Hall. This would provide centrally located and easily accessible facilities for presentation of the training program. Adequate room would be allowed for the number of students to be taught, and the instructor could be seen and heard easily.

Type of Training. The teaching guide was developed for a sanitation training program suitable for on-the-job training plus supervisory training. It could be adapted for use in some pre-employment and induction programs.

Method of Training. The lecture method supplemented with various kinds of visual aids was planned for this program. Participation in class discussion could be made possible by having only 15 to 25 students per class hour.

Training Materials. General information for every lesson may be found in books used in institutional management courses,

publications by the United States Health Service, information from local health department, and current professional and technical food service periodicals. Samples of visual aids made on transparencies, which were colored to gain student interest, attract, and hold attention are included in the Appendix. These could easily be made for the important points in each lesson. For variety, the following visual aids could be used: class demonstration, cartoons, posters, flip-charts, and films. Mimeographed material or pass-out sheets would be provided for every lesson.

The Teaching Guide. The entire training course planned consisted of six lessons. A sample lesson plan, introducing the fundamentals of bacteriology, was made. For this sample lesson, problems and concepts were stated. From the concepts were derived the objectives, generalizations and selected teaching points, learning experiences, visual aids, and methods of evaluation. Each of the other planned lessons contained lesson problems and concepts, lesson objectives, and major generalizations. This design was chosen for flexibility on the part of both teacher and student. By using this guide, the teacher could develop the lesson plan that would fit the needs of students and existing conditions. Emphasis was placed on concept development in teaching. The teacher would use the important teaching points to build each concept and would, in leading discussions, help the students relate those concepts and arrive at generalizations.

Effectiveness of Teaching Guides. From the managerial viewpoint, the effectiveness of the training efforts should be

measured. Evaluation, however, must be in terms of a particular training program.

A close follow-up of the employee's work habits and practices before and after the training program could show individual improvement and effectiveness of the program. As a result, weaknesses could be corrected, and strong points of the program could be stressed. Evaluation should be considered a continuous process and must be a part of teaching.

A TEACHING GUIDE IN SANITATION FOR FOOD SERVICE PERSONNEL

Lessons:

- I. Sanitation and its Importance to the Food Service Worker.
- II. Communicable Disease: Control through Personal Health Habits.
- III. Food-borne Disease: Its Spread and Control.
- IV. Preparation, Handling, and Storage of Food to Prevent Contamination.
- V. Sanitary Methods of Handling, Washing, and Storing Dishes and Utensils.
- VI. Sanitary Procedures for Cleaning Selected Food Service Areas and Equipment.

Lesson Plan I

Unit: Sanitation and Its Importance to the Food Service Worker

Lesson Problems and Concepts: Why is sanitation important to food service? (Importance of sanitation to food service.)

How will knowledge of bacteria help food service employees?

(Principles of bacteriology.)

Objectives:

1. Understands the importance of sanitation to food service.
2. Recognizes the need for sanitation classes.
3. Understands the basic principles of bacteriology.
4. Develops the ability to apply the principles learned in class in attaining effective sanitation practices in food service.

Approach: Have you ever asked yourself why you were selected to attend these classes? The basic functions of our cafeteria are to serve foods that are nutritionally adequate, palatable and appetizing, and that are prepared under accepted sanitary practices and conditions. How well we can accomplish this function depends, to a large extent, on our knowledge of sanitation and the application of this knowledge in our daily activities.

Generalizations

1. Sanitation standards have been established to maintain safe food service.

Guide Questions

1. Why is it important for food handlers to understand principles of sanitation?

2. Food can be protected from contamination by proper methods of handling utensils and equipment, of safeguarding water supplies, of sewage disposal, of controlling insects and rodents, and by personal cleanliness and health habits.
3. Effective sanitation in food service can be achieved by providing unfavorable conditions for bacterial growth.
2. What are some of the sanitary practices that you, as food handlers, need to consider when preparing and serving food?
3. Under what conditions can bacterial growth be prevented?

Selected teaching points:

- a. Bacteria are micro-organisms which are widely distributed; some are useful, some are harmless, and some are harmful.
 - b. Bacteria multiply rapidly under optimal conditions.
- What do the terms "bacteria" or "bacteriology" mean to you?
- Under what conditions do bacteria multiply? How can we tell when the best temperature has been reached in food storage?

c. Because bacteria have no means of locomotion, they must be transferred from one place to another by living things or inanimate objects.

d. Man has certain body defenses for his protection against bacteria, such as cilia, mucous, and white blood cells.

How can you, as food handlers, serve as agents for transporting bacteria from place to place?

How can man protect himself from illnesses caused by harmful bacteria?

4. When a person has a knowledge of the nature of bacteria, he is able to understand the necessity for sanitation.

4. Summary questions:

- a. What are the conditions under which bacteria grow best?
- b. What will prevent them from growing?
- c. What use will a good food service employee make of this information?

Situation for Evaluation

1. Participation in class discussion.
2. On-the-job performance.

Learning Experiences

1. Class discussion.
2. Contaminate agar plates with hair, sneeze, finger touch, etc. Reserve for next lesson.
3. Show use of a food thermometer.

Teacher References

1. Milk and Food Sanitation Practice.
2. Sanitarian's Handbook.
3. West and Wood.

Visual Aids

- I. Flip-charts:
 1. Classification of bacteria according to shape and grouping.
 2. A diagram of the resemblances and dissimilarities between man and bacteria.
- II. Transparencies:
 1. Higher forms of bacteria.
 2. Reproduction of bacteria by division.
 3. Temperature and food sanitation guide.
 4. Breaking the chain of infection.

Lesson II

Unit: Communicable Disease: Control Through Personal Health Habits

Lesson Problems and Concepts: How are communicable diseases transmitted and controlled by the food service worker? (Control of communicable diseases.) How can the health and personal habits of the worker affect food service? (Personal health habits.)

Objectives:

1. Recognizes the common food service employee practices which spread communicable diseases.
2. Understands how to control communicable diseases by using approved sanitation practices.
3. Becomes familiar with and uses measures to protect food and the persons he serves.
4. Knows the importance of personal hygiene and develops individual responsibility for personal cleanliness.

Generalizations:

1. The spread of communicable diseases can be prevented by using approved sanitation practices.
2. The health and personal habits of food handlers affect the safety of food prepared and served.
3. The practice of health rules by the individual can safeguard his own health and the health of others.

Lesson III

Unit: Food-borne Disease: Its Spread and Control

Lesson Problem and Concepts: What can food service employees do to prevent food-borne diseases? (Food-borne diseases; prevention of food-borne diseases.)

Objectives:

1. Understands how food-borne diseases are spread.
2. Becomes familiar with the rules for food handling sanitation in the prevention of food-borne diseases.
3. Recognizes the need for high sanitation standards in food service.
4. Develops an increasing ability to apply the principles learned in class in the prevention of food-borne diseases.

Generalizations:

1. Food-borne diseases occur when individuals who prepare and serve food fail to apply known food protection measures.
2. Sanitation standards have been developed to prevent bacterial contamination and reduce to a minimum the opportunity for micro-organisms to gain entrance to and multiply in food.

Lesson IV

Unit: Preparation, Handling, and Storage of Food for Prevention of Contamination

Lesson Problems and Concepts: What can food handlers do to prevent food contamination? (Control measures to prevent food contamination.) How do insects and rodents contaminate food and food service areas? (Insect and rodent contamination of food.) How can insects and rodents be kept out of food service areas? (Control of insects and rodents in food service areas.)

Objectives:

1. Recognizes the need for continued efforts to prevent the spread of disease by eliminating sources of contamination of food and food service areas.
2. Knows the proper methods of preparing, handling, and storing food to prevent contamination.
3. Becomes familiar with the diseases attributed to insects and rodents.
4. Knows the methods of controlling disease-carrying insects and rodents.
5. Develops an increasing ability to prevent the contamination of food and food service areas.

Generalizations:

1. The safety and wholesomeness of food is a basic requirement for the protection of the consumer's health.

2. Most illnesses caused by contaminated food and drink can be avoided by using approved sanitary practices in food preparation and handling and by obtaining cooperation on the part of food service employees.
3. Approved food storage procedures can prevent bacterial growth and other forms of contamination.
4. Rats are the most destructive animals in the world. They can spread diseases, can destroy property, and destroy and spoil food by eating and contaminating it.
5. Because insects and rodents spread disease, their eradication in food service areas helps maintain a high food sanitation standard.

Lesson V

Unit: Sanitary Methods of Handling, Washing, and Storing Dishes and Utensils

Lesson Problems and Concepts: What procedures are best for washing dishes and utensils used in food service operations? (Requirements and procedures for hand dishwashing and machine dishwashing.) How are dishes and utensils handled and stored to prevent contamination? (Proper handling and storage of dishes and utensils.)

Objectives:

1. Knows the qualities and the use of cleaning compounds for effective dishwashing.

2. Knows the proper procedures of dishwashing by hand and by machine.
3. Increases in ability to wash dishes and utensils in an approved procedure.
4. Develops an increasing ability to store and handle dishes and utensils in the approved sanitary procedures.

Generalizations:

1. As our knowledge of the problems affecting sanitation practices grows, a need for better cleaning compounds, sanitizers, and techniques best suited for the type of job at hand is also recognized.
2. If cleaning solutions, sanitizers, and detergents are used in an approved manner, high sanitation standards are maintained.
3. Approved methods of washing and storing dishes and utensils can help prevent the spread of communicable and food-borne diseases.
4. The final consideration associated with dishwashing involves the storage of clean dishes and utensils so that they are not subject to contamination.

Lesson VI

Unit: Sanitary Procedures for Cleaning Selected Food Service Areas and Equipment

Lesson Problems and Concepts: How are the food service areas and equipment cleaned? (Methods of cleaning food service areas; methods of cleaning equipment.)

Objectives:

1. Knows the approved methods of cleaning food service areas and equipment.
2. Increases in ability to clean food service areas and equipment.

Generalizations:

1. If cleaning solutions, sanitizers, and detergents are used in an approved manner, high sanitation standards are maintained.
2. The sanitary maintenance of food service premises and equipment provides a safe place for food to be prepared and served.

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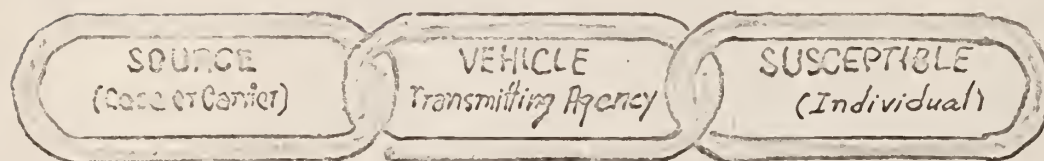
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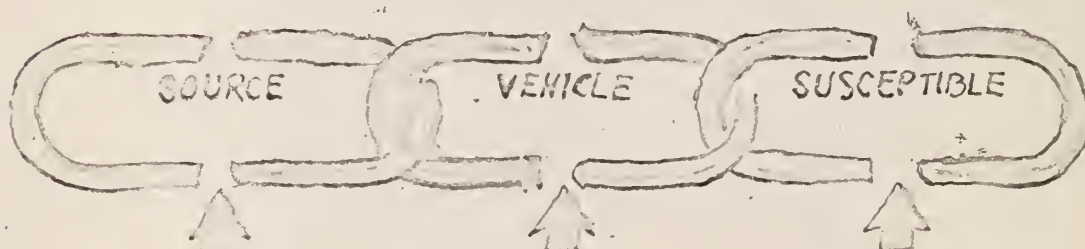
APPENDIX

BREAK CHAIN OF INFECTION



Infected Human
or Animal

Water
Food
Air
Insects
(Direct Contact)



Personal Hygiene
Surveillance
Isolation
Quarantine
Treatment

Personal Hygiene
Environmental Sanitation
Water
Food
Waste
Air
Insects

Personal Hygiene
Prophylaxis
Immunization

Factors of Control of Intestinal Disease BREAKING THE CHAIN OF INFECTION

CONTROL OF SOURCE

1. Isolation of Cases
2. Detection and Isolation of Carriers
3. Examination of Food-Handlers

4. _____

5. _____

6. _____

CONTROL OF TRANSMITTING AGENCY

FOOD

1. Selection and Inspection of Foods
2. Pasteurization of Milk
3. Mess sterilization

FLIES

1. Control of Fly Breeding

FECEES

1. Proper disposal of all Waste

FINGERS

1. Personal cleanliness

WATER

1. Selection of Safe Water Supply
2. Purification

PROTECTION OF SUSCEPTIBLES

1. Education in Personal Hygiene and Mess Sanitation

2. Immunization

3. _____

4. _____

MICRO-ORGANISMS AND THEIR GROWTH

BACTERIA

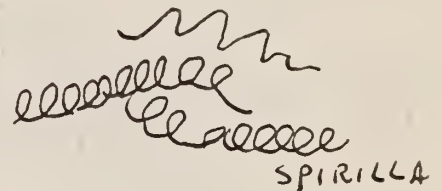
LARGEST GROUP OF MICRO-ORGANISMS



BACILLI



COCCI

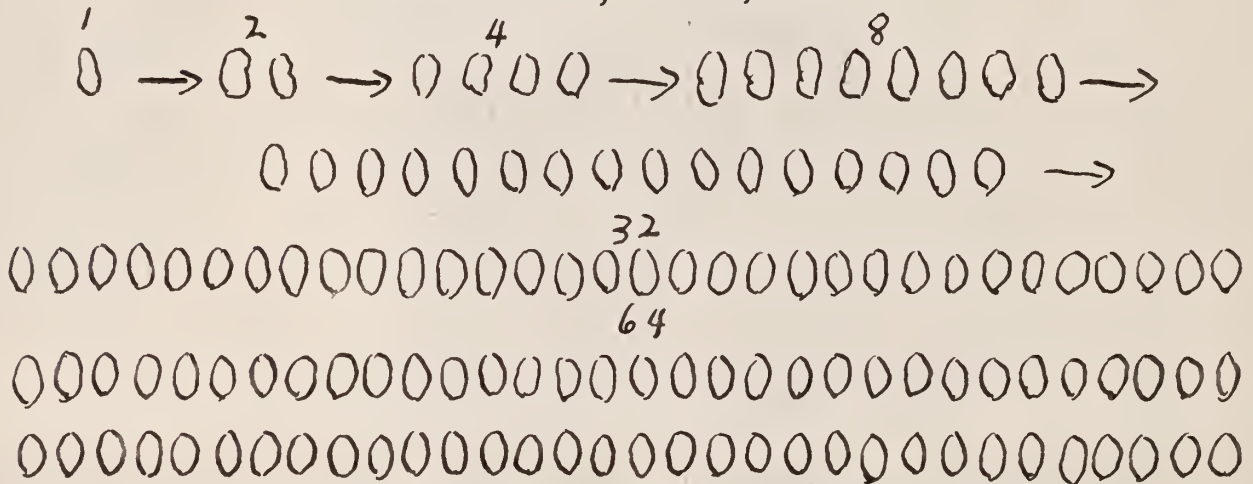


SPIRILLA

GROWS BY DIVISION



DOUBLING EVERY TWENTY MINUTES



400 BACTERIA IN 4 HOURS PRODUCE 819,200 BACTERIA

ENOUGH BACTERIA CAN CAUSE SERIOUS ILLNESS

MICRO-ORGANISMS-THEIR GROWTH

NAME

APPEARANCE

WHAT THEY DO



GOES THRU FILTERS



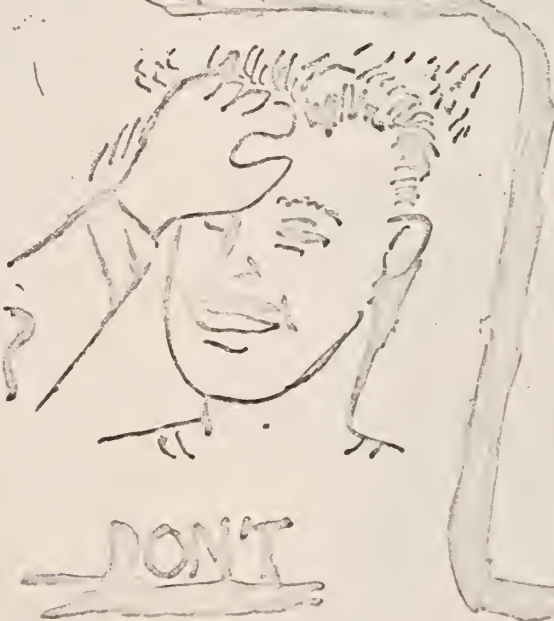
STAY
IN
PLACE

ON LIVING
MATTER
BUT
(SPORES)

ON LIVING
MATTER ONLY
GROW IN
WATER
(SPORES)

ONLY
GROW IN
(SPORES)

DEVELOPMENT OF WORK HABITS



"temperature & food sanitation"

212°

BOILING



Good dish sanitization

170°

lowest temperature
for dish sanitization

Bacteria on
dishes killed when
exposed to water
at this temperature
for proper time

140°

Good mechanical
dishwashing

120°

Good hand
dishwashing

Ordinary room
air temperatures,
April to November

98.6°

--body temperature

Rapid bacterial growth

60°

Moderate bacterial growth

50°

Bacterial growth slowed
down in this range

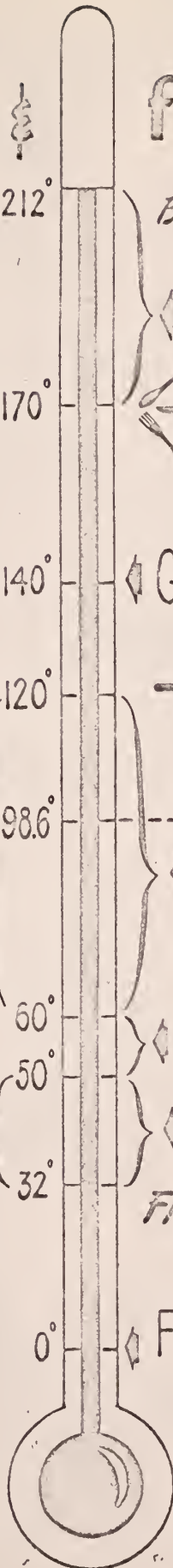
32°

Refrigerators
kept in this range
to prevent food
spoilage...

FREEZING



0°

Frozen foods kept at this
temperature or below

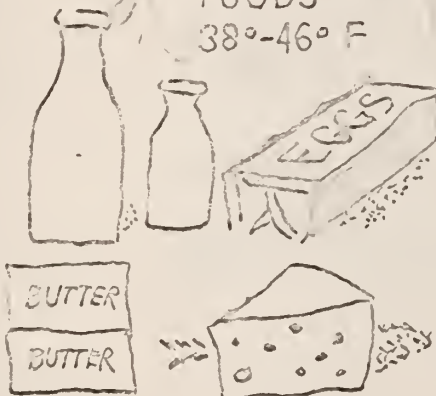
FACTORS IN

REFRIGERATION

GOOD CIRCULATION AND PROPER HUMIDITY



DAIRY
FOODS
38°-46° F



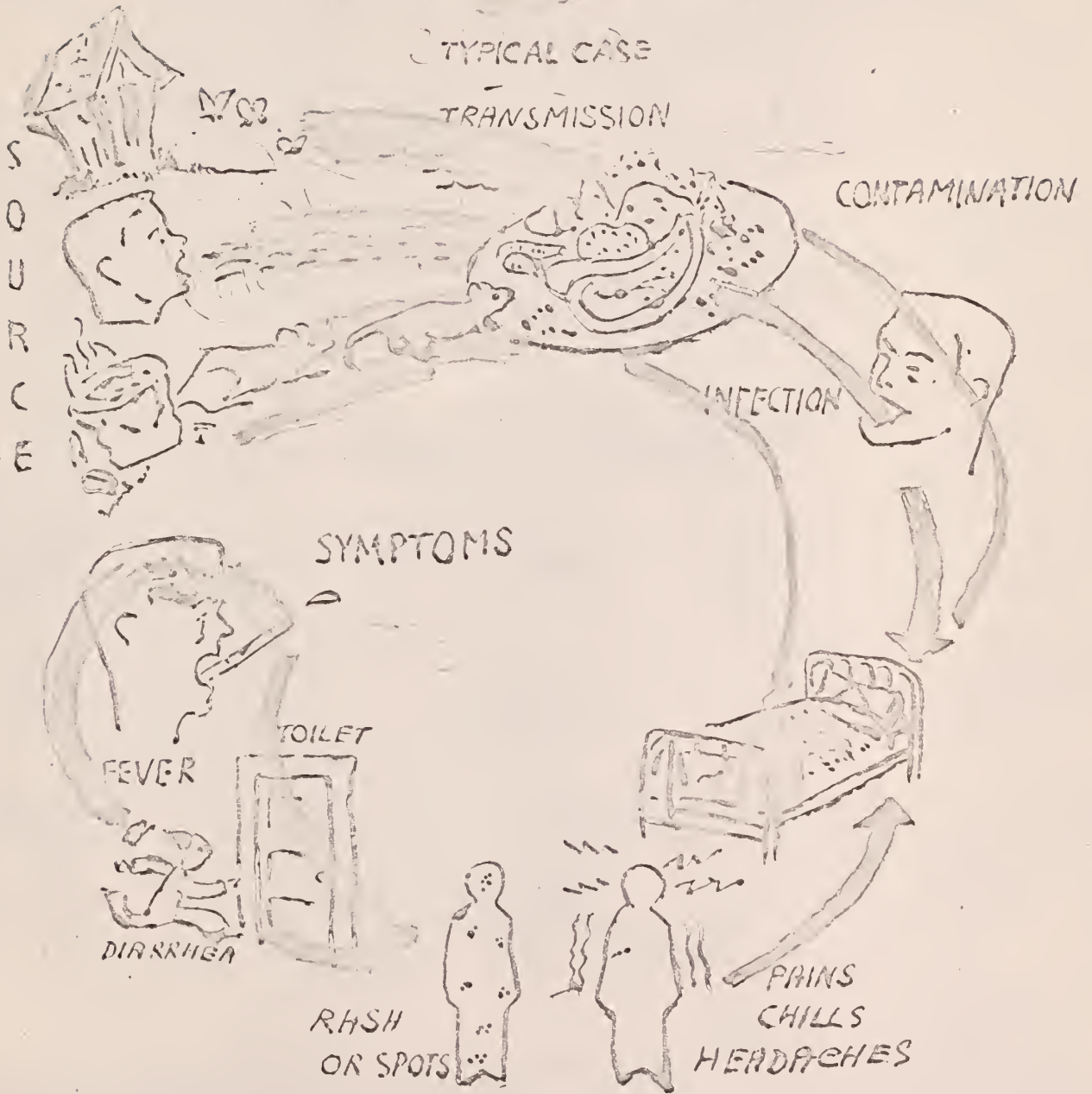
0°-15° F
FROZEN
FOODS

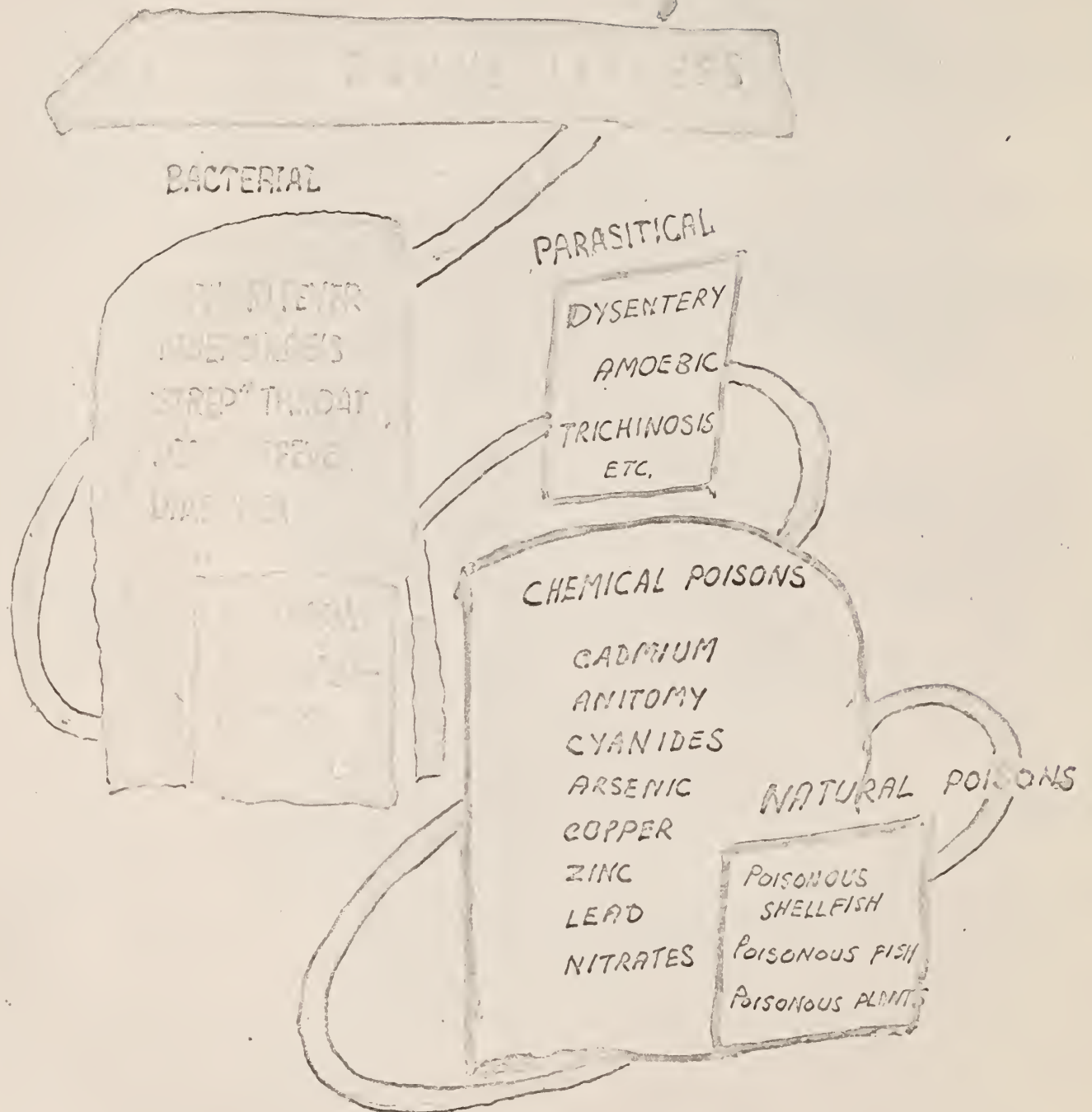
MEATS AND
FOWL
33°-38° F



FOOD BORNE ILLNESS

TYPICAL CASE
TRANSMISSION





Food Poisoning is


A DISABLING ILLNESS CAUSING PERSONNEL
NON-EFFECTIVENESS



IT CAN BE TRANSMITTED
IT HAS CAUSES
AND HAS EFFECTS

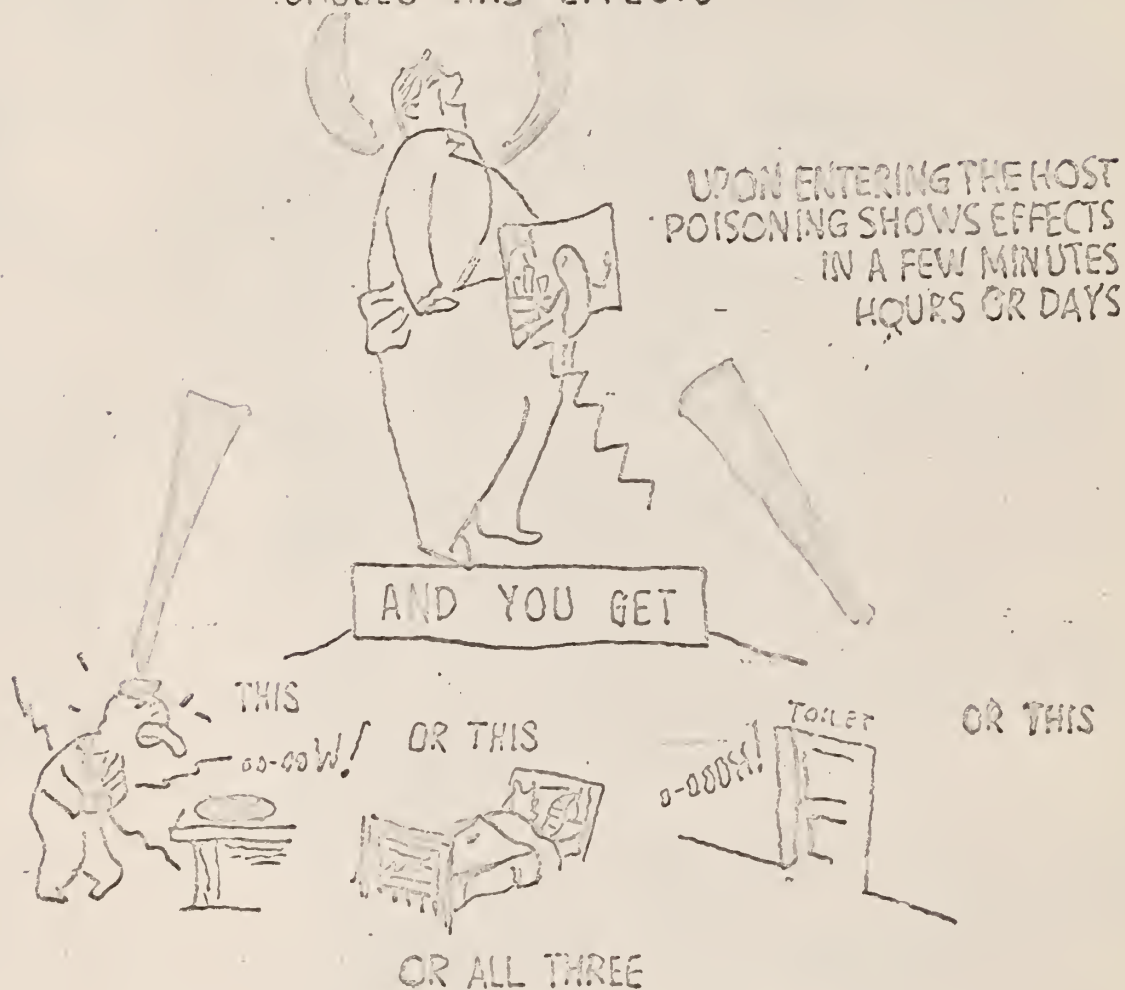
IT CAN BE CONTROLLED

BY

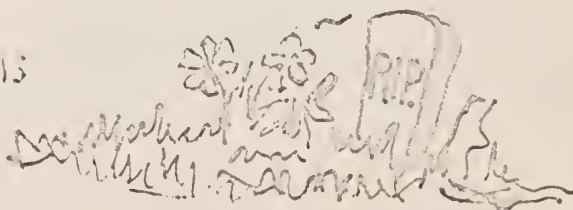
Sanitation

Food Poisoning

CAUSES AND EFFECTS

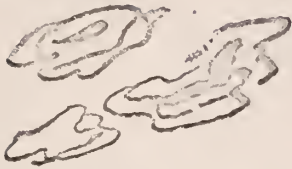


AND SOMETIMES THIS

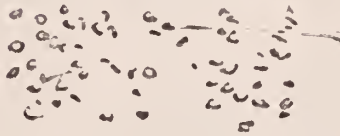


FOOD SPOILAGE DETECTION

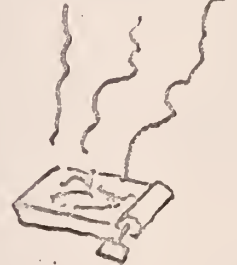
MOLD



FERMENTATION



PUTRID ODOR



BULGING CANS



SLOW FREEZE vs. QUICK FREEZE

BURSTING CONTAINER
DRIPPING
CURDLING
BROWNING
MUSHING, ETC.

FOOD GOOD
- BUT -
DO NOT FREEZE



"WHEN IN DOUBT
THROW IT OUT"



Insect

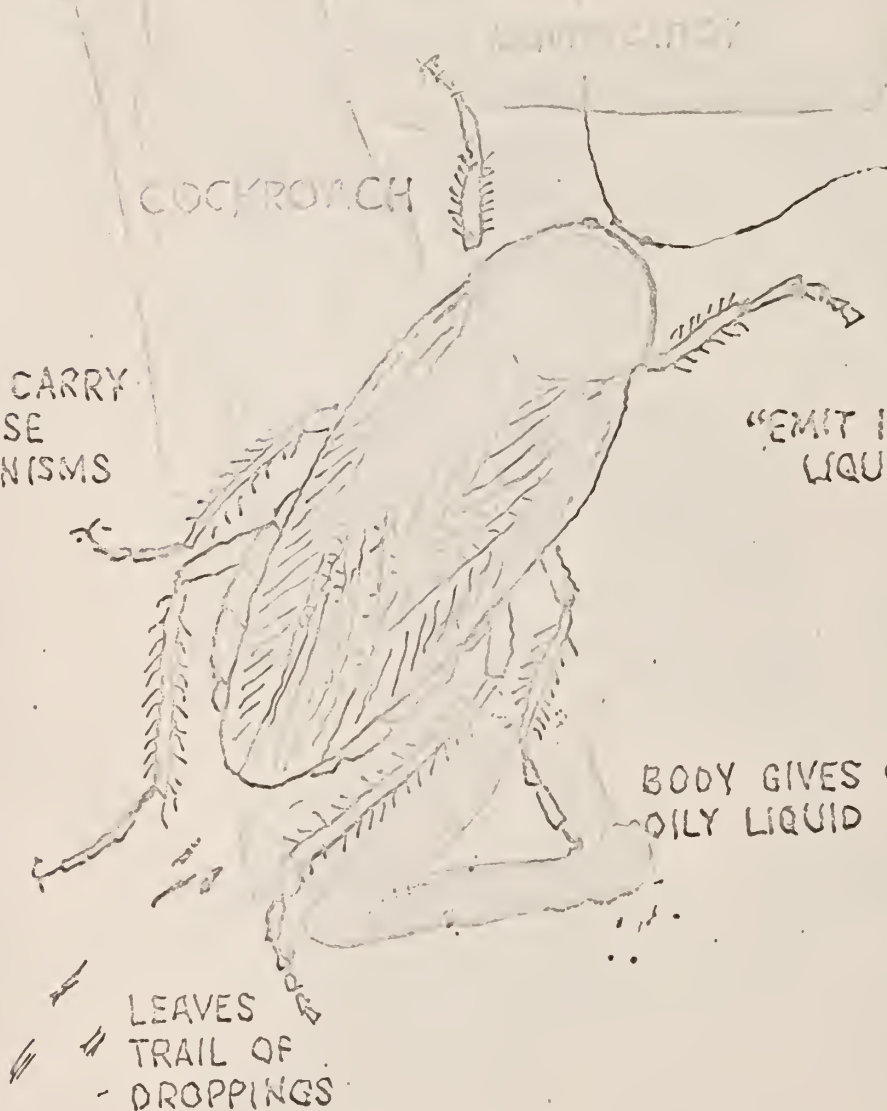
COCKROACH

THEY CARRY
DISEASE
ORGANISMS

"EMIT INKY"
LIQUID

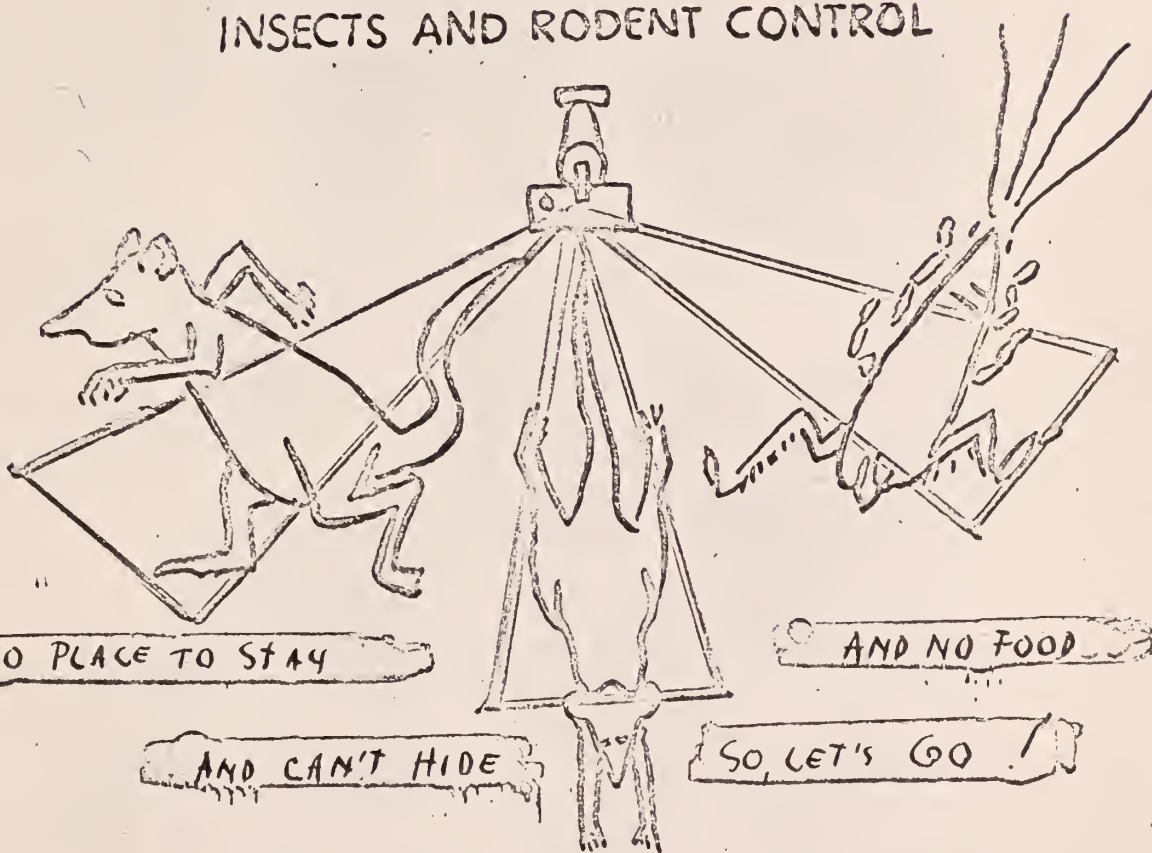
BODY GIVES OFF
OILY LIQUID

LEAVES
TRAIL OF
DROPPINGS




GOOD HOUSE KEEPING

INSECTS AND RODENT CONTROL




NO HARBORAGES—NO FOOD
USE SPRAYS—POISONS, TRAPS—SCREENS
UNDER PROPER SUPERVISION

GOOD HOUSE KEEPING



TEAMWORK
DOES IT
COLLECTION




SCRAPE AND
REFLUSH

WASH AND RINSE
POTS AND PANS

STORAGE

CLEAN
EQUIPMENT

MOP UP
FLOORS



A TEACHING GUIDE FOR A TRAINING COURSE IN SANITATION
FOR FOOD SERVICE PERSONNEL

by

JULITA E. UMALI

B. S., University of the Philippines, 1957

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

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The purpose of this report was to develop a teaching guide in sanitation for food service personnel to be used in training employees. Although planned for food services in general, it was designed also with one specific food service in mind, the University of the Philippines Cafeteria.

Review of current literature pointed out certain basic factors to be considered in planning a training program. These were: objectives of the training program, principles of learning, trainee, instructor, training period, locale of training, type of training, method of training, training materials and tools, cost of training, and effectiveness of training.

Objectives of the sanitation training program were determined to be that the food service employees would understand the importance of sanitation to food service; know approved methods and procedures for achieving high sanitation standards in food service; and develop ability to apply principles learned in the training program to attain effective sanitation practices in food services.

Because the majority of food service workers in both the United States and the Philippines will have at most a high school education, technical and scientific principles should be taught in simple, easily understood terms. The teaching guide was planned to be used for a course in sanitation for those workers who had reached at least the second year in high school.

The entire training course would consist of six lessons: sanitation and its importance to the food service worker; communicable disease: control through personal health habits;

food-borne disease: its spread and control; preparation, handling and storage of food to prevent contamination; sanitary methods of handling, washing, and storing dishes and utensils; and sanitary procedures for cleaning selected food service areas and equipment. Each lesson would be held for an hour. Time for the class should be convenient for both employees and management. At the University of the Philippines Cafeteria, summer would be the best season in which to conduct the training program.

The teaching guide was developed for a sanitation training program suitable for on-the-job training plus supervisory training. It could be adapted for use in some pre-employment and induction programs. Each of the lessons was planned to contain objectives, lesson problems and concepts, and major generalizations. Emphasis was placed on concept development in teaching. The Appendix includes samples of visual aids made on transparencies. The lecture method, supplemented with various kinds of visual aids, was planned for this program. Qualified instructors could be obtained from most food service staffs. At the University of the Philippines Cafeteria, the Cafeteria Manager, Administrative Dietitian, and Food Service Supervisors with a college degree in Home Economics could take turns in teaching the classes.

A follow-up of the employees' work habits and practices before and after the training program would show the effectiveness of the training efforts. Weaknesses could be corrected and strong points could be stressed. Evaluation should be a part of the course and should be a continuous process.

