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U. S. NAVAL TECHNICAL MISSION TO JAPAN

NS/rkk

CARE OF FLEET POST OFFICE SAN FRANCISCO, CALIFORNIA

19 November 1945

RESTRICTED

From:

Chief, Naval Technical Mission to Japan.

To:

Chief of Naval Operations.

Subject:

Target Report - Data Relative to Life in the Jungle and on Sea Islands, and Data on Composition of Insecticides.

Reference:

(a) "Intelligence Targets Japan" (DNI) of 4 Sept. 1945.

1. Subject report, covering Targets M-Ol and M-08 of Fascicle M-1 of reference (a), is submitted herewith.

2. The report was prepared by Commander P.B. Ayres, (MC) USNR.

C. G. GRIMES Captain, USN

DATA RELATIVE TO LIFE IN THE JUNGLE AND ON SEA ISLANDS AND DATA ON COMPOSITION OF INSECTICIDES

"INTELLIGENCE TARGETS JAPAN" (DNI) OF 4 SEPT. 1945
FASCICLE M-1, TARGETS M-01 AND M-08

NOVEMBER 1945

U.S. NAVAL TECHNICAL MISSION TO JAPAN

SUMMARY

MEDICAL TARGETS

DATA RELATIVE TO LIFE IN THE JUNGLE AND ON SEA ISLANDS AND DATA ON COMPOSITION OF INSECTICIDES

The results of the exploitation of this target are extremely unsatisfactory. The information obtained, although meager, apparently represents the sum of Japanese naval knowledge on the subjects in question.

The interrogated personnel from the Central Medical Bureau down to the medical officers in the lower echelons all have reported that the Japanese Navy has not been concerned with these problems, as they did not apply to personnel afloat, and the Navy ashore was concentrated in large base installations. Some effort was made to alter rations to suit the physiological needs of personnel in cold and hot climates.

No advances were made in the development and production of new and effective insect repellants, although a research study was undertaken at the TOKYO Naval Medical School. This project is said to have failed and been discontinued with no recommendations forthcoming.

In malaria control one "new" drug was developed and used, and a research project was under way on a derivative from "coal oil." The techniques of malaria control in the field were known but the limited number of trained personnel and the lack of equipment prevented any adequate program from being instituted.

In respect to malarial therapy, considerable information is available and is presented in NavTechJap Report "Preventive Medicine and Public Health Organization and Facilities in the Japanese Navy," Index No. M-09.

The standard directions and handbooks on this target issued to Japanese naval personnel are dated from 1941 to 1943. Three newer directives and manuals were brought out within the past year.

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REFERENCES

- Japanese Personnel Who Assisted in Gathering Equipment and/or Locating
- В. Japanese Personnel Interrogated:

Since all contacts were interrogated in detail on every subject target as far as possible, the following list of names will be recorded under this target report as it is the first one on Fascicle M-1.

Subsequently, under Reference "B" of each target report those who had special qualifications or who made a significant contribution to the information collected will be listed, while this roster will be referenced.

- Comdr. S. YAMAZAKI, (MC) IJN, Flight Surgeon Comdr. T. INOGUCHI, (MC) IJN, Orthopedics Vice Adm. Y. ISHIGURO, (MC) IJN, Bacteriologist Comdr. H. TAWARA, (MC) IJN, Internist
- 2.
- 3.
- - Vice Adm. M. HOMMA, (MC) IJN, Internist Vice Adm. YOKOKURA, (MC) IJN, Roentgenologist
- 7.
- Vice Adm. YOKOKURA, (MC) IJN, Roentgenologist
 Maj. Gen. HIRAI, IJA, Internist
 Vice Adm. E. KAMBAYASHI, (MC) IJN, Internist
 Capt. KIMURA, (MC) IJN, Surgeon
 Vice Adm. KANAI, (MC) IJN, Internist
 Capt. MURAKAMI, (MC) IJN, Pathologist
 Comdr. OTA, (MC) IJN, Internist
 Comdr. NAKAMURA, (MC) IJN
 Comdr. NAGATO, (MC) IJN, Internist and Neurologist
 Comdr. I. HAYAKAWA, Line Officer
 Comdr. F. ABE, Line Officer. Internist
- 9.
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- 12.
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- 30.
- 31.
- Comdr. I. HAYAKAWA, Line Officer
 Comdr. F. ABE, Line Officer, Internist
 Lt. Comdr. Y. SUZUKI, Line Officer, Neurologist
 Comdr. I. ABE, (MC) IJN, Internist
 Comdr. T. TAKASHI, (MC) IJN, Bacteriologist
 Vice Adm. KANAI, (MC) IJN, Research Director
 Capt. T. MIURA, (MC) IJN, Surgeon
 Comdr. M. OBA, (MC) IJN, Internist
 Vice Adm. I. YASUYAMA, (MC) IJN, Bacteriologist
 Vice Adm. KUYAMA, (MC) IJN, Internist
 Comdr. OTAKE, (MC) IJN, Internist
 Vice Adm. N. FUKUI, (MC) IJN, Surgeon
 Capt. T. MIURA, (MC) IJN, Surgeon
 Vice Adm. S. ITAKURA, (MC) IJN, Surgeon
 Lt. Comdr. T. TERASUKA, (MC) IJN, Surgeon
 Vice Adm. S. SHINA, (MC) IJN, Internist
 Comdr. S. URA, (MC) IJN, Internist
 Comdr. S. URA, (MC) IJN, Dermatologist

Reports of Other Investigating Committees: C.

- "Periodic Reports on the Activities of the Committee for the Techl. nical and Scientific Investigation of Japanese Activities in Medical Sciences." Chief Surgeon's Office, GHQ, SCAP, AFPAC
- 3.
- (Advance Echelon).

 NavTechJap Report, "Preventive Medicine", Index No. M-09.

 NavTechJap Report, "Aero, Surface, and Submarine Medicine and Research," Index No. M-06.

 NavTechJap Report, "Pharmacology and Malariology," Index No. M-12.

 "Japanese Fuels and Lubricents" Index No. X-38 4.
- NavTechJap Reports, "Japanese Fuels and Lubricants," Index No. X-38 5.

LIST OF ENCLOSURES

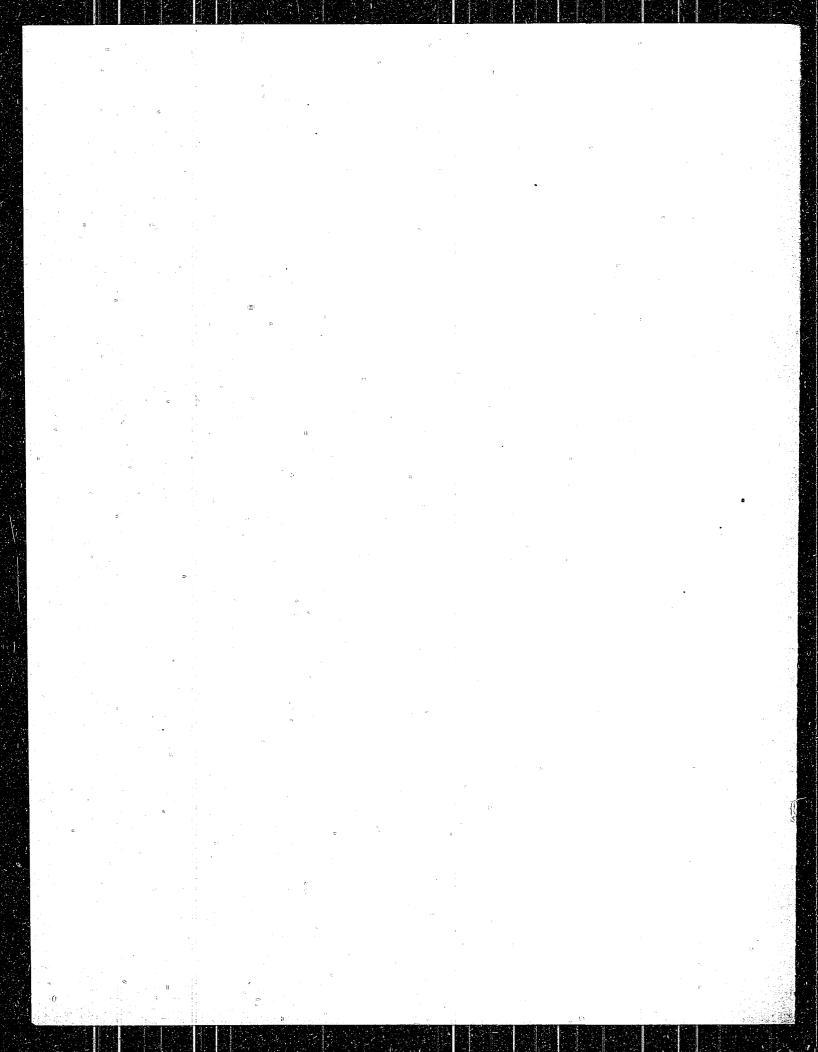
- (A) List of Documents Forwarded to NMRI, BETHESDA, MD.
- (B) List of Documents Forwarded to WDC Through ATIS
- (C) List of Equipment Forwarded to NMRI, BETHESDA, MD.
- (D) Basic Rations Japanese Navy Rations for Hot and Cold Climates (with Tables)
- (E) Translation of Label (Directions) of Standard Japanese Navy Insecticide
- (F) Translation Table of Contents of New Text on Tropical Medicine (Y. MIYAGAWA Editor)

INTRODUCTION

The considerable advances made by the quartermaster, supply and medical corps in the development and production of new rations, anti-malarial drugs and control techniques and insect repellants have contributed greatly to the health and well-being of our armed forces during the course of the war.

Faced with the same health hazards, exposed to the same insect-borne diseases and confronted with the problems of supplying adequate and satisfactory rations to troops in the field, the Japanese might have been expected to have undertaken researches similar to ours and to have developed new drugs and rations suited to the requirements of the environment.

The attempt to trace down such activities has been rewarded with no startling findings, nor can we say that any contribution of advantage to the UNITED STATES has been discovered.



THE REPORT

1. <u>Diet</u>

The basic ration, special ration for midshipmen and variations from the basic rations for tropical and cold climates are found in the enclosures. As stated, the chief objective seems to have been to stimulate flagging appetites, by the addition of "umeboshi" or sour pickled plums (which also served to increase Sodium Chloride intake to a small extent) to increase the caloric content by the addition of extra sugar, and to satisfy thirst by adding vinegar to the diet. The increased requirements of Sodium Chloride intake in hot Submarine Medicine and Research, "NavTechJap Report, Index No. M-06.

Very little research was done regarding the development and preparation of more varied or adequate diets and no information has been obtained that would lead one to believe that any improvements on the enclosed table had been made (Enclosure D).

2. Malaria Control

a. The naval medical personnel seemed well aware of the hazards of malarial infection and the Medical Bureau had issued several directives as to the prevention and treatment of the disease. These are to be found reported in "Pharmacology and Malariology in Japan - Civilian and Naval," NavTechJap Report, Index No. M-12. The importance of suppressive drug therapy and the use of mosquito nets for night protection were recognized and said to have been enforced although to date no nets have been found aboard combat ships. They were reportedly in use in Naval Base Installations and Naval Hospitals in malarious areas. Such net protection has been observed in only one hospital of the ten inspected.

b. Area malarial control is reputed to have been under the direction of the Base or Area medical officer, and in the field, under the cognizance of the "Boeki-han" or "anti-contagion" unit. These units were designed to be attached, one per naval group, with a medical officer in charge of the crew. The units actually were usually commanded by a lt. with special equipment for water purification, malaria control and general samitation. The principles of draining, ditching and spraying larval breeding grounds with insecticide were known but in actual practice, ing in supplies and equipment.

Malaria control, in the field, may be regarded as having been a matter of personal hygiene, suppressive therapy being the only widely practised method.

c. <u>Insect Repellants</u>

Several samples of various insecticides and repellants have been submitted for examination.

- (1) Calcium arsenate was adopted as an insecticide for malaria control during the past year.
- (2) "Bobun Cream" (character unobtained) was reported to be a new repellant which contains oil of lemon, Karyaputi oil and oily base.

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(3) Various commercial insect powders and liquid repellants were purchased by the Medical Supply Depot and distributed for use among the troops.

(4) As mentioned, no results were obtained in the research attempt to develop a new and effective insect repellant.

There was a unanimity of opinion among all the Medical Personnel contacted that no satisfactory insecticide or repellant was in use. It was reported that the repellant cream containing oil of citronella which was furnished the troops in the South Pacific was oily and quickly removed by perspiration so that it was not used since it made hands slippery and gave such short protection.

d. Local sources of D.D.T. solvents are few. The acute shortage of fuel and vegetable oils existing at present makes it doubtful whether such can be utilized. Synthetic hydrocarbon seems to offer the best solution and sufficient plants remain undamaged to produce, if put in operation, an adequate amount and kind of solvent for D.D.T. (See NavTechJap Report, "Japanese Fuels and Lubricants," Index No. X-38(N).)

Vegetable oil is almost entirely required for the fat-poor diet of the people, and petroleum oil, unless imported, is not available.

e. No new or effective spray dispersing equipment has been discovered. All standard equipment has been of the hand-pump, atomizer type, from the small spray gun to the back pack nozzle sprayer. No motor-driven sprayers were in use in the Japanese Navy. There has been reported no special pest or insect problem. No epidemic of dengue has been reported this fall in Japan, and during the winter months the only hazard is that offered by fleas and lice. So far no proven cases of typhus have occurred above normal.

ENCLOSURE (A)

LIST OF DOCUMENTS FORWARDED TO NMRI, BETHESDA, MD.

(M-Ol)

NAVTECHJAP DOCUMENT NO. ND10-7501.3 (M-01) Annex #1

- 24 January 1945, Med. #98 "Items Concerning Investigation of Weight Changes Among Seamen"
- 10 February 1945, Med. Secret #19 "Items Concerning General Prostration Resulting from Abnormal Diet"
- 30 March 1945, Med. Affairs II #3 "Items Concerning General Prostration Resulting from Abnormal Diet"
- 7 April 1945, Med. Affairs II #7 "Elimination of Lice and Intestinal Worms"
- 6 July 1945, Med. Affairs II #155 "Simple Methods of Exterminating Maggots (Flies)"

ENCLOSURE (B)

LIST OF DOCUMENTS FORWARDED TO WDC THROUGH ATIS

NAVTECHJAP DOCUMENT NO. DOCUMENT NO.

ND21-7505.1 M-01 "Elementary Hygiene 3110 in the Tropics"

ND21-7505.2 M-01 "Hygiene in the Tropics"

ENCLOSURE (C)

LIST OF EQUIPMENT FORWARDED TO NMRI BETHESDA, MD.

(M-Ol)

NAVIECHJAP EQUIPMENT NO.

JE21-7525 JE21-7525

JE21-7505 JE21-7505

ITEM

Malaria Preventative Pills Mosquito Repellant Salve

Synthetic Malaria Injection Kinthiol, Philopon

ENCLOSURE (D)

BASIC RATIONS - JAPANESE NAVY RATIONS FOR HOT AND COLD CLIMATES

Basic Ration

This is given in the annexed table. If rations yielding 2800 gram calories and containing 80-90 grams of protein can be consistently maintained, it is considered a satisfactory amount for the basic Navy ration. Actually, however, as a result of the prolongation of the war, the severity of the air raids and the decrease in agricultural workers made it increasingly difficult to obtain marine and agricultural products. It was with difficulty that an average of 30% of the former amounts of meat and fish, and 50-60% of fresh vegetables could be obtained; this eventually resulted in some cases of general prostration because of abnormal diet.

In the last phases of the war, it became increasingly difficult to maintain the supply of rice, the staple food, on a national scale; this inevitably resulted in a reduction of 10% in the ration throughout the whole country. Since 5 Aug. 1945 the Navy also effected this cut, and at present is operating under it:

As a counter measure for this reduction in staple food it was decided to increase by 30% the fresh vegetable ration (520 + 180=720) (TN:Sic), but the seasonal decrease in production made it extremely difficult to effect this increase. An effort was made to produce food within the units, but the number of units which obtained 50% of their requirements was extremely small. Along with the location of the war, the bodily strength of the troops decreased remarkably, and the future became a matter for great apprehension. If the standard of the basic ration could be maintained, it is considered that there would be no decrease in bodily strength, and no undernourishment, etc. With the change in war conditions, however, the numerous disadvantages that resulted from the fortunes of war, such as the difficulty of obtaining secondary foods, the cutting off of rice imports, the depletion of stored rice with the approach of the storage time limit, etc., made the continuation of the war extremely difficult.

ENCLOSURE (D), continued

		1.			
FOOD	DAILY RATION	10-DAY RATION	NIGHT (OVERTIME) RATION	EWERGENCY (OVERTIME) RATION	notes
	540 gms. 480 " 180 " 160 " 100 " 130 " 520 " 180 "		120 gms.	120 gms.	For units outside Japan For units in Japan For units outside Japan For units in Japan Japan Japan
Old Pickles Beans Flour Soya Bean Sauce Vinegar Oils Fat or Lard Bean Paste Salt Sugar Dry Fish Sauce Pepper, Curry, etc.	100 "	150 gms. 150 " .6 lit. .05 " .07 " .35 gms. 750 " 80 " 230 " 50 " .05 lit. 5 gms.			
Japanese Tea		20 gms.			1

Comparison of Former and Present Amounts of Staple Food						
FOOD	BASIC RATION PER DAY	FIRST REVISION (22 JULY 1944)	SECOND REVISION (5 Aug. 45) (10% reduction in basic amount)			
Rice Wheat Total	480 gms. 160 " 640 "	340 gms. 300 " 640 "	430 gms. 145 " 575 "			

2. Increased Ration for New Recruits.

In the case of newly inducted recruits increased ration may be supplied as follows:

Rice	45 gms.	(daily ration)
Wheat	15 "	
Hard Biscuit	55 "	
Fresh Vegetables	80 "	

The same ration applies in the case of high school graduate primary flight enlisted trainees, primary school graduate primary flight enlisted trainees, ordinary radio technician trainees, reserve enlisted and reserve supplementary trainees (YOBI HOSHUSEI).

ENCLOSURE (D), continued

3. Increased Ration for Midshipmen.

In case of midshipmen of the Naval Academy and of the Navy School of Supplies and Accounts, increased ration may be supplied as follows:

Rice 45 gms. (daily ration) From Oct. to May and during the summer bivouac training period.

The rations for reserve midshipmen are the same.

4. Those weighing more than 68 kilograms, and who in the opinion of medical officer need additional rations, may receive up to 20% increase in staple foods.

For additional information refer to:

Naval Medical Handbook

pp 231-238 - "History of Development of Naval Rations"

pp 241-251 - "Outline of Present Day Naval Rations"

pp 254-263 - "Medical Reference Concerning Present Day Rations"

5. Rations in Cold Regions (North of 50° Latitude along Kurile Islands or other similar coasts--and from November to March, North of 40° Latitude).

Rations other than basic rations are as follows:

Beverages: Sugar: Lache Acid:	Black tea, coco	a, coffee (daily)	20 •	grams grams grams
Health Foods: Eggs Fresh milk		•	•	.18	grams liters gram
Vitamin A f	ood for mixing with for mixing with	liquid) liquid)			gram gram
Fresh Fruit: Lard:	(ten-day	ration) ration)		400 . 35 .	grams grams

The purpose (of these rations) is to supply heat and vitamins.

6. Rations for Hot Regions (South of 24° Latitude only, excluding Formosa and Boko Archipelago between September 16th and June 15th).

Rations other than cold region rations, as follows:

Pickled Plums: (daily) 20 grams
Vinegar: (ten-day period) .08 liters
Sugar: (daily) 40 grams

The purpose of these rations is to supply heat and vitamins, and, in addition, to stimulate the appetite.

For additional information refer to <u>Naval Medical Handbook</u>: pp 242-243 "Composition of Staple Diet." See page 243 for references on various additional rations, special foods and substitute foods.

ENCLOSURE (E)

TRANSLATION OF LABEL OF STANDARD JAPANESE NAVY INSECTICIDE

The principal ingredients of this insecticide are the spirits of the flower of the indigenous Chrysanthemum plant. It is especially effective on flies, mosquitoes, horse-flies, fleas, lice, dog-ticks, bedbugs, cock-roaches, centipedes and ants. When used in a spray gun the odor is pleasant and sanitary. There is no danger to humans or animals.

The greater portion of this solution consists of the active fraction of this special Chrysanthemum plant and of petroleum. Therefore, if attention is paid to the above paragraph it can be used with effectiveness. (When storing avoid direct sunlight and high temperature. However, this material is not ignitable.)

ENCLOSURE (F)

TRANSLATION - TABLE OF CONTENTS OF NEW TEXT ON TROPICAL MEDICINE Y. MIYAGAWA - EDITOR

The following is a translation of its index:

"Introduction"

"Tropical Sanitation" Part I

Chap. 1 - "Tropical Weather"

Chap. 2 - "Characteristics of Tropical Weather and Its Effect On The Human Body"

Chap. 3 - "Adjustment to Tropical Living"

Chap. 4 - "Acclimatization to the Tropics and Food, Clothing, and

Shelter in the Tropics"

Chap. 5 - "An Outline of Weather Conditions in Various Tropical Regions"

"Methods of Testing Blood" Part II

Chap. 1 - "Taking Specimens"

Chap. 2 - "Preparation of Microscopic Specimens"

Chap. 3 - "Microscopic Examination of Specimens" Chap. 4 - "Counting White Cells; Pathological Fluctuation

Percentage"

"The White Cells Appearing in the Blood Under Chap. 5 -Pathological Conditions"

Chap. 6 -"Blood Platelets"

Chap. 7 - "Counting Blood Cells, Blood Platelets and Frotezoa"

Chap. 8 - "Determining the Amount of Haematin"

Chap. 9 - "Pigmentation Coefficient"

Chap. 10 - "Determining the Precipitation Rate of Red Cells"

Chap.11 - "Visural Puncture"

Part III "Stroke (Heat Stroke and Sun Stroke)"

Chap. 1 - "Definition"

Chap. 2 - "Cause of Sun Stroke"

Chap. 3 - "Pathology"

Chap. 4 - "Symptoms"

Chap. 5 - "Prognosis"

Chap. 6 - "Diagnosis"

Chap. 7 - "Therapy"

Chap. 8 - "Prophylaxis"

ENCLOSURE (F), continued

"Main Part"

Part I "Parisitic Diseases"

Sec. 1 "Malaria and Black Water Fever"

Chap. 1 - "Geographical Distribution of Malaria" Chap. 2 - "Malarial Fathogens" Chap. 3 - "Anopheles Mosquito"
Chap. 4 - "Epedemiology of Malaria"
Chap. 5 - "Symptoms of Malaria"
Chap. 6 - "The Course of Malaria"
Chap. 7 - "Postho Contact of Malaria" Chap. 7 - "Patho-anatomical Variation of Malaria" Chap. 8 - "Diagnosis of Malaria" Chap. 9 - "Prognosis of Malaria" Chap. 10 - "Therapy of Malaria" Chap.ll - "Prevention of Malaria"

Sec. 2 "Leishmaniasis"

Annex:

Chap. 1 - "Kala Azar" Chap. 2 - "Cutaneous Leishmaniasis" Chap. 3 - "American Leishmaniasis"

Black Water Fever

Sec. 3 "Trypanosomiasis"

Chap. 1 - "Sleeping Sickness" Chap. 2 - "Chaga's Disease"

Sec. 4 "Intestinal Diseases"

Chap. 2 - "Amoebic" Chap. 2 - "Others"

Sec. 5 "Spirochaetal Diseases"

Chap. 1 - "Yaws" Chap. 2 - "Recurrent Fever"

Chap. 3 - "Weils Disease" (Haemorrhagic Spirochaetal Jaundice) Chap. 4 - "Autumnal Tiplospirochaetal Disease" Chap. 5 - "Rat bite Fever"

Part II "Filarial Diseases"

Chap. 1 - "Filariasis"
Chap. 2 - "Guathortomians" (guathorterua spinijerum) Chap. 3 - "Strougglordiasis" Chap. 4 - "Ancylostomiasis" Chap. 5 - "Schistoscmiasis"

Part III "Rickettsial Disease"

Chap. 1 - "Rickettsia Orientalis"

Chap. 2 - "Eruptive Fever"
Chap. 3 - "Tropical Typhus W.K."
Chap. 4 - "Rocky Mountain Spotted Fever"

ENCLOSURE (F), continued

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"Filterable Virus Diseases"
Part IV
             Chap. 1 - "Dengue"
             Chap. 2 - "Typhoid"
             Chap. 3 - "Cholera" (Appendix "Cholera Nostras")
             Chap. 4 - "Psittakosis"
Chap. 5 - "Small Pox" (Appendix "Alasbrim")
Chap. 6 - "Rabies"
              "Bacilliary Diseases"
Part V
            Chap. 1 - "Bacilliary Dysentery"
              Chap. 2 - "Typhoid"
              Chap. 3 - "Cholera" (Appendix "Cholera Nostras")
              Chap. 4 - "Plague"
              Chap. 5 - "Tularemis"
Chap. 6 - "Molicidosis, stanton"
Chap. 7 - "Brucellosis"
Chap. 8 - "Oroya Fever"
              "Tropical Skin Diseases"
 Fart VI
              Chap. 1 - "Animal Parasitic Skin Diseases"
              Chap. 2 - "Schizomyaetes"
Chap. 3 - "Pyosis Palmuris"
Chap. 4 - "Castellani Chalmers"
               "Leprosy"
  Part VII
               Chap. 1 - "Distribution of Leprosy"
Chap. 2 - "Cause"
               Chap. 3 - "Symptoms"
               Chap. 4 - "Diagnosis"
Chap. 5 - "Stamping Out and Prevention of Leprosy"
Chap. 6 - "Therapy"
  Part VIII "Foision Snakes"
                Chap. 1 - "Types of Poison Snakes"
                Chap. 2 - "Symptoms"
                Chap. 3 - "Treatment and Prevention"
                "Nutritional Deficiencies in the Tropics"
   Part IX
                Chap. 1 - "Beri Beri"
                Chap. 2 - "Epidemic Dropsy"
                Chap. 2 - "Epidemic bropsy"
Chap. 3 - "Pelagra"
Chap. 4 - "Scurvy"
Chap. 5 - "Spru"
Chap. 6 - "Rachitis"
Chap. 7 - "Combat Nutritional Deficiency"
                 "Respiratory Diseases in the Tropics"
   Part X
                 Chap. 1 - "Pulmonary T.B. in the Tropics"
                 Chap. 2 - "Acute Pheumonia in the Tropics"
                 "Venereal Diseases in the Tropics"
    Part XI
                 Chap. 1 - "Lymphogranulma inguinale"
                 Chap. 2 - "Granuloma Inginale"
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