TO: The Chief Surgeon, GHQ, AFPAC, APO 500, Manila
THRU: The Chief Surgeon, Adv. Ech., Tokyo
INFO: The Surgeon General, Washington, D.C.


1. This committee was established at Manila by Order No. 640 of the Chief Surgeon's Office, GHQ, AFPAC, APO 500, dated 22 August 45, with the expectation of benefiting from independent Japanese research and development in the field of medicine and thus gaining in the overall knowledge in this science. The delegated functions of the committee were:
   a. Examine and evaluate such Japanese installations and personalities associated with the medical sciences as may be practical during the occupation.
   b. Correlate the activities of the medical section of the Enemy Equipment Intelligence Units attached to the armies.
   c. Engage in the investigation of such other phases of Japanese Medical activities as may be directed by the Chief Surgeon.

2. The Committee arrived in Japan in two sections. One came with an Eighth Army unit (42nd General Hospital) to Yokohama, arriving at the same time as the advanced echelon of GHQ, and the other approximately a month later, with the Sixth Army (135th Medical Group) to Wakayama, then to Tokyo. The committee operated as a section of the Chief Surgeon's Office, Adv. Ech., Tokyo.

3. The plan for carrying out the investigation, as set up at Manila, was changed through force of circumstances and through prescribed procedure developing from the peaceful occupation and general cooperation from Japanese officials. The method of investigation that developed was, in general, as follows: Activities of the committee followed command channels, keeping in touch with the surgeons of the various echelons. Full cooperation was received from each. Official liaison channels were utilized in dealing with the Japanese. In many cases the Japanese Central Liaison Office, on request through G-2 Japanese Liaison, made available a representative to facilitated arrangements.
In the above manner, over the past 3 months, every city of importance in medical education and every first class medical institution associated with research and developments in Japan, was visited. The heads of the institutions and professors of their departments were interrogated. Reprints and manuscripts were secured to supplement information gained during the interrogation. It is believed that a complete screening of Japanese Medicine for new developments and methods was accomplished.

A vast amount of literature and information concerning all sorts of medical activity over the past 20 years became subject to examination. This forced the committee to become a "screening" rather than an "investigating" agency. During the screening procedure, new developments, original research since 1940, unfamiliar procedures and theories evolved, and literature produced since 1940, were sought.

Through necessity, imposed by the scope of the mission, the committee accepted statements and reports from persons interrogated which it was unable to examine and properly evaluate. Many claims, some of them of definite scientific interest, were made by the Japanese. These claims, though not accepted as factual have been reported in the periodic reports. They were considered of interest and reported with that in view.

During the investigation other agencies, with somewhat similar interests, began their activities. These activities were coordinated with those of the committee as far as was possible. Information secured by the committee was made available to other agencies, when it seemed to be of primary interest of the other agency and to be reported upon by that agency. Thus, matters pertaining to Aviation Medicine were turned over to ATIC, FEAF; those pertaining to EW, to the EW office, APPAC; those of naval interest, to NAVTechJap, SCAP, including research projects report from the Naval Medical College; those concerning the Atomic Bomb Survey, Atomic Bomb Survey; Technical Intelligence to G-2, APPAC; and the Chairman acted as medical member of the Scientific Intelligence Survey.

Staff supervision of Medical Technical Intelligence was exercised through G-2, APPAC. Plans, for the completion of technical intelligence coverage of Japan, were implemented.

The screening of Japanese Medical Activities in the Home Islands, with the exception of certain "Class B" institutions, which are considered of little consequence, is now completed, and such has been reported upon.

Attached, as Appendix "A", is a complete list of reports on institutions and special subjects. Attached, as Appendix "B", is a list of individuals whose activities have been examined. As Appendix "C", is a list of items of interest, with reference to sections of the report, and Appendix "D" is a list of institutions screened.
III.

11. Composition of the Committee was as follows:

Lt. Col. William S. Moore, M.C.
Lt. Col. James A. French, M.C.
Lt. Col. Dan Tucker, M.C.
Maj. Ray E. Trussell, M.C.
Maj. Theodore G. Anderson, SnC.
Maj. Arthur Stull, SnC.
Maj. Charles L. Lecker, M.A.C.
Capt. John E. Tobie, SnC.
Capt. Edgar J. LaLonde, M.A.C.

W. S. MOORE
Lt. Col., Medical Corps
Chairman

Index "A" - Reports listed under Institutions.
Index "B" - Persons whose activities have been
examined, listed alphabetically and
by geographical areas.
Index "C" - List of Items of Interest
Index "D" - Alphabetical list of Institutions screened.

Distribution:

Chief Surgeon, GHQ, AFPAC, Manila......3 copies
Surgeon General, Washington, D.C......5 info copies
A C of S, G-2, GHQ, AFPAC............7 " "
Economic & Scientific Section, SCAP......1 " "
Public Health & Welfare, SCAP...........3 " "
NavTechJap - Comdr. Ayres..............2 " "
ATIG, FEAF - Capt. Castor...............1 " "
U.S.S.B.S., Medical Section............1 " "
APPENDIX "A"

Reports listed under Institutions.

I. TOKYO IMPERIAL UNIVERSITY
   Government Institute for Infectious Disease
   Manufacturing Division
   Parasitology Dept.
   Colloidal Preparations of Various Metals and Biologicals

B. Encephalitis Vaccine
B. Encephalitis Epidemiology
Dengue

Acute Liver Necrosis due to Infection of Snailfish

The Action of Immune Serum on the Japanese Encephalitis Virus cultured in Vitro

Infectious Hepatitis virus isolation and cultivation

Dysentery of Unknown Etiology occurring on Shikoku

II. TOKYO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

1. Institute of Pharmacology and Pharmacy

2. Pathology Department, Serology Section

3. Brain Research Institute


5. Division of Physiotherapy and Internal Medicine

6. Institute for Infectious Diseases, (Government)

III. ARMY MEDICAL COLLEGE, Tokyo

1. Clinical Division

2. Biologic Manufacturing Division

3. Parasitology Section

4. Physical and Chemical Laboratory
"Annex A"

Reports for Fiscal Year 1944

I. TOXICological INVESTIGATIONS

Government Programmes for Toxicological Research

Mammalian-toxicology Division

Section on Toxicology of Mammals

Collection of Specimens of Animals

Genetic and Molecular Biology

Genetics of Toxicity

The Action of Drugs on the Animal Body and on Man

In Vivo and In Vitro Toxicological and Biochemical Properties

Mammalian Toxicology

Dissertation of Animal Ethics

occurring in the

II. MICROBological INVESTIGATIONS

Institute of Microbiology and Immunology

Bacteriological Section

Brain, Nervous System, and Metabolic Disorders

Myelination and Neurophysiological Properties

III. VIVAX MALARIA CONTROL

Regional Division

Vivax Malaria Control Division

Protection and Control Section

Protection and Control Programmes
Appendix "A"

III. ARMY MEDICAL COLLEGE (continued)

5 Penicillin Research Committee
6 Manufacturing Division, Niigata
7 Dept. of Pharmacology
8 Kanazawa Branch
9 Field Manuals
10 Research Projects and Findings
11 Organization of Japanese Army Medical Dept.

IV. KEIO UNIVERSITY MEDICAL COLLEGE

Chemistry Dept.
Department of Parasitology
Anatomy Department
Journal of the Faculty

V. ARMY EXPERIMENTAL STATION, Okuba

Medical Section
General

VI. KITASATO INSTITUTE FOR INFECTIOUS DISEASE, Tokyo

VII. INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH

VIII. MUNICIPAL HYGIENIC LABORATORY, Tokyo

IX. NAVAL MEDICAL COLLEGE

Organization
Preventive Medicine
Department of Pharmacy

X. TECHNICAL INTELLIGENCE
Appendix "A"

XI  INSTITUTE OF PUBLIC HEALTH, Tokyo

Outline of Institute
"Myopic Problem"
Chemotherapeutic Institute, Ichikawa, Chiba

XII NAGAO INSTITUTE

XIII CHINA GOVERNMENT MEDICAL COLLEGE

XIV NIIGATA GOVERNMENT MEDICAL COLLEGE

1. Cepharanthin
2. Pathology and (Parasitology) Dept.
3. Pathology Dept.
4. Dept. of Biochemistry
5. Clinical Division

XV. TOHOKU IMPERIAL UNIVERSITY MEDICAL COLLEGE, Sendai

1. Dept. of Pathology
2. Parasitology Dept.
3. Bacteriology
4. S. Ota
5. Institute of Tuberculosis and Leprosy
6. Institute of Tuberculosis and Leprosy (Investigation relating to Diabetes)
7. Clinical Division
8. Medico-Chemical Institute
9. Pharmacology
10. Roentgenological Clinic

XVI HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE, Sapporo

Bacteriology
Appendix "A"

XVI. HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE (continued)

1. Pharmacological Laboratory
2. Nakamura, Bacteriology and Immunology
3. Hygienic Laboratory
4. Clinical Division
5. Hot Springs Research Institute
6. Pathology Department
7. Biochemistry

XVII. HOKKAIDO IMPERIAL UNIVERSITY

Veterinary Faculty
Dept. of Agricultural Chemistry
Dept. of Agricultural Chemistry, Applied Mycology
Cryological Institute

XVIII. MINISTRY OF HEALTH AND SOCIAL AFFAIRS, TOKYO

Bureau of Hygiene and Sanitation

XIX. NATIONAL RESEARCH COUNCIL OF JAPAN

Projects
Reports on Projects

XX. KANAZAWA GOVERNMENT MEDICAL COLLEGE

1. Biochemistry Department
2. Internal Medicine
3. Dr. T. Tani, Director of Bacteriological Institute
4. Department of Pharmacy
5. Department of Pharmacology
6. Pharmacology (Dr. H. Okamoto)
7. Dept. of forensic med.
8. Dermato-Urological Dept.
9. Ophthalmology
10. Obstetric-gyn Clinic
11. Surg. Clinic
12. Physiological Laboratory
13. Arthropodometry
14. Institute of Tubercular research
Appendix "A"

XXI. KYOTO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

1. Leprosy Institute
2. Microbiology (Dr. R. Kimura)
3. Pharmaceutical Department
4. Department of Pharmacology
5. Research Projects
6. Tropical Diseases
7. Utizino-Laboratorium for Chemical Research
8. Neurology and Psychiatry

XXII. KYUSHU IMPERIAL UNIVERSITY

Bacteriology Dept.
Hygiene Dept.
Orthopedic Surgery
Pharmacology
Pathology Dept.
Public Health Dept.
Clinical Division

XXIII. NAGOYA IMPERIAL UNIVERSITY, Faculty of Medicine

Anatomy Department
Department of Bacteriology
Clinical Division
Comments on Medical Education
Hygiene Department
Ophthalmology
Pathology and Parasitology
Dept. of Pediatrics
Pharmacology (Miwa)
XXIV. OKAYAMA UNIVERSITY, Faculty of Medicine
1. Anatomy Department
2. Bacteriology Department (+ Parasitology)
3. Hygiene Department
4. Internal Medicine
5. Pharmacology Department
6. Pathology
7. Physiology
8. Biochemistry
9. Obstetrics & Gynecology

XXV. OSAKA IMPERIAL UNIVERSITY
1. Department of Biochemistry
2. Microbiological Institute
3. Department of Pharmacology
4. Physiology Laboratory
5. Surgical Clinic
6. Takeo Institute for Tuberculosis
7. Internal Medicine
8. Anatomical Institute

XXVI. TOKYO JIKEIKAI MEDICAL UNIVERSITY
Dept. of Forensic Medicine

XXVII. AGRICULTURAL EXPERIMENTAL STATION
Director of Research

XXVIII. JAPANESE ARMY DEPOT FOR MEDICAL MATERIAL
Research Department

XXIX. RESEARCH INSTITUTE OF TUBERCULOSIS
Dr. H. Oka, Director

XXX. WARTIME RESEARCH COMMISSION
Board of Technical Science

XXXI. EDUCATIONAL REQUIREMENTS FOR MEDICAL DEGREE - Igakusi
Alphabetical list of persons whose activities have been examined:

**NIIGATA AREA**

**XIV GOVERNMENT MEDICAL COLLEGE - NIIGATA**

<table>
<thead>
<tr>
<th>Name</th>
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<td>Pathology</td>
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<td>ARIYAMA, N.</td>
<td>Biochemistry</td>
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<td>HASHIMOTO, Takashi</td>
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<td>ITO, T.</td>
<td>Dermatology - Dean of school</td>
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<td>KAIJO, R.</td>
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<td>KIHARA, K.</td>
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<td>NAKATA, M.</td>
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<td>SHIBATA, I.</td>
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<td>Internal Medicine</td>
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**SENDAI AREA**

**XV TOHOKU IMPERIAL UNIVERSITY, MEDICAL COLLEGE**

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<td>Director of T.B. and Leprosy Institute, President of Tohoku University.</td>
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<td>General Research (formerly at Kanazawa)</td>
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<td>YATSUYANAGI, S.</td>
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**SAPPORO AREA**

**XVI HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE**

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HOKKAIDO AREA (continued)

XVI HOKKAIDO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

Name

MINOSIMA, T.
NAGI, K.
NAKAGAWA, S.
NAKAMURA, Tatsuro
ONO, S.
OCHI, Sadami
SAETO, T.
SASAKI, Y.
SAWATARI, J.
SUG. INOUE, H.
TAKEDA, K.
UYENO, S.
YAMASAKI, H.
YANAGI, S.
YASUDA, M.

Associated with:

Physiology
Pediatry
Medicine
Bacteriology
Gynecology
Emeritus Prof. of Ophthalmology
Director, Hot Springs Research Institute.
Mycologist
Otolaryngology
Organic Chemistry
Pathology
Legal Medicine
Anatomy
Surgery
Biochemistry

XVII HOKKAIDO IMPERIAL UNIVERSITY

HAMDIDA, S.
HANZAWA, M.
ISHIKAWA, K.
ITO, Nubo

KOHANAKA, C.
KUROSASA, K.
NAKAMURA, N.
TAKAHASHI, E.

Bacteriology in Vet. Medicine
Applied Mycology
Veterinary Medicine - Dean
Ass't. Prof. of Agricultural Chemistry.
Hematology in Vet. Medicine
Obstetrics in Vet. Medicine
Medical Director, Cryological Institute.
Prof. of Agricultural Chem.

KANAZAWA AREA

XX GOVERNMENT MEDICAL COLLEGE, KANAZAWA

AKIMOTO, H.
HEKI, M.
HIRAMATSU, H.
INOUYE, T.
ISHIKAWA, T.
ISHIMARU, S.
ISHIZAKEY, K.
IWASAKI, Ken
IZUMI, S.
KISANORI, S.
KUMANO, S.
KUROCHI, Y.
KURU, M.
MATSUDA, K.
MIYATA, S.
NAMIKI, J.
OTANI, S.

Psychiatry
Internal Medicine
Physical Therapy
Forensic Medicine
Pathology
Anatomy
Dean of school
Biochemistry
Pediatry
Gynecology
Surgery
Ophthalmology
Surgery
Otolaryngology
Pathology
Dermatology
Hygiene
KANAZAWA AREA (continued)

XXI KYOTO IMPERIAL UNIVERSITY, MEDICAL COLLEGE

Name

OKAMOTO, H.
SAGUCHI, S.
SABURAI, Yosio
TANI, T.
TANINO, P.
UENO, K.

Associated with:

Institute of T.B.
Anatomy
Pharmacy
Bacteriology
Internal Medicine
Physiology

KYOTO AREA

AKACHI
AMANO, S.
ARAKI
FUJIMARU, A.
TAKINAMI, A.
TUNAKA,
HATTOR, S.
INOUE, G.
KIMURA, R.
MATSUMOTO, T.
OGASAWARA, Noboro
OGUI, Kikuo
SEKI, Takeka
SHIMANOTO, M.
Takahashi, Torizo
TODA
URNO, G.
UTZINO, S.

Biochemistry
Pathology
Neurosurgery
Pathology
Pathology
Anatomy
Pediatry
Pathology
Microbiology, Dean of College
Pathology
Director, Leprosy Institute
and Microbiological Institute.
Pharmacy
Pharmacology
Pathology
Biochemistry
Physiology
Pathology
Director Utzino Laboratory -
Chemistry
Pharmacology
Pathology
Science, Parasitology

KYUSHU AREA

XXII KYUSHU IMPERIAL UNIVERSITY

ATSUBO, Kiomiti
HIROFU, R.
HUKUDA, Tokushi
IKUI, K.
IMAI, Takami
INOUE, K. (K. Ishikawa)
ISAKIYAMA, T.
ITIRIKAI, S.
KUSANAYA, G.
Katsuya, T.
MITSUMA, Haruo
YASHIMA, Y.

Hygiene and Parasitology
Biochemistry
Pharmacology
Ophthalmology
Pathology
Radiology
Surgery
Orthopedics - Dean of school
Medicine
Urology
Public Health
Radiology
XXII KYUSHU IMPERIAL UNIVERSITY

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NAGOYA AREA

XXIII NAGOYA IMPERIAL UNIVERSITY, Faculty of Medicine

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<td>YAMADA, K.</td>
<td>Histology</td>
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OKAYAMA AREA

XXIV OKAYAMA UNIVERSITY, Faculty of Medicine

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<td>Director of Research, Hayashi Pharmaceutical Co., Ltd.</td>
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<td>INADA, S.</td>
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<td>OKUSHIMA, K.</td>
<td>Pharmacology</td>
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OKAYAMA AREA

OKAYAMA UNIVERSITY, Faculty of Medicine

Name
SEKI, Masaji
TAEI, Shimizu
TAKEDA, T.
TANABE, Hiroshi
TARO, Kazuno
TSUDA, S.
YAGI, Hideo

Associated with:
Pres., Japanese Anatomy Society
Biochemistry
X-Ray
Pathology
Biochemistry
Surgery
Gynecology and Obstetrics

OSAKA AREA

XXV OSAKA IMPERIAL UNIVERSITY, MEDICAL COLLEGE

FUCHUSHIMA, K.
FUSE, N.
IMAMURA, Arao
ICHIMURA, S.
KAGIWARA, S.
KUBO
KINOSITA

KUROTSU, T.
MABUCHI, H.
NICHIZAWA, Y.
OMURA, T.
OKAGAWA, M.
OTANI, S.

SATANI, Y.
TANIMURA, T.
TAKABAYASHI, H.
TAKAGI, K.
TANIGUCHI, Tenji

YAMAKAWA, K.
YOSHIMATSU, N.
YOUHIDA, S.

Internal Medicine
Internal Medicine
Director, Takeo Institute
for Tuberculosis
Biochemistry
Hygiene
Biochemistry
Director, Cancer Institute -
Pathology
Anatomy
Physiology
Pediatry
Forensic Medicine
Pharmacy
Director, Bacterial Chemistry
Institute.
Director, Institute of Leprosy
Dermatology
Surgery
Anatomy - Dean of Med. School
Bacteriology - Director,
Microbiological Institute
Otolaryngology
Gynecology and Obstetrics
Parasitologist (Retired)
# Tokyo Area

**Associated with:**

- Hygiene
- Biochemistry
- Toxicology
- Chemo-therapeutics
- Biochemistry; Reg. Member
- Pharmacology
- Biochemistry; Reg. Member
- Ass't, Chemist
- Director
- Lt. Comdr.
- Bacteriology
- Urology and Dermatology
- Maj., Gen. - Deputy Director
- Expert
- Sexology - Reg. Member
- Lt. Gen. - Director
- Parasitology - Reg. Member
- Medicine
- Physiology
- Director, Hygienic Lab.
- Chemical Analysis
- Col. - Biologic Mfg. Div.
- Ophthalmology
- Lt. Gen. - Surgeon General
- Vice Admiral - Director
- Director, Bacteriological Lab.
- Captain
- Bacteriology - Reg. Member
- Botany
- Pathology
- Virology - Reg. Member
- Director
- Bacteriology
- Pharmacology
- Forensic Medicine
- Parasitology
- Dean of College
- Reg. Member - Editor, Journal of Experimental Medicine
- Mycologist
- Clinical Medicine
- Bacteriology - Reg. Member
- Hygiene
- Pathology
- Lt. Col. - Maxillo-facial
- Pathology
- Maj. Gen. - Director
- Pharmacological Chemistry
- Major - Radiology

**Institution**

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APPENDIX "C"

Items of Interest Uncovered during the Investigation of Japanese Medical Activities:

The numbered items are specific ones considered to be of interest to medical men in general. This list does not necessarily include all items uncovered, for the available literature was incompletely reviewed; due to language difficulties; some items that are not listed may be of interest to certain medical specialties.

These numbered items are followed by references, indicating the section of Appendix "A" and the report in which it is mentioned.

1. Dysentery of unknown etiology occurring on Shikoku.

   Section I - Report of the same title.

2. Myopic Problem.

   Section II - Ophthalmology Dept.
   Section XXII - Clinical Division - Ophthalmology
   Section XXIV - Ophthalmology
   Section XI - Myopic Problem

3. "Melanophore hormone" in night vision.

   Section II - Ophthalmology Dept.
   Section XXIII - Ophthalmology
   Section IX - Pharmacy

4. Insect Repellents.

   Section III - Pharmacology Dept.
   Section XVI - Pharmacological Laboratory (5, 6, & 7)
   Section III - Research Reports - Studies on Communicable Diseases (2b)
   Section III - Research Reports - Other studies, Prophylaxis and Treatment of Malaria.

5. Gas Gangrene Vaccine.

   Section XIII - Manufacturing Division, Niigata

6. B.C.G. Vaccines.

   Section III - Army Medical College - Kanazawa
   Section III - Biologic Manufacturing Division
   Section VI - Kitasato Institute (1)
   Section III - Research Reports - Studies on Internal Medicine (1).
   Section III - Research Reports - Other studies, Tuberculosis.
   Section XXII - Bacteriology Dept.
Appendix “C” (continued)

6. B.C.G. Vaccines.
   - Section XXIII - Clinical Division - Ophthalmology
   - Section XXV - Takeo Institute for T.B.
   - Section XXIX
   - Section XVI - Hygienic Laboratory

7. Use of "Cepharanthin" in Treatment of T.B.
   - Section XI - Chemotherapeutic Institute
   - Section XIV - Cepharanthin
   - Section XV - S. Ota
   - Section XV - Institute of T.B. and Leprosy
   - Section III - Research Reports - Studies on Internal Medicine (2)
   - Section III - Research Reports - Other studies, Tuberculosis.

8. Toxic glycidiamine from Human Cancer.
   - Section XV - Medico-Chemical Institute

   - Section XVX

    - Section XX - Biochemistry

    - Section XX - Chemotherapy in T.B.
    - Section XX - Pharmacology

    - Section XX - Pharmacology - Dirnethozy-8-diethylaminoethylaminoquinoline.
    - Section XXI - Pharmacology - 2 Methyl-Mercaxto 6 chlor-9-pyridino 3'2' and 2:3 quinoline chlor hydrate.
    - Section XXI - Tropical Disease - Use of Lowered Oxygen Tension in Treatment of Malaria.
    - Section XXII - Bacteriology - 2-Methoxy-6-chlor-9 (4-diethylamino-cydohexyl-amino-acridin).
    - Section IX - Pharmacy - Sulfadibrombenzene.
    - Section I - Parasitology
    - Section III - Parasitology
    - Section IV - Parasitology
    - Section III - Studies on Internal Medicine (3b & c)
Appendix "C" (continued)

13. **Electronic Microscopy Studies.**

   Section XIX (15)
   Section XXI - R. Kimura

14. **Dengue Virus - Cultivation and Vaccines.**

   Section XXI - R. Kimura
   Section XXII - Bacteriology Dept.
   Section I - Dengue.

15. **Leishmaniasis.**

   Section XXI - R. Kimura - Treatment of Leishmaniasis with Antimonyl hexonate
   Section XXII - Pharmacology
   Section I - Parasitology Dept.
   Section II - Colloidal Preparations of Various Heavy Metals (2).
   Section III - Research Reports - Studies in Pathological Fields (5).

16. **Schistosomiasis.**

   Section XXI - Pharmacology - Treatment of Schistosomiasis with Antimonyl hexonate.
   Section II - Colloidal Preparations of Various Heavy Metals (2).

17. **Prosthetic Limb Studies.**

   Section XXII - Orthopedic Dept.

18. **Treatment of R. prowazekii Infections.**

   Section XXIV - Bacteriology

19. **Leprosy Treatment.**

   Section XXIV - Clinical Medicine
   Section XV - Institute of T.B. and Leprosy
   Section V - Okuba Army Experimental Station (Neocymine)
   Section VI - Kitasato Institute (1)

20. **Wartime Research Commission.**

   Section XXV

21. **Education Requirement for Medical Degree - Igakusi**

   Section XXXI
   Section III - Organization of Medical Dept., Japanese Army (6).

22. **Comments on Medical Education**

   Section XXIII
Appendix "C" (continued)

23. Conversion of Sea Water to Drinking Water.
   Section IX - Pharmacy Dept.

   Section XIII - Chiba Government Medical College
   Section XVI - Hokkaido - Hot Springs Research Institute

25. Bone Marrow Extract for Anemia.
   Section XIV - Biochemistry

26. Complement Fixation Reactions in Malaria.
   Section XVI - Bacteriology
   Section III - Parasitology
   Section III - Research Report - Studies on Internal Medicine

27. Colloidal Preparations of Various Heavy Metals.
   Section I - Colloidal Preparations of Various Heavy Metals (1).

   Section I - Colloidal Preparations of Various Heavy Metals (3, 4, 5, & 6).
   Section III - Biologic Manufacturing Division
   Section III - Research Reports - Studies on Communicable Diseases (II-1, 2, 3; 4 & 5).

   Section I - Japanese B Encephalitis
   Section I - Encephalitis Virus Cultured in vitro

30. Infectious Hepatitis.
   Section I - Infectious Hepatitis Virus

31. "Communin".
   Section II - Pathology Dept. (1).

32. Ishihara Color Charts.
   Section III - Clinical Division - Ophthalmology

33. Penecillin.
   Section III - Penecillin Research Committee
   Section XII - Nagac Institute
Appendix "C" (continued)

34. Army Medical College Research Reports.

Section III - Army Medical College Research Reports

35. Studies on Water Supply Apparatus.

Section III - Research Reports - Studies on Communicable Diseases (IV - 1,2,3 & 4).

36. Typhoid Fever.

Section III - Research Reports - Studies in Pathological Fields (9).

37. Treatment of Sea-sickness and Air-sickness.

Section III - Research Reports - Studies in the Field of Otolaryngology.
Alphabetical List of Institutions Screened
(All Roman Numerals refer to Appendix "A")

Agricultural Experimental Station
Army Depot for Medical Materials, Yoga
Army Experimental Station, Okuba
Army Medical College

Chiba Government Medical College

Educational Requirements for Medical Degree

Hokkaido Imperial University, Medical School, Sapporo
Hokkaido Imperial University

Institute for Infectious Diseases (TIU)
Institute of Physical and Chemical Research
Institute for Public Health

Jikei-Kai University, Medical College

Kanazawa Government Medical College
Keio University Medical College
Kitsato Institute for Infectious Diseases
Kyoto Imperial University
Kyushu Imperial University, Fukuoka

Ministry of Health and Social Affairs
Municipal Hygiene Laboratory, Tokyo

Nagao Instituto

Nagoya Imperial University
Navy Medical College
National Research Council
Niigata Government Medical College

Okayama Government Medical College
Osaka Imperial University

Research Institute for T.B.

Technical Intelligence
Tohoku Imperial University, Sendai
Tokyo Imperial University
Tokyo Imperial University, Government Institute for Infectious Diseases

Wartime Research Commission
Appendix "D" (contingued)

Institutes associated with Universities and reported under University Heading:

Moringa Penicillin Plant  
Army Medical College - Niigata  
Army Medical College - Kanazawa  
Criological Institute  
Aeronautical Medical Institute  
Research Institute for Acid Fast Bacillus  
Institute for Hot Springs Therapy  
Chemotherapeutic Institute  
Medico-Chemical Institute  
Bacteriological Institute  
Leprosy Institute  
Utizino Laboratory for Chemical Research  
Microbiological Institute  
Takeo Institute for T.B.

No reports rendered-

Morioka Medical College  
Amori Medical College  
Tokyo Pharmaceutical College  
Tokyo Charity Hospital  
Showa Ison Hospital  
Nippon University, Medical College  
Nippon Medical College
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I. **TOKYO IMPERIAL UNIVERSITY**
   Government Institute for Infectious Disease
   Manufacturing Division
   Parasitology Dept.

   Colloidal Preparations of Various Metals and Biologicals
   B. Encephalitis Vaccine
   B. Encephalitis Epidemiology
   Dengue

   Acute Liver Necrosis due to Infection of Shellfish

   The Action of Immune Serum on the Japanese Encephalitis Virus cultivated in Vitro.

   Infectious Hepatitis virus isolation and cultivation

   Dysentery of Unknown Etiology occurring on Shikoku
This department is responsible for the production of serum, vaccines, toxoids, and other biologic products. Results attained in the Research Dept. are immediately applied in this department.

The laboratories have not been modernized.

Samples of the products of this institute as well as cultures of strains of bacteria used and description of methods used will be forwarded under separate cover.

Attached is a list and description of biologicals prepared.
The laboratory facilities are fairly good in this institute. Dr. Ishii does strictly research work and is probably doing the most important work in Tokyo on medical parasitology. The following subjects were studied:

**Kala-azar:** Transmission studies. Has transmitted leishmania forms to barnsters by the oral and cutaneous routes. Reprints attached.

**Paragonimiasis:** Dr. Ishii states that Dr. Yokogawos in Formosa has obtained good results in the treatment by means of emetine plus sulfanilamide.

**Drugs:** 4, 4'-Diguanidine-diphenylsulfide has proven very effective in the treatment of Kala-azar. Sulfadibrom-benzene found effective in the treatment of bird malaria (reprint attached). Sulfapyridine in experimental spirochmetosis recurrentis (reprints attached).

**Animal Helminthology:** Reprints attached.
Summary of work of Drs. Yonegi Miyagawa and Y. Moriya of the Government Institute of Infectious Disease.

1. Dealing with preparation of antimony powder colloid, silver powder colloid and other metal powder colloids.

Antimony, silver or other metals (Cu, Au, Mg, Zn, Cd, Mg, In, Sn, Pb, As, Bi, S, So, Te, Mn) are evaporated in vacuum by an electric heating unit and dispersed on the surface of crystalline dextrose. Photographs of the diagrams of the apparatus are attached.

The dry powder is stable in vacuum, heat resistant for 5 hours at 80°C and an hour at 100°C. It readily forms colloidal solutions in water having the same solubility as that of dextrose alone (40% or more). The aqueous preparations of the antimony colloids change color slowly due to oxidation of the antimony.

These various colloidal preparations have been used intravenously in both humans and experimental animals in the treatment of certain protozoan, metazean and rickettsial infections as described below.

II. Dealing with the treatment of trypanosomiasis, leishmaniasis, schistosomiasis, clonorchiasis, filariasis, rickettsial disease and "lymphogranulomatosis ingralis" with antimony or silver powder colloid.

(1) Trypanosomiasis. It is reported that intravenous administration of 1.0 cc of 0.007-0.009 antimony powder colloid solution to mice infected (presumably with Trypanosoma gambiense) at a time when the mice were definitely ill resulted in rapid degeneration of the flagellates and their complete disappearance from the blood after two hours. Clinical recovery was complete in one day.

Comparable results were claimed in the treatment of horses suffering from surra (T. Evansi) or dourine (T. equiperdum), with doses of from 50 to 200 cc of a 1% colloidal preparation. Excellent microphotographs show the reported degenerative changes in the trypanosomes.

(2) Leishmaniasis. Data is submitted on the treatment of leishmaniasis in dogs and squirrels. Good results are claimed. The protocols suggest that there were fewer leishmania demonstrable in smears from the organs of the treated animals, that their spleens were smaller and the body weight greater.

One human case of kala azar, eight months duration, was reported cured in 66 days by intravenous injections of the antimony colloid. Apparently the powder used was 3% and was given in doses of 1.0, 1.5, 2.5 — grams in 50 cc of water. There were no toxic manifestations. A total of ten doses were given in 24 days. A progressive improvement in the blood picture is tabulated.
The page does not contain a clear and readable text. It seems to be a mix of words and numbers, possibly a scanned image of a page with some distortion or a page from a document with unclear text. Without clearer visibility, it is challenging to provide a natural text representation.
(3) **Filariasis.** Treatment of 8 cases of human filariasis using various doses of 1% or 3% antimony colloid powder resulted in disappearance of the microfilaria. The higher doses employed sometimes caused anorexia, nausea, vomiting or coughing.

The antimony preparation given to dogs infected with Dirofilaria immitis is reported to have killed not only the microfilaria but also the parent worm leading to embolic occlusion of the pulmonary artery.

(4) **Schistosomiasis.** Five human cases of Schistosomiasis japonica suffering from diarrhea and malnutrition but without splenic or hepatic enlargement were treated with the antimony preparation. The 3% powder was used in doses of 0.5, 1.0, 1.5 and 2.0 gm dissolved in 50 cc of water and injected intravenously every other day. The eggs in the feces disappeared after the fourth and eighth injection and did not reappear within a month and one half. Nausea, vomiting and coughing were occasionally observed. The patients gained weight and overcame their anemia. Seventeen similar patients treated with tartar emetic did not show such a favorable response although they were somewhat improved.

Treatment of experimentally infected dogs followed by post-mortem examinations showed that adult worms and eggs had either completely disappeared or were degenerate.

Four severely infected cattle were treated; three recovered completely and one died during the course of therapy. At autopsy adult worms could not be found and eggs in the tissues were degenerate.

(5) **Clonorchiasis.** Both dogs and human cases are reported to have been cured.

(6) **Typhus.** During a small typhus outbreak (type not stated) in Tokyo in 1943, seventeen patients were treated with a silver colloidal preparation. One (5.9%) patient died. Among 111 not treated 30 (29%) died. It was claimed that treated patients showed rapid clinical improvement.

Antimony colloidal preparations were less satisfactory, since 10 (34.5%) among 29 patients so treated, failed to survive.

(7) **Lymphogranulomatosis ingramalis.** One case was treated with the antimony preparation with good results.
III. Dealing with the preparation of dry plasma, dry sera and bacterial toxins. This deals with drying plasma, serum and tuberculin by vacuum at 37° Centigrade. Dextrose is added for reasons which are not self-evident.

The following had been successfully maintained at room temperature for at least one year:

a. Suspensions of B. coli (mixed with silicates)
b. Lymphogranuloma venereum
c. Cold liver oil
d. Red blood cells
e. Colloidal suspensions of antimony
f. Colloidal suspensions of silver
g. Tubercle bacilli
h. Tuberculin (for skin testing)
i. Human sera (immune and normal)
j. Hyperimmune serum (diphtherium; antitoxic titres checked before and after)
k. Plasma
l. Quinine
m. Plasmochine
n. Ricketosia

IV. Describing preparations of fat powder colloid and its use.

By intermittently spraying fine droplets of oil on warm dextrose crystal kept under a low vacuum, powdered preparations of cold liver oil, butter, neutral fat, etc., were prepared. They contained from 1 - 3% of fat and could be added to water as 10-20% mixtures. No fat globules were visible under the microscope. If the aqueous preparations are left at room temperature in the open air some visible separation of fat occurred after 10 hours.

The 10-20% mixtures were used for intravenous injections in humans in doses of 50-150 cc every 4th day. An interesting series of weight curves were accumulated showing considerable improvement in malnourished patients.

V. Describing preparation of a "powder colloid of whole blood" and its use. Small amounts of whole blood are added repeatedly to dextrose and dried in a vacuum between each addition. This mixture of dried powdered whole blood and dextrose has been put into solution and given to humans by the intravenous route for the treatment of anaemia, both acute and chronic. With use of the larger doses, hemoglobinuria "occurred with no harm."

VI. Describing preparation of "powder colloid of bacteria" and its antigenic properties. Bacteria disintegrated by various procedure such as freezing and crushing, "colloid mill method" "Weimarus" method and the supersonic wave method, are dispersed on the surface of dextrose crystals in the same amount to dextrose powder, thorough mixing, drying in a vacuum and repetition of the same process.
VI. (continued)

The preparations are readily soluble in water, forming "typical milky turbid suspened solutions". It is claimed that studies in both humans and animals show the preparations to be more antigenic and less toxic than bacterial emulsions. Also the dry powder is more stable than the usual liquid preparations.

Samples of these preparations are being forwarded under separate cover.
IV. (continued) The preparation of the necessary supplies in water forming

Sample with sufficient aqueous solution. It is obtained from

gły bowar to move hatch from the nearest fitting preparation.
I. Vaccine - Japanese B Encephalitis (Kitsoka)

Vaccine consists of 10% of 0.2% formolinized (suspension) of mouse brain, (in saline). Two subcutaneous injections of 0.8 and 1.0 cc are given.

One thousand individuals in test area vaccinated. However, no outbreak occurred so no human evaluation was possible. Serum from a greater portion of those vaccinated showed 1,000 to 10,000 neutralizing antibodies (per cc). (Neutralizing antibodies against 1,000 to 10,000 M.L.D. of virus).

Vaccine standardization:

Three doses of vaccine 0.3, 0.5, and 1.0 cc given to 20 gram mice at five day intervals. Two weeks later mice resist 100 or 1000 intracerebral doses. (of virus?)

Five tenths cc of serum from vaccinated individuals inoculated subcutaneously protects mouse 12 days later against 100 or 1000 intracerebral doses. Monkeys receiving 10 cc similarly protected in five days.

II. Epidemiology of Japanese B, encephalitis.

Kitaoka (1938) Tokyo Iji Shinshi (weekly medical journal) reports isolation of virus in the field from culex pipiens var. pellens and aedes albopictus. Anophalos sinensis found on laboratory experimentation to be a vector. Tranovarian transmission was noted.

In regions where disease prevalent-antibodies were found in a "normal" man (80-90%, dog and pigs (85%), horses (98%), cattle (88%). These observations were in the Tokyo area. Sera from Hokkaido was negative. Sera from Kobe and Osaka showed a lower percentage of positives. The percentile difference showed a relation also the mosquito incidence.

Active infection has not been noted in horses and cattle.

III. Dengue.

Claims for the isolation of a phenol susceptible dengue virus, some years ago, with the same filtration size as the yellow fever virus have been made. A sample of this virus is to be forwarded under separate cover.

Japanese studies with this virus showed no difference between it and the Java and Malayan strains.

A strain of dengue virus, isolated in 1943 by injecting patients whole blood intra cerebrally into mice, is now in its
III. Dengue (continued)

200th mouse transfer. (With this virus) Two to three per cent of mice show paralysis two to three weeks after injection (no encephalitis).

Thirty-five hundredth cc of a 10% emulsion of the brain from the tenth mouse passage inoculated subcutaneously into humans, caused fever (39°) in eleven days that lasted for five days. A maculopapular rash lasting 20 hours appeared thirteen days post-inoculation. Patients serum 12 days after illness, produced (?) encephalitis in 100% of the injected mice. Patients serum three weeks after inoculation neutralized mouse virus. The potency of the virus is constant between 10^-4 (.0001 cc) to 10^-5.5 (.000005 cc).

One experiment on human vaccination with 10% of a 0.25% formolinized mouse brain suspension (in saline) given in three doses of 0.5 cc, 0.8 cc and 1.0 cc at weekly intervals, protected against 0.2 cc and 0.7 cc subcutaneous injections of infected human serum. The control came down with a typical case of dengue.
(continued)
Acute Liver Necrosis due to Infection of Shellfish (Oysters and Mussels)

Toxin has been extracted from liver of the poisonous mussels and oysters by Dr. Akiba (Bacteriology Dept. of Tokyo Imperial University). It is water and alcohol soluble and thermostable. Immune responses were not studied. Toxin injected into mouse, cat, dog, rabbit, reproduced hepatic lesion; not in rat. Cause of rat resistance not known. Transplantation of normal mussels and oysters, to affected regions in spring, induced toxic properties; conversely toxic shellfish, transplanted to other regions, lost their toxic properties after a few weeks. Studies of plankton, in affected regions, were unrewarding.

Reprints on the pathology and clinical findings are attached.
The action of Immune Serum on the Japanese Encephalitis Virus Cultivated in Vitro.

A "so-called" Immune Horse Serum prepared by inoculation with 10% mouse brain virus (Strain Kalinina isolated in 1935) over a period of five months, a total of approximately 2,250 cc was injected, inactivated virus in vitro and protected mice (8 to 10 gm) in a dilution of 1-10,000 (100 M. L. D.).

The Immune Serum also inactivated the virus in a culture flask - after 24 to 48 hours incubation at 35°C. Virus cultivated in chick embryo (9 day old) were likewise inactivated by the Immune Serum. (0.3 cc of serum in 2.7 cc Tyrodes solution inoculated with one drop of infected chick brain tissue.)

The possibility of serum Therapy in Japanese encephalitis is indicated. No human experimentation is reported.
Infectious Hepatitis virus isolation and cultivation.

Experiments were conducted involving numerous animals and techniques which resulted with claims for the isolation of the virus and mouse infection (subclinically) with transmission from generation to generation. This virus appears to be about the size of the herpes virus. The active agent produced some degree of immunity in mice, and the neutralizing antibody was detected in the sera of human convalescents. This new virus does not belong to the spontaneous pneumotropic mouse viruses, nor has immunological relation to the influenza-A-virus through cross immunity tests.

Cultivation of the virus in fertile eggs is claimed - Goodpasture Technique is utilized.
Introduction. Reports where information and knowledge unite and

Integration, where both are 

integration, where both are.

The focus is on the information of the

where the focus is on the information of the

where the focus is on the information of the

where the focus is on the information of the
Dr. Kojima is an authority on Enteric infections and Director of the International Salmonella Center for Japan. Recently several new species of Salmonellae have been isolated in his laboratory. Cultures of these are being obtained. The new species were not isolated in conjunction with any large outbreaks of disease but were from individual cases.

Questioned concerning dysentery, whooping cough and gonorrhea vaccines, Dr. Kojima did not consider them very effective. Concerning Influenza vaccination, he felt that the Japanese vaccine was effective for three months. He has an "A" influenza virus but his "B" virus is no longer viable. A culture of the "A" virus was requested from him. He in turn would like to procure the "B".

An epidemic of dysentery of unknown etiology that first occurred in Takamatsu-Kagawa Prefecture, Shikoku Island was thoroughly discussed. The disease has only been encountered on the one island and there only in the one prefecture and in that mainly in the city and towns surrounding Takamatsu. The disease first was brought to his attention in 1944, at which time there were 4,000 cases, with a thirty percent mortality. In 1945 there were 3,000 cases, with a twenty percent mortality. The disease is most prevalent from June to October, though cases occur up into December.

Clinically, the disease is like Shiga dysentery, and exhibits the following symptoms: Tenesmus, frequent stools (30 to 100 per day); stool bloody with mucus; severe headache; coated tongue; loss of appetite; fever, as high as 103; onset sudden; the incidence by age groups is high - in children under 10 and in the group over 30. A typical curve would be as follows:

![Incidence Curve](image)

The course of the disease is severe in children and in the older groups. Mild cases occurring and not being reported in the middle aged group, may account for the curve presented. The duration is from one week to ten days. Those with the severe type infection die within ten days.

Shigella shige was not isolated from any patients. However, a paracolon-like organism, now called the "Obayashi strain", was isolated from about 20 patients. This organism is agglutinated by the patients serum in a dilution of 1 - 300. Shiga and Florner strains, of known origin, are agglutinated only in the low dilutions of sera (1 - 100). The Obayashi strain is considered as the possible etiological agent, by the above. Cultures of this strain are being produced.
In therapy an oral vaccine, prepared with this strain, was tried in a few instances without success. A limited amount of sulfaguanidine, available and used, seemed to be effective. However, insufficient drug did not permit large scale use.
TOKYO IMPERIAL UNIVERSITY, Medical College
Institute of Pharmacology and Pharmacy
Pathology Department, Serology Section
Brain Research Institute
Ophthalmology Dept.
Division of Physiotherapy and Internal Medicine
TOKYO IMPERIAL UNIVERSITY
Institute of Pharmacology and Pharmacy
Headed by Prof. Kenzo Tamura.

The last five years, due to limited laboratory equipment and supplies, very little new research was conducted. The following subjects were studied:

Digicorin: A glucozide of Digitalis isolated and structure determined by Tamura, Ishidate, Kobayashi and Tokita.
- Use: Cardiac stimulant
- Action: Less toxic than digitalis
- Reprints and samples attached.

Vitacamphor: "P-oxoamphor"
- Synthesized by: Tamura, Kihara, Ishidate
- Use: Cardiac Stimulant
- Action: That of stimulation
- Reprints and samples attached.

Bufotalis: "Senao" Extracted by Kobayashi
- Use: Cardiac stimulant
- Reprints attached.

Estrogenic substances and Pituitary preparations. Reprints attached.

Copy of Japanese Pharmacopoeia is being forwarded under separate cover.
TOKYO IMPERIAL UNIVERSITY
Pathology Department, Serology Section
Dr. Tomio Ogata

I. "Communin", a new drug studied by Dr. Ogata is of bacterial origin and used in the treatment of pyogenic infections and eczema.

The clinical use of bacterial filtrate was suggested by the fact that small doses of such filtrates will inhibit the Shwartzman phenomenon and Dr. Ogata believes the active substance producing the Shwartzman phenomenon stimulates the reticulo-endothelial cells to produce a substance harmful to bacteria.

The preparation of the filtrate is as follows. B. Coli are grown on Agar plates for 20 hours and washed off with saline. The Saline suspension is centrifuged and the supernate filtered through a Sietz or Berkefeld filter. This concentrated filtrate is diluted about 100 times and given in 1 cc subcutaneous injections daily for 5 to 7 days.

Approximately 1,000 patients have been treated with good clinical results and there are case protocols on about 300 cases.

Dr. Agata believes the saline material is a carbohydrate and he and his associates are working on its isolation.

Attached is reprint with a local translation of same and one vial of the drug.


II. Studies on the Precipitation Reaction are also undertaken in the Serology Section. Attached is a reprint on same.
The anticipated use of personnel training was supported by the fact that most cases of numbness will itch if the patient feels they are getting written down the wrong way.

New pronouncements on the Ceylon policy for effective management of cancerous tumors can be made.

It is essential to observe and report any incidence of progressive infection.

Attention is given to the incidence of infection in cases of cancer.

It should be noted that the incidence of infection in cases of cancer is not as significant as in other conditions.

The incidence of infection in cases of cancer is more common in the early stages of the disease.

The incidence of infection in cases of cancer is significantly higher in cases where chemotherapy is used.
This institute appears to be a very loose knit affair; an institute in name only. It is directed by the professor of psychiatry Dr. Yushi Uchimura.

Research work is divided into three fields - Anatomy, psychology, and hereditary Biology. The psychiatry and neurosurgical wards of the University Hospital afford clinical material in connection with projects of the institute. Current projects are:

- Effects of the Atomic bomb on the Brain and Nervous System.
- Electroencephalography studies on epileptics, on effects of drugs on the brain, and comparative studies of waking and sleeping states.
- Mental development of twins.
- Histology of the brains of genius.
HISTORIC DEVELOPMENT OF CINEMA

HISTORIC OF THE PRACTICE OF CINEMA

Restoration work to enhance service quality.
The preservation and restoration of the service quality to improve the effectiveness and efficiency of the service operations and registration.

In connection with the protection of the interests of the consumer, the consumer protection measures and the service quality, the effectiveness and efficiency of the service operations and restoration.

HISTORIC OF THE PRACTICE OF CINEMA

HISTORIC DEVELOPMENT OF CINEMA
TOKYO IMPERIAL UNIVERSITY, MEDICAL COLLEGE
Projects for the Improvement of Vision (National Research Council)
Ophthalmology Dept. - Prof. Yoshiharu Shoji

The major objectives and accomplishments of the National Research Council program are summarized in the attached reports submitted by Dr. Shoji. According to Dr. Shoji the myopia problem in Japan involves 15% of the population. Within this group about 20% have a myopia of three diopters or more and these are all due to elongated eyeballs and are incurable. Eighty percent have a myopia of less than three diopters and among this group one in five is due to spasm of accommodation which can be alleviated by atropine. At present fewer people are developing myopia and this is related apparently to the fact that there have been fewer students doing close work.

Professor Nakejima has been working with a hormone known as "melanophoren hormone" which is said to improve night vision in humans.

Under separate cover, three books and a set of reprints representing the work of Dr. Shoji, are being forwarded.
Institute of International Education - Field Training Report

Project No: 1234

Title: The Impact of Education and Economic Growth on the Development of Africa (National Development Council)

Objective: To explore the role of education in the development of Africa.

The impact of education and economic growth on the development of Africa cannot be overstated. Education is crucial for the development of a nation. It is through education that individuals acquire the knowledge and skills necessary to contribute to the economic growth and social progress of their countries. Education helps in the cultivation of critical thinking, problem-solving skills, and creativity, which are essential for innovation and development.

The importance of education cannot be overstated. It is through education that individuals acquire the knowledge and skills necessary to contribute to the economic growth and social progress of their countries. Education helps in the cultivation of critical thinking, problem-solving skills, and creativity, which are essential for innovation and development.

In Africa, education has been a fundamental component of development strategies. However, despite significant progress, many countries still face challenges in providing quality education to all their citizens. Factors such as poverty, insufficient funding, and inadequate infrastructure continue to hinder educational attainment.

To address these challenges, several initiatives have been launched, including increased funding for education, teacher training, and the provision of educational materials. These efforts have led to improvements in educational outcomes, with more children enrolling in schools and completing their primary education.

Nevertheless, there is still much work to be done. The quality of education remains a concern in many African countries, with issues such as teacher shortages, inadequate curriculum, and lack of infrastructure posing significant challenges.

The importance of education in the development of Africa cannot be overstated. It is through education that individuals acquire the knowledge and skills necessary to contribute to the economic growth and social progress of their countries. Education helps in the cultivation of critical thinking, problem-solving skills, and creativity, which are essential for innovation and development.
Investigations were conducted on allergic diseases and hot springs therapy. There is very little hay fever in Japan, probably due to lack of windblown hay fever producing pollen. There is no ragweed pollen. Food allergy is not uncommon and the most common allergy producing foods in Japan were Eggplant, Bamboo sprouts, spinach, sea fish and buckwheat. Prof. Misawa believes the histamine content of their foods is the cause of their producing allergic symptoms.

Treatment used is Vitamin D and Calcium Salt therapy. Injection treatment with antigens is not used, but Histamine injections are though to be beneficial.

Reprints of Dr. Misawa's research work, published since 1940, are forwarded under separate cover.
Army Medical College, Tokyo

Clinical Division

Biologic Manufacturing Division

Parasitology Section

Physical and Chemical Laboratory

Penicillin Research Committee

Manufacturing Division, Niigata

Dept. of Pharmacology

Kanazawa Brance

Field Manuals

Research Projects and Findings

Organization of Japanese Army Medical Dept.
Surgery is done according to accepted procedures and no new techniques have been devised. There has been no experimental or clinical research of importance or of an original nature.

Ophthalmology - Colonel Yaganoto

Original work carried out during the war consisted of studies of color perception and extending the work of Ishahara by development of a new color chart for the detection of fatigue in color vision. Some work has been done on the use of the color blind to detect camouflage. Some thought has been given to the development of the so-called "6th sense" in the blind.

Maxillo-facial surgery - Lt, Col Matsuki
Plastic surgery - Col. Toda
Urology and dermatology - Col. Tanahashi
Radiology - Maj. Misanou

Internal Medicine - Col. Hirobunii Osuzu

The department of internal medicine has been working mostly on clinical research in tuberculosis and in carrier detections in typhoid fever. No significant research has been conducted.

Orthopaedic Surgery - Col. K. Takigawa

Battle fractures are handled by skeletal wire traction and casting with windows. Wounds are left open and not packed. Secondary suture is used in suitable cases.

Department of Neuro-Psychiatry - Col. Keisaburo Suwa

Located in separate building, called the "Konodai Insane Hospital". Bed capacity about 700. Patients mostly psychotics with a few war neuroses and organic neurological cases, including brain injuries. It is worth mentioning that paresis accounts for only 5% of admissions as contrasted with 19% in civilian mental hospitals. Treatment was being carried out along the line of accepted principles. Careful records and statistics were being kept but there were not research projects worthy of note.
Due to destruction of the buildings, this section has moved its plants to Niigata and Kyoto. However, Col. Inouye and part of his staff remained in Tokyo.

Vaccines used in Japanese Army are: (inoculations are given as indicated below)

Typhoid, paratyphoid A, paratyphoid B - mixed - routine
Smallpox - routine
Typhoid - Control measure in face of an outbreak
Paratyphoid A - " " " " " "
Paratyphoid B - " " " " " "
Cholera - " " " " " "
Plague - " " " " " "
Meningitis - " " " " " "
Typhus - " " " " " "
BCG - to all tuberculin negative soldiers
Tetanus - Toxoid in experimental stage
Gas Gangrene - Toxoid in experimental stage

Cholera strains used were three isolated recently from an outbreak in Shanghai. Plague cultures were isolated from four human cases in Burma and Manchuria.

The BCG immunization program has been in effect since 1942. Approximately 20-30% of all men joining the Army received BCG.

In 1945, the vaccines were prepared in a dry form to prolong their potency. They never came into practical use.

Vaccines were manufactured in Japan, Manchuria, North China, South China and Singapore.

Procedures employed in producing vaccines are attached.

Visits of the Niigata and Kyoto plants are anticipated.
Very little research work has been done on parasitic diseases. The following subjects were studied:

**Filariosis**: Treatment of cases of hemiatochuria with colloidal antimony plus oral administration of picric acid. Good results reported.

**Complement Fixation Reactions in Malaria**: Specific antigens for *P. Vivax*, *P. Malarial* and *P. Falicparum* are prepared from the plasmodia obtained from human cases. Antigen prepared in an Na OH solution and left at ice box temperature - good for one week. Claim test is species specific with no cross reactions.

**Treatment of Malaria**: Sheet attached.

These subjects are covered in "A new Book on Tropical Medicine", edited by Prof. Dr. Miyagawa, 1945, which is being forwarded under separate cover.
Very little information has been given on the history of this area.

The following remarks were written:

**TREATMENT:**

Good records were kept.

**COMMENTS:**

- Treatment of cattle: Specific with good records.
- Treatment of livestock: Specific with good records.

**TREATMENT OF WASTE:**

These operations were conducted at a new farm on property owned by the author's brother. The method used was to place the waste under water and then aerate it.
The laboratory equipment in general is very poor.

This laboratory is primarily a control lab for the Japanese Army. Routine tests are made on water, milk and all drugs and chemicals bought by the Army for their use.

Very little research is done.

The attached report indicates some synthesis attempted in the laboratory. None of this material has been tried clinically.

A copy of Japanese Army Pharmacopoeia will be forwarded under separate cover.

Attached are photographs of the Kishima plant and a local translation of a report on research and production by Dr. M. Sasaki.
The Japanese government in response to every order

The Japanese government in response to every order

The Japanese government in response to every order

The Japanese government in response to every order

The Japanese government in response to every order

A copy of the Japanese word "fragilis" will be forwarded.
This committee was organized in February 1944 and its Direction appears to come from the Army Medical College. Outstanding Japanese scientist from many fields are associated with it.

The Nagao Institute did most of the original culture work where more than 1000 strains of P. Notatum were isolated—eleven of these were productive. Two strains (#233 & 176) have been utilized. Total commercial production was reputedly 1500 gms. of finished penicillin per month with smaller amounts produced in research laboratories and some crude local production in other places.

Commercial production is done in the Moringa plant at Mishima (capacity 1000 gm. per month). The finished product is crude according to our standards.

Attached are photographs of the Mishima plant and a local translation of a report on research and production by Dr. H. Umezawa.
The committee was authorized to implement the final

recommendations of the study team and to coordinate

with the various agencies involved.

The increase in student enrollment has driven the need for additional faculty and staff. The challenge is to maintain the quality of education while accommodating the growth.

In response to increased demands, a new academic program has been initiated to address the shortage of qualified teachers.

In the academic year 2000-2001, the student body has grown significantly. The enrollment has exceeded the projections made in the previous year.
An alum precipitated polyvalent toxoid-containing V. septique Cl. histolytica, Cl. welchii, Cl. noryii may have some merit.

Report of this work in reprints to be submitted upon receipt by this committee.

The attached formulas was furnished this office by the

 fences in lieu of the original reports which have been sought

 but not secured.

Also attached is formulas for preparing Tetanus vaccine.

Reference is made to Section III of Appendix "A" in previous

 reports.
Gas Gangrene Vaccine

The attached formulae was furnished this office by the Japanese in lieu of the original reports which have been sought but not secured.

Also attached is formulae for preparing Tetanus vaccine.

Reference is made to Section III of Appendix "A" to previous reports.

Prof. O. Katsuzaki and Prof. K. Sagi at the Agricultural Dept. of Imperial University, prepared a small amount (after hundred grains) of which the Navy experimented.

The medical department employed pyrethrum as the main insecticide. Derris was not available to any great extent.

The repellents used were lemon grass oil, Citronella and a mixture of Demothianese and Thymol, which were found very effective against mosquitoes.

Paris green and arseno-arsenic comrade Paris Arsen were used against mosquito larvae.

Attached is a summary of research on Synthesis of B.D.T.
Insect Repellents

Worked on the production of D.D.T. Less than 1 kilo was prepared due to shortage of chlorine and benzene. It was found very effective against lice, but only sufficient quantity was available for experimental purposes.

Information of use of D.D.T. by the American Army, was obtained thru News Agency from Germany in August, 1944, when Germans discovered it was being used on the skin of war prisoners.

Prof. O. Kaburaki and Prof. H. Mori at the Agricultural Dept. of Imperial University, prepared a small amount (after hundred grams) with which the Navy experimented.

The medical department employed pyrethrum as the main insecticide. Derris was not available to any great extent.

The repellents used were lemon grass oil, Citronella and a mixture of Benzopheriene and Thymol, which were found very effective against mosquites.

Paris green and annon-arsenic compound Ferric Arson were used against mosquito larva.

Attached is a summary of research on Synthesis of D.D.T.
Appraisal is a summary of reasons or evidence of D.T.T.
The use of B.C.G. in the Army and the preparation of a better B.C.G. has been the prime duty of the above in his connection with the Army.

Reprints of data have been procurred. Further data is to be submitted by mail. These items will be forwarded under separate cover.
The use of A.O.C. in the A.R. and the presence of a
section with the A.R. and the A.O.C. has been the basis of the opera in the case

Furthermore, A.O.C. has been known for its use to guide the analysis of a specific case.
Manuals for distribution to Japanese medical officers, staff officers and enlisted personnel, dealing with the subjects listed below, have been collected and delivered to A.T.I.S., GHQ, AFPAC, for translation and forwarding:

1. Bacteriological examination methods for contagious diseases and for food poisoning.
3. Immunizations.
4. Field medicine.
5. Unit dental care handbook for medical officers.
6. Tropical hygiene and sanitation.
7. Psychiatric examinations.
8. Chemical warfare detection methods.
10. Sanitation and hygiene in cold areas.
το αποκαλούμενον υπ’ αείων σε αυτό ελέεινα

δ’ ἀνωτερότερον εἰκονισμόνα

ζ’ ἀποπεμφήνανεν γι’ ἀλλήλον διά τις ἑαυτοῦ

η’ ἐκείνων αἰτητῶν

θ’ ἀνατελλόμενον γι’ αὐτό ἀρχαίον λόγον εἰσεχῆναι

ε’ ἀλάθθηνεν τὸν

δ’ ἐλευθερώσεις

ε’ ἀποτελήσεις

ζ’ διά τὴν χρονίαν γι’ αὑτόν

η’ νομοθετήσας τὸν, πρὸς ἄλλην ἑαυτῷ ἔστω, ἀνατέλλοντον.
Attached is a list of the research projects of the Japanese Army Medical College and an English summary of the findings.

Reference is made to the report on Wartime Research Commission, Section XXX.
Attached is information from the CG, Japanese Army Medical College on:

1. Total number of doctors, scientists, nurses and other officers and enlisted personnel.

2. Total number of hospital, laboratories and other fixed and mobile units.

3. Distribution of medical personnel and units in Japan and in occupied areas.

4. Medical education, before and during war, in the Army.

5. Tables, of organization and equipment, of medical units.

6. Lists of casualties during the war, with breakdown as to cause and effect.

and the curriculum of civilian medical schools before and during the war, for doctors, dentists and nurses.

Answers to questions 2, 3, and 4 are in the process of translation and will be forwarded under separate cover.
IY
KEIO UNIVERSITY MEDICAL COLLEGE
Chemistry Dept.
Department of Parasitology
Anatomy Department
Journal of the Faculty

Laboratories were destroyed during the war.
Attached are reprints of recent research such:
Importance of Lissle acid in Nutrition
II - Alitominas
Transformatron of Carbohydrate from Life
Blood Coagulation
Miscellaneous
Main investigations carried out on Transformation of carbohydrates from fats, on coagulation of blood, and on Vitamin and nutrition studies.

Laboratories were destroyed during the war.

Attached are reprints of recent research work.

Importance of Linolic acid in Nutrition

C - Ajitaminuse

Transformation of Carbohydrate from fats

Blood Coagulation

Miscellaneous
The attached is a catalogue of the volumes of this journal published since April 1941.

Journals are being forwarded under separate cover.
Dr. Koidzumi and associates have done most of their work for the past fourteen years on the properties of the toxic substances of Ascaris. Subject covered were:

**Ascariosis:** Collected papers on this subject being forwarded under separate cover.

**Provocative Measures in Malaria:** It was stated that stibisan is very effective in bringing malaria parasites into the peripheral circulation. Much better than adrenalin.

**Fever Therapy in Paretics:** *Plasmodium ovale* utilized. Stated to be more effective than *P. vivax* or *P. malarial.* Also easier to control and to effect a cure of the malaria infection.
The attached is a catalog of the volumes of this journal published since December 1940 issue.

Publication was discontinued after the April 1943 issue.

The journals are being forwarded under separate cover.
ARMY EXPERIMENTAL STATION, Okuña

Medical Section

General
This is an Ordnance installation; however, it appears that ordnance was an overall Technical service to the Japanese.

This station is divided physically and by fields of work. For instance, 

#6 Section is CWS (Screened by CWS representatives)  

#7 Section is Medical. Its delegated function pertains to weapons relating to physics. The director is Major General Matsusaki (Medical). As a sideline Gen. Matsusaki was interested in increasing the individuals vigor and sensual acuity. It is reported by other Japanese that he accomplished little.

Reference is made to Appendix "A", Section V.

#10 Section is Shipbuilding. There was a medical staff but it is reported that it accomplished nothing.

These are the only sections having medical groups.

Weapons pertaining to physics have been reported upon by the Scientific Intelligence Survey.
Presentation of work by Surgeon Major General Matsusaki and staff. The only subject of interest was "Neocyamine".

This chemical is employed in photography as sensitizing agent to infra-red. The basic idea advanced by General Matsusaki et al. is that if more infra red rays can be brought into the body a beneficial effect will be produced. They have administered neocyamine to experimental animals and to approximately one million humans. It is claimed that the drug is beneficial in the treatment of frost bit, uninfected and infected wounds, carbuncles, erysipelas, pyemia, burns, tuberculosis, lymphadenitis, and leprosy.

The drug is known here as Koha A (Neocyamine). Approximately 300 chemical derivatives have been prepared. Of these about 100 have been tested in animals. Koha A is reportedly non-toxic. The usual dose is 1 or 2 tablets by mouth daily or 2 cc (0.5mg) of a solution intravenously.

A number of laboratory and clinical reports were submitted in support of the claims made. Most striking are the claims for the successful treatment of the leprosy. Among 371 lepers treated 61% were said to have shown evidence of improvement. A lengthy series of photographs to support the claim were presented.

Attached are reports in Japanese script concerning Koha A. Samples of the drug are forwarded under separate cover.
VI KITASATO INSTITUTE FOR INFECTIOUS DISEASE, Tokyo

Dr. T. Kitashima, Director,

VII INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH

Physiological Chemistry and Nutrition

VIII MUNICIPAL HYGIENIC LABORATORY, Tokyo

Municipal Bacteriological Laboratory

X TECHNICAL INTELLIGENCE

(Accession list submitted in periodic reports)
I. Bacteriology

Principal research work has been done on Tuberculosis, Leprosy, Typhoid and para typhoid fever, and dysentery. Work on Tuberculosis has been chiefly differential studies on bovine, human and attenuated strains. Leprosy studies have been on the pathogenicity and transmission based upon Watanabe's "so-called" filterable rat strain. Typhoid and paratyphoid studies have been on prophylaxis, attenuate strains for vaccination and inoculation versus oral vaccination. Dysentery studies were on prophylaxis, oral vaccination, and differentiation.

II. Parasitology

Very little research has been done in the last ten years.

Concerning schistosomiasis, the cow is the most important reservoir host and is more important than man in the transmission of S. japonicum. Lime nitrogen has been found effective in the control of snails.

Concerning mosquito control, the breeding of Aedes Albopictus in pools in Tokyo Area has been controlled by means of a minnow Oryzius Latipus.

Attached is a list of studies published during the last five years.

Archives of the institute since 1940 will be forwarded under separate cover.

It appears that such eminence as this institute once had is rapidly fading into the past.
INSTITUTE OF PHYSICAL AND CHEMICAL RESEARCH
Physiological Chemistry and Nutrition
Dr. Waro Nakahara

(From a report, Chemical Research carried out at the Institute of Physical and Chemical Research, dated 25 September, 1945, of Scientific Intelligence Section GHQ, AFPAC.)

No military research was carried out.

Dr. Nakahara stated that he had discovered a new specific dietary requirement; a lactation factor made up of two constituents, one an adenylic acid compound and the other, peculiarly enough, ortho amino benzoic acid.

Estimate by the interrogating officer was that Dr. Nakahara was a scientist of high order and truthful.
I. Hygienic laboratory and director Dr. Fusao Ishiwara, is a governmental and municipal institution serving public agencies, physicians, and private citizens.

It is divided into four sections - one for water analysis, and one for food analysis, another for clinical analysis including X-ray, and the other chemical analysis.

Production of biologics is limited to diptheria toxoid and dried plasma.

Laboratory appears to be in a "rundown" condition.

II. Bacteriological Laboratory, directed by Dr. S. Kanno, is a governmental and municipal institution which prepares biologics and conducts surveys. Typhoid, typhoid Para typhoid A & B, Cholera, and Dysentery vaccines were prepared. Surveys for carriers of typhoid, paratyphoid A & B, Dysentery, Cholera, Diptheria, Meningioci, and Plague were carried out.

Research work was unimportant.
IX NAVAL MEDICAL COLLEGE

Organization

Preventive Medicine

Department of Pharmacy

<table>
<thead>
<tr>
<th>Section</th>
<th>Department Head</th>
<th>Number of Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>System of Education</td>
<td>Surgeon Capt. Yokano, Narashim</td>
<td>3</td>
</tr>
<tr>
<td>Medicine</td>
<td>Capt. Kunai, Arima</td>
<td>3</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>Capt. Yama</td>
<td>3</td>
</tr>
<tr>
<td>Oto-Rino-Pharyngology</td>
<td>Capt. Nakamura, Yokota</td>
<td>3</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>Capt. Yonekura, Ouma, Tomita</td>
<td>3</td>
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<tr>
<td>Dermatology</td>
<td>Capt. Nakamura</td>
<td>3</td>
</tr>
<tr>
<td>Histology</td>
<td>Capt. Nakamura, Yokota, Ouma, Nakamura</td>
<td>3</td>
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<tr>
<td>Anatomical Biology</td>
<td>Capt. Miyao, Aria, Arima, Gozo, Nakamura</td>
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<tr>
<td>Anatomy</td>
<td>Capt. Nakamura, Yosa, Narashim, Oka, Narashim</td>
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<tr>
<td>Pathology</td>
<td>Capt. Narashim, Oka, Gama, Ota, Narashim</td>
<td>1</td>
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<tr>
<td>Pharmacology</td>
<td>Capt. Narashim</td>
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</tbody>
</table>

Plant of Study

At the beginning of the first year each departmental head makes a plan for the year. The plan includes the objectives, the methods to be used, and the schedule of the activities planned. The plan is reviewed and approved by the department head and the dean of the college.

Publication of the results of students

(1) Examinations: The students are examined at the end of each term. The examination results are recorded and kept on file. The records are destroyed after the students have graduated.
Research Organ

Kenkyubu in Naval Medical College was established in Autumn, 1943.

Object

The study of the medical science and pharmacology which is necessary for the sanitation and hygiene of the navy.

Organization

Chief of research.
Surgeon Rear-admiral Osuka, Kanai, Yokokura.

Staff of general affairs.
Surgeon Commander—Watanabe, Ota.

Departments.

<table>
<thead>
<tr>
<th>Section</th>
<th>Department Head</th>
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</tr>
</thead>
<tbody>
<tr>
<td>System of Education</td>
<td>Surgeon Capt. Yosida, Murakama</td>
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<tr>
<td>Medicine</td>
<td>S. Cap. Kanai, Ariga</td>
<td>3</td>
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<tr>
<td>Surgery</td>
<td>S. Cap. Tomita</td>
<td>2</td>
</tr>
<tr>
<td>Oto-rino-pharyngology</td>
<td>S. Cap. Nakamura, Yosida</td>
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</tr>
<tr>
<td>Ophthalmology</td>
<td>S. Cap. Funakawa, Comm. Tanaka</td>
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<tr>
<td>Dermatology</td>
<td>S. Comm. Nakauchi</td>
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<tr>
<td>Roentgenology</td>
<td>S. Rear-adm. Yokokura, Comm. Norioka</td>
<td></td>
</tr>
<tr>
<td>Bacteriology</td>
<td>S. Cap. Miyao, Arima, Kawai, Comm. Hatakeyama</td>
<td>6</td>
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<tr>
<td>Hygiene</td>
<td>S. Comm. Kiyohara, Toda, Nakamura</td>
<td>4</td>
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<tr>
<td>Pathology</td>
<td>S. Cap. Murakami, Comm. Ota</td>
<td>1</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>S. Cap. Murahara</td>
<td>4</td>
</tr>
</tbody>
</table>

Plan of study

At the beginning of the financial year each departmental head makes a plan over the thesis of the practical studies, viz: Sanitation and hygiene of the Navy, Prevention & Treatment of sickness and wound, Prevention of gas casualties.

Publication of the result of studies.
(1) Kenkyubuho, Med. Journal (2) Kaigun Gunikai Zasi, Research record. It is claimed that records were destroyed. The proceeding is extracted from a local translation.
Education in the Naval Medical College

1. Type of students

(1) The surgeon education (I class—beginning course) 6 months. To educate young doctors, who graduated at a medical college in that year, basic naval medicine.

(2) Education for chief surgeon (II class—Junior course) 6 months. To educate the surgeon lieutenant, to become the chief surgeon of the naval ship.

(3) Education of a special medical course. (III class—senior course) 2 years. To educate a medical officer as a specialist.

2. Research at the college

(1) The department of research was established in the August 1943. Naval sanitation and hygiene were studied.

(2) Classification of the studies. Infectious disease and parasitic disease in the tropic, prevention and treatment of the tuberculosis, battle wound, aerial hygiene and hygiene of the submarine were principal topics.

(3) The results of Research. The results of those studies were published in the Kaigun Gunikai Zashi.

The proceeding is extracted from a local translation.

Under separate cover copies of the following are being forwarded:

a. Instructions given to Japanese Navy Medical Officers for the control of contagious diseases.

b. Copies of research publications from the Navy Medical College for the years 1942-1943, etc.
Navy personnel received the following vaccines as indicated:

- Typhoid, paratyphoid A, paratyphoid B - mixed
- Cholera
- Smallpox
- Diphtheria - anatoxin given to Schick positive young men
- BCG - to all tuberculin negative men
- Tetanus - not routine - used antitoxin
- Typhus - mouse lung preparation - not routine
- Meningitis - used as a control measure
- Dysentery - oral vaccine of little value, if any

The diseases regarded as most troublesome in the Navy were Meningitis and dysentery. No satisfactory control method for meningitis was followed; sulfaguanidine was of some use in the treatment of dysentery.

Capt. Kawai denied any important research developments in the Navy Medical College during the war.

Attached are memoranda issued by the Japanese Navy Department for the control of contagious disease during the war. Of interest are the use of oral vaccine for dysentery (admittedly ineffective) and the spread of epidemic typhus among naval personnel.

Under separate cover copies of the following are being forwarded:

a. Instructions given to Japanese Navy Medical Officers for the control of contagious disease.

b. Copies of research publications from the Navy Medical College for the years 1940-1945(sic)
This report compliments Appendix A, Section IX of report on period from 22 Sept to 8 Oct 45.

Investigation of interest are:

The preparation of a sodium hypochlorite solution by electrolysis. Reprint attached.

Study of 2-Methoxy-6-chlor-9 (4-diethylamine-cyclohexylamino-acridin) as a substitute for atabrine in the treatment of Malaria. Reprint attached.

The preparation of drinking water from sea water by utilization of electric charge of synthetic resin "Orgacid."

At lst Supply Depot (Naval Arsenal) work was accomplished in the use of pituitary gland extract from fish and cattle. Claims have been made that when this hormone is injected, it improves night vision. Reprint attached and sample of drug under separate cover.

Outline of training program in Pharmacy attached.
XI INSTITUTE OF PUBLIC HEALTH, Tokyo

Outline of Institute

"Myopic Problem"

Chemotherapeutic Institute, Ichikawa, Chiba
INSTITUTE OF PUBLIC HEALTH - TOKYO
Outline of Institute

Attached is a general outline of this Institute giving its history, physical installation, organization, staff, duties and responsibilities.

Dr. Ishihara, Yosijuku (President)

Member of Institute of public health within which is a "Committee for the study of the Myopia Problem" headed by Dr. Ishihara. The committee was formed in 1939 to study 5 problems:

I. Relation between myopia and constitution.
II. Influence of poor living on development of myopia.
III. Influence of general hygiene on myopia.
IV. Hereditary factors in myopia.
V. Nutritional factors in development of myopia.

Kondo, Tadai (died 1931) an ophthalmologist did a great deal of work on the myopia problem. Much of his work was published and is in the attached journals and papers.

Ishihara (above) studied the effect of the various type characters and has shown that square type is less fatiguing than the round type.

Attached are our journals and papers which deal with the problem.
Dr. Ishikawa, Tomoyoshi (Physiologist)
Member of Institute of Public Health within which is a
"Committee for the study of the Myopic Problem" headed by Dr.
Ishikawa. The committee was formed in 1939 to study 5 problems:

I. Relation between myopia and constitution.
II. Influence of poor lighting on development of myopia.
III. Influence of general hygiene on myopia.
IV. Hereditary factors in myopia.
V. Nutritional factors in development of myopia.

Kondo, Tadao (died 1944) opthalmologist did a great deal of work on the eyesight problem. Much of his work was published and is in the attached journals and papers.

Ishikawa (above studied the effect of the various type characters and has shown that square type is less fatiguing than the cursive type.

Attached are new Journals and Papers which deal with the problem.
Institute of Public Health

(Pharmacology)

The Institute of Public Health with which the

Committee for the study of the abortive infection, "hepatitis in babies,

is associated, was founded in 1933 to study the problem:

I. Hepatic lesions in babies and children

II. Influence of poor hygiene on development of babies

III. Influence of general hygiene on babies

IV. Nutritional factors in hepatitis

V. Viral infections of liver in development of babies

The field (chiefly Hepatic) of pharmacology is a large and vital one.

The study of the effects of the various drugs on the body is an

important and valuable one in the field of pharmacology.

Convincing evidence

Attends for new processes and practices which are with the program.
Outline of Activities of Institute is attached.

The curative and preventive properties of Cepharanthin are outlined in the attached summary. It is claimed that this drug is effective in the treatment of leprosy, whooping cough, as well as Tuberculosis. Recent work has indicated its value in the treatment of allergic conditions, particularly Asthma. A summary of this more present work is also attached. Under separate cover is a book on the experiments carried out at the Institute, as well as samples of the drug.
Central Office of Information

Director: Mr. Smith, Secretary: Mr. Brown, Deputy Director: Ms. Johnson

Ghile Octavius

Ghile Octavius

Of Octavius

Outlines of Activities of Institute in Architect

The activities of the Institute in the field of architecture are outlined in the attached memo. It is aimed at the promotion of research, development, and the application of architectural knowledge and experience to the improvement of the Institute's work and to the advance of the profession. A committee of experts has been appointed to study the Institute's activities and to report on the progress made in the field of architecture as per the Institute's charter.
XII. NAGAO INSTITUTE

XIII. CHIBA GOVERNMENT MEDICAL COLLEGE

Dr. Kanzei, Director, Dr. Nakaza, Chemist
Dr. Hayashi, Ass't, Dr. Kitamura, Botanist, Dr. Shiba, Microbe.

This is a collaboratively operated laboratory for maintaining fungus and yeast cultures for use in industrial fermentation processes. It appears to be modest.

A report of methods and research since 1940 is attached.

Reference to note to Report, Nagaeilin Research Committee attached to periodic report of 21 Sept 45 to 8 Oct 45 Appendix A section XIII.

Attachments:

Reports on NAGAO Institute,
The View of NAGAO Institute,
The microculture at NAGAO Institute,
The carbon fermentation (II) by T. Mihira, at the NAGAO Institute,
The sugar fermentation (I) by T. Mihira, at the NAGAO Institute,
The extraction of Folinin (Vitamin B1) from Chlorella
Kishii, S. Ishida, Y. Hatazawa, and H. Yoda, at the NAGAO Institute.
This is a commercially supported laboratory for maintaining fungus and yeast cultures for use in industrial fermentation processes. It appears to be modern.

Abstracts of methods and research since 1940 is attached.

Reference is made to Report Penicillin Research Committee attached to periodic report of 22 Sept 45 to 8 Oct 45 Appendix A section III.

Attachments:

Reports on NAGAO Institute.
The View of NAGAO Institute.
The stock cultures at NAGAO Institute.
The sorbose fermentation (II) by T. NEHIRA, at the NAGAO Institute.
The sorbose fermentation (I) by T. NEHIRA, at the NAGAO Institute.
The extraction of Flavin (Vitamin B2) from Elemothesium Ashbyii. R. OKABE, Y. HATSUTA, and 2. Veda, at the NAGAO Institute.

Research on penicillin has been carried out by TAKIKARA in connection with the Penicillin Research Committee.

Reliable syphilis rates were secured from SATO which were higher than those in U.S. There has been no sensitivity to Atabrin encountered.

Research on Enzymes has been done by AKAMATSO.

Attachments:
Results on 70 cases of intra-arterial shock injection treatment (Reprint in Japanese and English Summary) Penicillin Study.
The present proposal for the establishment of a research center for protein and enzyme studies in the United States is attached.

A section of the proposal is as follows:

Accommodation

GOVERNMENT MEDICAL COLLEGE - CHIBA

Dean Koike

Staff associated with university:

SEO, T., Prof. Surgery
MINATO, A., Prof. Pharmacological Chemistry
AISO, K., Prof. Hygiene
TANIKAWA, K., Prof. Hygiene
SATO, K., Prof. Dermatology and Syphology
ITO, Y., Prof. Ophthalmology
AKAMATSO, S., Prof. Biochemistry
TAKURA, T., Prof. Pediatrics
HAZATO, H., Prof. Bacteriology
KAGAYA, Y., Prof. Forensic Medicine

Research projects include:

Intra-arterial shock injection treatment by SEO, et al -- Sodium iodide, glucose, sulfonamide, sodium salicylate were injected in a variety of clinical diseases resulting in good reports. However, specific results are questionable.

Vitamin A extraction from subcutaneous fat of seals by MINATO yielding 180 International units per gram of fat. The liver contained only one third as much in contrast with whole liver.

Preservation of meat and fish with a culture of B. Butyercus for one and one half years; however the accompanying odors from the preserving agent has defeated the method for practical use.

Research on penicillin has been carried out by TANIKAWA in connection with the Penicillin Research Committee.

Reliable syphilis rates were secured from SATO which were higher than those in U.S. There has been no sensitivity to Atabrin encountered.

Research on Enzymes has been done by AKAMATSO.

Attachments:

Results on 70 cases of intra-arterial shock injection treatment (Reprint in Japanese and English Summary)
Penicillin Study.
Goverment Medical College
Chir

Dear Sirs,

Enclosed please find reproduction of "..." graph which was referred to in your letter of...Please look into the matter of...No measures have been taken...

Yours faithfully,

[Signature]

[Date]
Cepharanthin

Pathology and (Parasitology) Dept.

Depto. of Biochemistry

Clinical Division
NIIGATA MEDICAL SCHOOL
Cepharanthin
Dr. Takashi Hashimoto (Dermatologist) - Dean of School

Extensive work was accomplished on the use of "Cepharanthin" in skin T.B., particularly Lupus vulgaris, with prolonged remission or apparent cures. No definite results determined in its use in chest T.B. "Cepharanthin" is an alkaloid of Wisteria Root grown in Formosa. It is manufactured by Kaken Seiyaku Mfg. Co., Tokyo, under the supervision of Prof. Hasegawa of Institute for Infectious diseases, Tokyo.

Reprint attached. Samples under separate cover.
Dr. Ito serves in the capacity of pathologist and parasitologist. No parasitological research work has been conducted by him in the past few years.

**Clonorchiasis:** A large *Clonorchis* area exists in Niigata prefecture but only a few clinical cases are now being seen. People are familiar with the infected fish and do not eat them.

**Paragonimiasis:** There are 4 rather restricted areas in Niigata prefecture, namely (1) Imar-mura (Higashi Kubiki district), (2) Ookambara-mura (Nakakambara district), (3) Nanatani-mura (Nakakambara district), (4) near Toka-machi (Nakauonuma district). Wet tissues of *Paragonimus* infected brain are being sent in under separate cover.
The department has been particularly interested in brain tumors and reticulum cell Sarcoma. Dr. Ito studied under Dr. Stevenson at New York Hospital until 1941.

Approximately 100 autopsies and 300-400 surgical specimens are examined each year. Of this material about one half is received from the Medical School Hospital and the remainder from outside sources. Approximately 1/4 of the cases examined at autopsy were tuberculosis and 1/4 psychiatric, during 1944. Tsutsagamachi fever is endemic in this area.

Publications were suspended in 1943 but prior papers and selected interesting autopsies were requested and will be submitted under separate cover.

Attached is a summary of this work, prepared by Dr. Aiyouna for a preliminary report for publication.

Ten reprints from the department, published since 1940, are attached.
The Department has been particularly interested in plans for renovation and restoration of old buildings, and efforts have been made to encourage proposals for the preservation of these structures.

Approximately 100 applications for $100,000 matching grants were examined recently at the National Park Service headquarters and the Department of the Interior. Approximately 100 applications were submitted and 10 projects were selected for support. The Department reviewed these in detail and has approved the following projects:

1. Renovation of the Old Post Office in New York City.
2. Restoration of the Second Street School in Philadelphia.
5. Restoration of the Old Customs House in Boston.

Each project will receive $100,000 in matching funds, bringing the total investment to $200,000. These projects represent significant contributions to the preservation of our nation's historical heritage.
No research work was done during war, but before the war the department had 10 to 12 assistants.

Prof. Ariyama spent two years at Washington University, St. Louis, studying with Dr. Shaffer and has been at his present post for 15 years.

Prof. Ariyama claims to have isolated a blood forming substance from bone marrow. The work was done before the war, has not yet been published, since the starting material, marrow, was not available in Japan in sufficient quantity during the war. From over 100 kg. of fresh marrow, about a gram of material was isolated. Experimental anemia, caused by bleeding in animals, is cured by a single injection of 0.1 mg. per kilo. He believes it stimulates the bone marrow.

The bone marrow is extracted by water or dilute alkali, and precipitated many times by alcohol and acetone, and color removed by bone black. The material, a white powder, is nitrogen free, produces reducing sugar on hydrolysis, part of which is fermentable, is dialyzable thru a semipermeable membrane and is thought to be a carbohydrate. It is non-toxic. Prof. Ariyama desires to repeat the isolation of the material and test its action on humans before publishing, as insufficient pure material is available at present to complete the determination of the chemical structure.

Attached is a summary of this work, prepared by Dr. Ariyama as a preliminary report for publication.

Ten reprints from the department, published since 1940, are attached.

Attachments:
(1) Biochemical studies on d-Ribose, with special reference to the Mechanism of Absorption of Sugars from Intestinal Tract.
(2) Studies on N-Glycosides, Part II
(3) Studies on N-Glycosides, Part I
(4) Studies on Metabolism of a-Ketonic Acids.
(5) Studies on the Pasteur Reaction in Muscle.
(6) Ueber Einen Inhibitor der Glyoxalase.
(7) The Reactions of Sugars with Amino Acids under Mild Conditions.
(8) Studies on Hydrolysis of Desoxyribo-Nucleotides and Nucleosides.
(9) Precipitation of Nucleotides and Nucleosides with Salts of Heavy Metals.
(10) Studies on Tumour Glycolysis.
NIIGATA MEDICAL SCHOOL
Clinical Division

Dept. of Internal Medicine

Prof. I. Shibata

Investigate and published a report including the typing of pneumonia in Japan. (Reprint attached)

Studied the daily Vitamin B requirements on Japanese prisoners of war. Findings agree with American workers. Summary attached.

Prof. Tasaka

Conducted extensive studies on body temperature including influence of environmental temperature on cardiac and respiratory activity, on skin temperature of extremities and reaction of the body to fever in various diseases.

Attached are summaries of unpublished work, on vitamin and temperature studies and the effect of acute hemorrhage on velocity of blood flow.

Dept. of Surgery - Prof. M. Nakata
Dept. of Radiology - Prof. S. Nosakio

No research work has been done in these departments.
Department of Internal Medicine

Tokyo Metabolism and Inhibition of Acute Inflammation

Report on Inflammation and its relation to the disease processes in Japan. The subject of the report is "Inflammation and Acute Inflammation and its relation to the disease processes in Japan."

March 1950

Considered the significance of the work on body temperature regulation influenced by environmental factors and its effect on the immunological functions. The significance of these factors on the body's response to various infections or diseases was also discussed. The report ended with a discussion on the importance of field research and the need for cooperative work in these areas.

No recent work has been done in these departments.
XV. **TOHOKU IMPERIAL UNIVERSITY MEDICAL COLLEGE, Sendai**

Dept. of Pathology

Parasitology Dept.

Bacteriology

S. Ota

Institute of Tuberculosis and Leprosy

Institute of Tuberculosis and Leprosy

(Investigation relating to Diabetes)

Clinical Division

Medico-Chemical Institute

Pharmacology
Dr. Hoshida has been active in experimental research related to chemical Carcinogens.

Special tissues including example of beri-beri heart was selected and will be forwarded under separate cover with department research project reports.
Dr. S. Yatsuyanagi gives the lectures in parasitology at this school but was sick at the time. Dr. S. Nasu, a pathologist was interviewed. No parasitological research was being done at this school - only lectures to students.

**Paragonimiasis:** Three cases of paragonimiasis in this institution in 3 years.

**Malaria:** No malaria but 5 species of Anopheles in Niyaga prefecture.

**Clonorchiasis:** Twenty years ago there was an area a little north of Sendai in which there were numerous cases of clonorchis infection. Infections were obtained from a small variety of carp, know as Funa. People discontinued eating of this fish so that there are new practically no cases. Wet tissues on clonorchis cases are being sent in under separate cover.
Working on the fractionation of *E. typhii*, by chemical means. Has isolated a polysaccharide toxic fraction. Antigenicity undetermined beyond precipitin tests. Possible purpose of work, in nature of other fractionating work done, to use fractions for immunogenic purposes. Working on fractionation of T.B. (This latter completely covered in U.S.)

Reprints of previous work are cataloged by title and will be forwarded under separate cover.

Working on isolation of *Penicillium notatum* and preparation of penicillin.

Teaches Bacteriology in the University.
Dr. Osato has only recently joined the staff of the Sendai School. Before this, he was working in the Kanazawa Medical College and all of his published research work will be obtained in the journals of this college when they are collected.

At present Dr. Osato is interested in the following:

1. **Experimentally produced insomnia**
   Animals which are kept awake to the point of exhaustion and death, can be kept alive several days longer than usual by the administration of Vitamin B1.

2. **The Effect of Hot Springs on the Animal Body**
   When experimental animals are exposed to natural hot springs, the reticulo-endothelial system of the subcutaneous tissues can be shown to have an increased phagocytic activity.

3. **Treatment of Tuberculosis**
   Dr. Osato observed more than 100 tuberculous patients showing all types of pulmonary involvement who were treated with cepharanthin. In his opinion, the treatment was either of no benefit or was injurious.

He is now observing the effect of rhodinic acid on tuberculosis. This ten carbon chain acid comes from the bark of a tree commonly known as "Taiwan Shinoki" in Formosa. According to Dr. S. Katsura in Formosa, the acid was effective in healing 20% of patients with open Tuberculosis. Dr. Osato states that the preparation has some value in the treatment of tuberculosis. The drug is irritant to the gastric mucosa and is dispensed in cod liver oil or some aromatic oil to offset this effect. It is given in a dose of 2-3 cc by mouth, every day for six months or more.

A specimen of the commercially prepared drug was secured and is being forwarded under separate cover.
In the event of a request for information or a call for action, please provide the necessary details in a clear and concise manner. This will help ensure that the information is accurately and efficiently disseminated.

In summary, the importance of prompt and effective communication cannot be overstated. By following these guidelines, we can ensure that our efforts are effective and efficient.
The Institute of Tuberculosis and Leprosy is housed in a new building donated by a private industry and completed in 1943. Although small, the Institute is modern in appearance and equipment. The staff, under Dr. Taizo Kumagai, is chiefly concerned with tuberculosis but leprosy is studied by Dr. Saburo Sato, whose work is mentioned below.

Dr. Kumagai discussed several salient features of the tuberculosis problem in Japan:

1. The peak death rate in Japan proper lies between the ages of 15 - 25. Formosans, however, have a tuberculosis mortality curve of the same character as that of Americans. Dr. Kumagai points out that Japanese eat less fat than any other people in the world. He offers the opinion that the tuberculosis death rate in Japan is a reflection of the dietary habits of the people and he stresses the need for a high fat diet in treatment.

2. Twenty five years ago the tuberculosis death rate among rich Japanese was two and one-half times that among the poverty stricken masses. At present this situation is completely reversed and is related to industrialization of the nation.

3. Cepharanthin administered to both tuberculous animals and humans was of no value in the treatment of the disease in the experience of the staff of the Institute.

Dr. Saburo Sato presented two findings of interest:

1. Koha A, referred to in a previous report under Okuba Experimental Station as a therapeutic agent for leprosy, was without value in the experience of Dr. Sato, who gave one milligram intranenously twice a week for six months to 60 lepers.

2. Dr. Sato had previously reported localized infections in chickens inoculated with leprosy bacilli. During the war Dr. Sato demonstrated that by repeatedly inoculating excised and emulsified leprotic nodules from humans into the breast muscles of a chicken, a generalized formation of nodules containing acid fast bacilli resulted in six months.

Reprints from the Institute are being forwarded under separate cover.
In addition to the work on tuberculosis and leprosy which he directed and which is described in another report, Dr. Kumagai is also interested in diabetes. He claims to have demonstrated the insulin effect of pancreas before the work of Banting. He has since been interested in finding other substances which will lower the blood sugar level in diabetics.

This year Dr. Kumagai presented to the Tohoku Medical Association his finding on a chemical which he extracted with ether from the leaves of a plant specified as Sathyrus palustris L. var macranthus (white) Fornald. When this chemical is given by mouth to animals it lowers the blood sugar. Dr. Kumagai also gave it to 25 diabetics. In mild cases the blood sugar was lowered. In severe cases no effect was noted. A report was requested to be forwarded.
In addition to the work on the development and operation of the power plant, the
institute has started a series of development projects. The primary
objective is to improve the efficiency of the power plant by reducing energy
consumption. To achieve this, extensive research and development work is
being conducted in the laboratory together with field tests. The results
of these studies will be reported in a forthcoming publication.

Furthermore, the institute is currently engaged in a project to develop
new methods for the efficient use of energy. This project is expected to
lead to significant savings in the long term.

In conclusion, the institute is committed to continuing its efforts in the
field of energy efficiency and is actively striving to make a contribution
in this area.
Dr. Koga is well known in Japan for having developed the Japanese use of photointerintgenography in mass chest surveys. Most of his work in this field was done before the war, particularly in 1938.

During the war, his research activities were cut down considerably by a great reduction in the size of his staff.

His department has been working, however, on research into:

1. Tissue culture methods
2. Effect of irradiation on tissue culture
3. Effect of irradiation on inflammatory lesions and on tumor cultures.

General Surgery
Prof. M. Muto, General Surgeon
Prof. A. Kature, Neurosurgery

Clinical research has been done during the war. Dr. Muto has, together with his staff, worked on the surgery of Tuberculosis of the lung and on gastrointestinal operations for malignancy.

Prof. Kature and his staff have been working on the surgical aspects of epilepsy. They have done many pre and post operative electro-encephalograms.

Prof. I. Miki, orthopedist, has been conducting clinical investigations of chronic shoulder disorders.

Reprints of all their papers since 1940 are being forwarded under separate cover.

However, none of the work seems important.

Medical Dept.

Dr. Toyojirō Kato, Prof. Emeritus of Medicine, 63, one of the leaders in Japanese medicine, retired in 1942 to direct the Institute of Aviation Medicine at Tohoku. He was founder of aviation medicine in Japan and has worked on the problems of aviation medicine for many years.

The work of the Institute was done in cooperation with the military authorities and financed by the government. They have been working on the usual problems, using animals (dogs & rabbits). They have a large pressure chamber and a centrifugal apparatus and numerous laboratories for the study of blood chemistry.
Dr. F. Kurokawa, Prof. of Internal Medicine, specializes in gastro-enterology, is one of the best workers in this field in Japan and has published a textbook (1936) on X-ray diagnosis in gastro-enterology. He is now working on a study of the treatment of liver toxicities using levulose and Vitamin K. He has developed a micro method for liver glycogen determination.

Reprints of all his published work were obtained including a review of Japanese gastro-enterology, published in 1943, which will be forwarded under separate cover.

Attention is called to his recent work on the preparation of chondrosin. Reprints of his lecture on recent work in carbohydrate chemistry given in 1943 before the Japanese Chemical Society.
The recent development in the Japanese economy (noted in the "Japan's Economic Policies") has led to an increase in the demand for labor. As a result, many workers have been hired in the manufacturing sector, particularly in the textile and electronics industries. The increase in demand has also led to higher wages, which has contributed to an overall rise in consumer spending. This has, in turn, stimulated further economic growth. However, the rapid expansion of the labor market has also created challenges in terms of training and skill development, as well as social issues related to the working conditions of the new employees. The government has responded by implementing policies to improve working conditions and provide vocational training to new hires.
Extensive studies of biological activity and structure of carbohydrates and the glycoproteins.

More recent work on the isolation of a toxic glycidamine from human cancer tissue, which is also believed a product of normal tissue. Structure not yet completely determined. Summary attached.

Blood group substances have been isolated which are believed to be of carbohydrate nature related to chondridin. Attempts at the synthesis of blood group substances have been made. Summary attached.

Attached are reprints of recent work as well as a summary of his carbohydrate chemistry given in 1943 before the Japanese Chemical Society.
TOHOKU IMPERIAL UNIVERSITY, Sendai
Medical Institute
Motoo Terasaka, Prof. of Pharmacology

Came to Sendai, March 1945, was previously Professor of Pharmacology at Nagasaki University of Medicine, where his research work was done.


Attached are 15 reprints of work published since 1941. (Suggest titles be translated and listed).
connected with the Department of Pharmacology to
the University of Bristol. He has continued this

work on the action of nicotine and other drugs
and a study of the effects of nicotine and other toxics.

Attached are 2 reports of work undertaken since 1930.

(To be continued on next page)
Bacteriology
Pharmacological Laboratory
Nakamura, Bacteriology and Immunology
Hygienic Laboratory
Clinical Division
Hot Springs Research Institute
Pathology Dept.
Biochemistry
Complement Fixation Reactions in Malaria

Tested 30 patients with induced *P. vivax* malaria. All cases were either positive or doubtful. Antigen prepared from human cells infected with *P. vivax*. Method of preparation being summarized and sent under separate cover.
The following studies were conducted under his direction:

<table>
<thead>
<tr>
<th>Subjects of Investigation</th>
<th>Object</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pharmacologic studies on Dihydrochavibetol</td>
<td>To apply to medicinal purposes.</td>
<td>1943</td>
</tr>
</tbody>
</table>

A substance similar to Guaiacol and found less toxic than creosote. Prepared from Cinnamomum Camphora.
Use: Abdominal disinfectant such as dyspepsia. Externally as skin disinfectant.
No clinical study made, laboratory studies only on rabbits and mice, and frig.
Action: Similar to guaiacol and less toxic.

Incl: Reprints and sample.

2. Skin irritant action of the principles of peppermint oil

Rational use of peppermint oil as skin irritant.

Incl: Reprint of studies.

3. Skin irritant action of the volatile oils and their principles.

To study the relation between the physico-chemical properties and the skin irritant effect.

Result: The active principle of volatile oils causes the irritation. The more volatile an oil the more irritating. Physical properties include the melting points, solubility and volatility. Volatility is essential for the skin irritation action.

4. The anthelmintic action of the principles of the peppermint oil, especially of menthol.

Valuation of peppermint oil as anthelminthic. 1938-1943

Studies made on dogs, and cats found to be very effective. Found more effective than santonin. Large doses may be given and less toxic than santonin in large doses. Found 100% effective on Ascaris.
Subjects of Investigation 5. Action of drugs on louse.

Object: To study the mechanism of louse-killing action of drugs.

Duration: 1944

Result: Essential Oils found effective, mixed with Boris Alba. This powder is found in Hokkaido. Talc may be used similarly. Boris Alba as a powder is found very porous, adding to its absorption properties.

Use: Dusting powder.

Incl: Reprint

Sample: Lausan (Naphthalene-25% Boris Alba-50%)

6. Benzene-Naphthalene method. Exterminate lice. 1944

for the extermination of lice.

Naphthalene in benzene 25% solution. Clothing sprayed and put in chest for 12 hours.

Use: Spray. Most effective and convenient for use.

Incl: Reprint

7. Comparison of the louse-killing effects of various evaporable substances.

To study the relation between the physico-chemical properties and the louse killing effect.

Incl: Reprint

8. Pharmacologic studies on Lucidusculin, a principle of Aconitum Lusidusculem (Nakai)

To study its clinical applicability.

Study made on rabbits. No clinical studies.

Use: As an anti-diuretic

Incl: Reprint

9. Pharmacologic studies on the diuretic principles of Stigmata Maydis.

Valuation of stigmata 1942-1943

Stigmata Maydis is a powdered extract prepared from corn silk.

Use: Diuretic. Being used in Europe.

Incl: Reprint

10. The influence of quinine upon the function of reticulo-endothelial system.

Research into the cause of the preventative effects of quinine on infection. (Respiratory)

Small doses stimulate, large doses acts as a depressant.

Average dose: 0.003 - 0.025 mg/Kg per OS

Incl: Reprint
Subjects of Investigation

11. On the influence of the room temp. upon the quantity of urine in a whole day.

Object

To judge exactly the diuretic action of drugs on the rabbit. (Particularly Stigmata Maydis)

Duration 1942

High temp: Little diuresis
Low temp: Increase in diuresis.
Constant temp: necessary when studying action of diuretic drugs.

Incl: Reprint

Recent research on virus diseases (vaccinia) and rickettsial diseases. Claims that by isotope transplantation, antigenic immunogenic specific fraction can be obtained from vaccinia.

Enclosures: Reprints

1. Pharmakologische Studien Uber Dihydrochavibotol.
2. Uber die hautreizende Wirkung des Pfefferminzols.
3. Vergleicheneao untersuchungen uber die pharmakologischen Eigenschaften einiger Anthelminthika und der zur Terpenreihe gehérender Substanzen; sowie Wurmabtreibungsversuche mittels Menthols an Hunden.
4. Action of various drugs on the louse.
5. Ueber cine neue "Benzol-Naphthalin" Methode zur Bekampfung der Kleiderlaus.
6. Comparison of the louse-killing effects of the various evaporable substances.
7. Pharmacologic studies on Lucidusculin, a principle of aconitum lusidusculum (Nakai)
8. Pharmacologic studies on the diuretic principles of stigmata Maydis.
9. The influence of quinine upon the function of reticuloendothelial system.
10. Study on the effect of room temperature upon the urine output in a day.
II. EFFECTS OF INCREASED ROOM TEMPERATURE ON THE INFLUENCE OF THE ROOM TEMPERATURE ON THE INCREASE OF THE TEMPERATURE OF THE ROOM

III. INCREASE OF THE TEMPERATURE OF THE ROOM

IV. EFFECTS OF INCREASED ROOM TEMPERATURE ON THE INFLUENCE OF THE TEMPERATURE OF THE ROOM ON THE INCREASE OF THE TEMPERATURE OF THE ROOM
HOKKAIDO IMPERIAL UNIVERSITY, SAPPORO

Dr. Yutaka Nakamura, Prof. of Bacteriology and Immunology

Has visited the United States twice, most recently in 1922, at which time he visited in Boston and New Orleans, following studies on Yellow Fever, under Rockefeller sponsorship, in a Japanese Colony in South America.

Primary interest is in Immunology and especially in Tissue Immunity (has the book of Kahn, "Tissue Immunity", but has not read same.)

Recent research on viruses diseases (vaccinia) and rickettsial diseases. Claims that by cataphoresis an antigenic immunogenic protein fraction can be obtained from vaccinia.

Claims that inoculation of blood of Tsutsyamushi patients testicularly into rabbits isolated virus which may be serially transferred, enhancing virulence. Has applied cataphoretic studies to some members of the Salmonellae group especially *gaertner's bacillus* and *Sal enteritidis*.

Is working on penicillin isolation of strains. A weak, impure product has been produced, experimentally.

Research in general hampered by a lack of animals.

Reports on work published in the journal of the university are to be forwarded separately.
...
Dr. Inouye has been primarily interested in the physiological effects of air ions and has devoted much of the past ten years to studying various phases of this problem. He has also been interested in the factors influencing the efficiency of the production of immunity by BCG Vaccine in guinea pigs. Some of his observations include the following:

A. That the efficiency of BCG in protecting guinea pigs against human tubercle bacilli subsequently inoculated, is reduced in the presence of:

1. Low temperature
2. High temperature
3. Low atmospheric pressure
4. Malnutrition
5. Low calcium intake
6. Vitamin B1 deficiency
7. Vitamin C deficiency
8. Fatigue
9. Acidosis

B. That the efficiency of BCG is maintained or increased by:

2. Exposure to an increased concentration of air ions for short periods daily.

C. That exposing factory workers to an increased concentration of air ions for short periods daily increased their efficiency and enhanced their recovery from fatigue.

A list of titles of research publications from the Hygienic Laboratory during the past five years is attached. A complete set of reprints has been furnished by Dr. Inouye and is being forwarded under separate cover.
A list of investigations is attached.

Psychiatry Dept. - Prof. T. Ishibashi

Some research work was done during the war on the Aborigine Ainu, who are susceptible to the peculiar hysterias of primitive peoples.

A list of publications is appended.

Pediatrics Dept. - Dr. K. Nagi

A list of publications is appended.

Medicine Dept. - Dr. S. Nakagawa

Experiment on the effect of cold on the bodies of man and animals, both in health and disease, have been conducted for the past 15 years without significant findings.

Serological test and chemical test for malignancy have been investigated for several years.

Also, test on liver function have been done.

A German drug, Benzylimidazolin, developed in 1941, a voltage stimulator, has been tested.

List of publication also attached.

Ophthalmology Dept. - Dr. Sadami Ochi

Principal work has been done on histopathologic studies of trachoma. Staining technique for inclusion bodies has been developed here. Procedure is described in the accompanying reprints.
A trial of investigation is attempted.

Faculty Dept. - Prof. T. I. Rentoul

Some recent work has been carried out on the protein

A trial of investigation is supported.

Faculty Dept. - Dr. E. Rentoul

A trial of investigation is supported.

Medicine Dept. - Dr. E. Rentoul

Experiment on the effect of cold on the posture of man and

A recent article by Prof. A. Rentoul has been carried to

Science Dept. and presented for study. The results have been

Also, tests on this function have been gone.

A recent article by Prof. A. Rentoul has been carried to

A trial of investigation is attempted.

Ophthalmology Dept. - Dr. E. Rentoul

Important work has been done on refractive studies of

A recent article by Prof. A. Rentoul has been carried to

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A recent article by Prof. A. Rentoul has been carried to
Experimental work was done on the effect of mineral waters on wound healing and also on intra-arterial injection of sterilized mineral water on diseases such as arthritis, and on acute and chronic infections. Good results were claimed.

Reprints will be forwarded under separate cover.
Department work have gone on the effect of minimal water.

Any chronic infection. Good reports were obtained.

Repairs will be forthcoming under separate cover.
Attached are reports of research projects undertaken by the two departments of pathology at Hokkaido Imperial University.

The high altitude studies will be reported in detail under separate cover.

Tissues and abstracts of research projects and routine autopsies will be forwarded under separate cover.
Investigated metabolic and nutritional studies in connection with the Physical Culture Institute, Tokyo (Now closed).

Investigated the structure of phospholipids, particularly plasmalogen and amino acid kephalin derivatives. Recent reprints attached.

A summary of more recent studies of the structure of phospholipids as well as nutritional and metabolic studies of inhabitants of cold regions as attached.
Veterinary Faculty

Dept. of Agriculture

Applied Mycology

Cryological Institute

Dr. S. Nomura - Prof. of Veterinary Medicine

He gave considerable work on the diagnosis of pregnancy in the mare. Published reports are being sent in under separate cover.

Dr. S. Nomura - bacteriologist to Veterinary Faculty

He gave considerable work on infectious diseases producing abortion in the mare. Published reports are being forwarded under separate cover.

He stated that a Ten йотс пресиа there was a considerable amount of abortion in cattle exposed by Trichomonas, but upon treating them with solutions of Novocaine and Muriatic Chloride, or a 1:35 solution of iodine, this was prevented.

Dr. S. Nomura, Haematologist

Dr. Nomura has done considerable work on infectious animals in horses. He has also done haematological work on rabbits, cows, and other animals.

Copied in a list of publications, reports are being forwarded under separate cover.
HOKKAIDO IMPERIAL UNIVERSITY - SAPPORO, JAPAN
Veterinary Faculty

Prof. K. Ichikawa - Chief of Veterinary Medicine

Dr. Ichikawa stated that Dr. Ono in Manchuria has developed a method of collecting Babesia parasites from blood. It is a sedimentation technic using calcium citrate (10%) solution. The infected cells rise to the top, are pipetted off and sedimented 2 or 3 more times. Dr. Ichikawa said that it might be utilized in the concentration of malaria parasites.

Dr. R. Kurosawa - Prof. of Obstetrical Veterinary Medicine

Has done considerable work on the diagnosis of pregnancy in the horse. Published papers are being sent in under separate cover.

Dr. S. Hamada - Bacteriologist in Veterinary Medicine

Has done considerable work on Salmonella infectious producing abortion in the Mare. Published papers are being forwarded under separate cover.

He stated that a few years ago there was a considerable amount of abortion in cattle produced by Trichomonas, but upon treating cows with washings of Mercurochrome and Mercuric chloride, or a 0.5% solution of Lysol, this was prevented.

Dr. C. Kohanawa, Hematologist

Dr. Kohanawa has done considerable work on infectious anemia in horses. He has also done hematological work on rabbits, cows and other animals.

Attached is a list of publications. Reprints are being forwarded under separate cover.
Reorganization of Imperial Veterinary College

Dr. R. K. Thomson - Dean of Veterinary Medicine

Dr. R. K. Thomson reports that the College is now expanding and developing into a teaching and research institution. The College is now considered to be one of the leading veterinary institutions in the country. It is now able to offer a wide range of courses and research opportunities.

In the field of veterinary medicine, the College has undergone considerable changes in the last few years. The College now offers several courses and research programs, including veterinary pathology, veterinary surgery, and veterinary medicine.

Dr. B. M. K. Thomson - Dean of Veterinary Medicine

Dr. B. M. K. Thomson reports that the College has undergone considerable changes in the last few years. The College now offers several courses and research programs, including veterinary pathology, veterinary surgery, and veterinary medicine.

He states that a new veterinary clinic has been established, and that it is currently operating at full capacity. The College is also now able to offer more research opportunities, and there is a strong emphasis on collaboration with universities and research institutions.

Dr. C. K. Thomson - Head of Veterinary Medicine

Dr. C. K. Thomson reports that the College has undergone considerable changes in the last few years. The College now offers several courses and research programs, including veterinary pathology, veterinary surgery, and veterinary medicine.

He states that a new veterinary clinic has been established, and that it is currently operating at full capacity. The College is also now able to offer more research opportunities, and there is a strong emphasis on collaboration with universities and research institutions.

Dr. D. K. Thomson - Head of Veterinary Medicine

Dr. D. K. Thomson reports that the College has undergone considerable changes in the last few years. The College now offers several courses and research programs, including veterinary pathology, veterinary surgery, and veterinary medicine.

He states that a new veterinary clinic has been established, and that it is currently operating at full capacity. The College is also now able to offer more research opportunities, and there is a strong emphasis on collaboration with universities and research institutions.

A new veterinary clinic has been established, and it is currently operating at full capacity. The College is also now able to offer more research opportunities, and there is a strong emphasis on collaboration with universities and research institutions.
Investigations on nutrition of animals. No research was done during the war.

Prof. Biochemistry, Yukihiko Nakamura

Chemical and physical chemical studies of starches. Work published prior to 1940.

Isolated "Kobusin", a new alkaloid from aconite. A summary of more recent study of the structure of aconite alkaloids is attached.
Dr. Hanzawa, retired Prof. of Applied Mycology, after 39 years on the faculty, has worked mainly in the application of microorganisms to agriculture, industrial fermentations, and the preparation of fermented foods. (1) A fermented soybean food "Natto" widely used in Japan, is the result of his research. (2) The application of the flax retting principle (pectinase breakdown by microorganisms) to mulberry bark (waste from silk industry) to cotton plant stalk and to Manchurian Phibiscus in the preparation of a strong durable fiber for gunny sack (burlap) production, is an outgrowth of his research. (3) During the war, glucose has been derived from potato starch for use in the work in the laboratory. (4) As in most other laboratories work on the isolation of Pericillium notatum and the preparation of Penicillin has been and is in progress. Attempted isolation of other molds with antibiotic capacities is underway.

The laboratory at the University is old and unkempt. As in most institutions reagents are lacking and the knowledge of research being done in the states is meager. Requests for information on Penicillin production are continually sought.

Dr. Y. Sasaki is now the Prof. of Applied mycology carrying on the work reported above. He is a former student of Dr. Hanzawa. His present interest is in the classification of the mycoderms.
Aims of the International Meetings on Galaxy Evolution

The International Meetings on Galaxy Evolution aim to bring together astronomers, astrophysicists, and astrophotographers from around the world. These meetings are held biennially and provide a platform for the presentation of new findings and discussions on galaxy evolution. The meetings cover a wide range of topics, including observational studies, theoretical models, and computational simulations. The goal is to foster collaboration and advance our understanding of galaxy evolution.
Low temperature chambers capable of producing -25°C and -40°C temperature are in use.

Considerable emphasis was placed upon the studies begun in 1943 to alleviate frostbite. No practical applications were developed.

Rapid freezing of meat and vegetables is being studied at present.

Detailed abstracts and related reports will be submitted under separate cover.

A list of research projects undertaken during the past 2 years is attached.
The following officials of the Bureau of Hygiene and Sanitation were interviewed:

Dr. Masayoshi Yanaguchi.....Division for Prevention of Chronic Diseases
Dr. Taizo Ashida
Dr. Yushichi Minemizaki......Chief of the Division for Prevention of Communicable Diseases
Dr. Yukiharu Miki.............Chief of the Division of Health

The Bureau of Hygiene and Sanitation according to these officials is an administrative organization whose relationship to research is one of cooperation and application. Thus, for research, the Division for Prevention of Chronic Diseases depends largely on the Tuberculosis Research Institute under Dr. H. Oka (reported separately); the Division for Prevention of Communicable Diseases depends on the Government Institute for Infectious Diseases (reported separately) and the Division of Health is chiefly concerned with problems of nutrition which are investigated by the National Nutrition Institute. A list of projects which were under investigation in this Institute have been reviewed by the committee chemist, who has indicated no further action is necessary.
Projects

Reports on Projects

Funds are granted by the Board of Directors to the National Research Council which receives and makes new applications for financial support from investigations. Amounts yearly granted amount to 12 million yens of which 10 million were devoted to war work. Approximately 2 million yen went to medical and related research.

Completed reports up to 1943 are published in journals of the council with the exception of those investigations carried out for the Army and Navy. Details of work for the Army and Navy were not made known to the council.

A list of projects relating to medicine is attached.

Investigation of these projects is under way.
Funds are granted by the Bureau of Education to the National Research Council which receives and passes upon applications for financial support from investigators. Average yearly grants amount to 16 million yen of which 10 million was devoted to war work. Approximately 4 million yen went to medical and related research.

Completed reports up to 1943 are published in journals of the council with the exception of those investigations carried out for the Army and Navy. Results of work for the Army and Navy were not made known to the council.

A list of projects relating to medicine is attached.

Investigation of these projects is under way.

- **Acclimatization.**
  - $129,000
  - Toda, Masako and 8 others.
  - Kyoto Imp U

- **Nutrition in the tropics and in cold regions.**
  - $45,000
  - Toda, Masako and 15 others.
  - Kyoto Imp U

- **Physical power.**
  - $30,000
  - Uramoto, Masasaburo and 30 others.
  - Chibukai Med Sch

- **Sight strengthening.**
  - $54,000
  - Shioji Yoshiji and 15 others.
  - Tokyo Imp U

- **The health of infants.**
  - $50,000
  - Kuriyama, Shigemori and 24 others.
  - Tokyo Imp U

- **Blood transfusion substitute.**
  - $120,000
  - Nakasui, Masatoku and 12 others.
  - Tokyo Imp U
The National Research Council of Japan

Dr. Harry Hayashi, Director

The National Research Council under the direction of the National Research Council Advisory Committee, which consists of leading scientists from various scientific disciplines, was established. The Council has the responsibility of advising the government on the allocation of research funds and the formulation of policies related to scientific research. Its members are appointed by the government based on recommendations from the scientific community.

Completed reports and recommendations of the Council are made known to the public and the government. The Council also serves as a platform for the exchange of ideas and the coordination of scientific activities among various institutions and organizations.

A fact of national interest to medicine is neglected.

Investigation of these facts to neglect.
SUBJECTS

Flight medicine
¥ 260,000

Underwater medicine
¥100,000

Ability to stand heat and acclimatization.
¥110,000

Acclimatization to low temperature.
¥120,000

Nutrition in the tropics and in cold regions.
¥45,000

Physical power
¥30,000

Sight strengthening.
¥54,000

The health of infants
¥50,000

Blood transfusion substitute.
¥180,000

RESEARCH AIM

Study of high altitude flying and diving for purpose of trying to increase ability to withstand these and to prevent dangers.

Study to improve living conditions in submarine and to increase operating efficiency.

Study to promote working efficiency and to direct way of living by examining individual differences in ability to stand heat and suitability for life in tropics.

Study on method of protection against cold, precautions against frostbite and further to find a method of increasing ability to stand cold.

Study on selection of food stuff suitable for climate and on method of increasing production and of storage.

Study on maintenance and promotion of physical power of people and on individual's suitability to various manual work.

Prevention of nearsightedness and strengthening of eight in daylight and night.

Study on nutrition of infants in wartime, prevention of sickness, motherly care, method of keeping health of working women.

Study of blood transfusion substitute medicine, method of storing of blood, method of blood transfusion.

NAME OF CHIEF RESEARCHER

Kato, Toyojiro and 70 others.
Tohoku Imp U

Hisano, Nei and 15 others
Nagoya Imp U

Hisano, Nei and 17 others

Toda, Masazo and 8 others.
Kyoto Imp U

Toda, Masazo and 15 others
Kyoto Imp U

Uramoto, Masazaburo and 30 others
Giohukai Med Sch

Shioji Yoshiji and 15 others
Tokyo Imp U

Kuriyama, Shigenobu and 24 others.
Tokyo Imp U

Nakazumi, Masa-toku and 12 others
Tokyo Imp U
<table>
<thead>
<tr>
<th>SUBJECTS</th>
<th>RESEARCH AIM</th>
<th>NAME OF CHIEF RESEARCHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical constitutions</td>
<td>To study ability &amp; change in ability to resist various diseases from standpoint of constitution &amp; type of body.</td>
<td>Koiko, Kyi &amp; 23 others Chiba Med Col</td>
</tr>
<tr>
<td>Hot Springs</td>
<td>To study effect of natural hot spring &amp; to apply this in recovery from fatigue.</td>
<td>Misowa, Keigi &amp; 11 others Tokyo Imp U</td>
</tr>
<tr>
<td>Hormone Vitamins</td>
<td>Study of mechanism of action and method of use of (vitamin hormone).</td>
<td>Shimizu, Taye &amp; 17 others Okayama Med Col</td>
</tr>
<tr>
<td>Infectious cerebro-spinal meningitis</td>
<td>Various chemotherapeutic methods parallel use of inoculation serum, measures against carriers, &amp; improvement of vaccine.</td>
<td>Miyakawa, Yonoji &amp; 5 others Tokyo Imp U</td>
</tr>
<tr>
<td>Digitalis</td>
<td>Submitted on report from 22 Sept thru 8 Oct 45.</td>
<td>Kobayashi &amp; Ichidate Tokyo Imp U</td>
</tr>
<tr>
<td>Prevention of malaria and treatment</td>
<td>Prevention of malaria, malarial mosquitoes, sanitary installations, treatment test of efficacy of new medicines.</td>
<td>Hayashi, Haruo</td>
</tr>
<tr>
<td>Preparation of anti-malarials</td>
<td>Synthesis of new anti-Malarial compounds.</td>
<td>Asahina, Haruhiko Kyoto Imp U</td>
</tr>
<tr>
<td>Prevention of dengue fever and treatment</td>
<td>Culture of dengue parasite, animal inoculation method of diagnosis, experiment with human being.</td>
<td>Keizumi, Tan</td>
</tr>
<tr>
<td>Leprosy</td>
<td>Animal inoculation, culture of bacteria, now chemotherapy.</td>
<td>Ota, Masao</td>
</tr>
<tr>
<td>Breeding of small animals for experiments. ¥25,000</td>
<td>Finding best method for quickly increasing number of small animals for experiments.</td>
<td>Okada Kaname &amp; 9 others Tokyo Imp U</td>
</tr>
<tr>
<td>Regulating mechanism in living body &amp; its military application ¥40,000</td>
<td>Aim to create new type of equipment</td>
<td>Aida, Tokusuke &amp; 8 others Tokyo Imp U</td>
</tr>
<tr>
<td>SUBJECTS</td>
<td>RESEARCH AIM</td>
<td>NAME OF CHIEF RESEARCHER</td>
</tr>
<tr>
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<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Emission Ray</td>
<td>Study on method of indirect X-ray photography, on its application to group examination for tuberculosis &amp; on effects of various emission rays on living matters.</td>
<td>Nakazumi, Masatoshi and 12 others, Tokyo Imp U</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>Study on innoculation against tuberculosis, improvement in method of treatment, and on problem of work for tuberculosis patients.</td>
<td>Imanura, Aara &amp; 63 others, Osaka Imp U</td>
</tr>
<tr>
<td>Filterable viruses</td>
<td>Study of influenza, smallpox, trachoma</td>
<td>Takeuchi, Matsujiro and 21 others, Osaka Imp U</td>
</tr>
<tr>
<td>Immunity</td>
<td>Study on innoculations against various infectious diseases, mass production of innoculation serums, methods of storage &amp; use.</td>
<td>Tamiya, Takeo &amp; 28 others, Tokyo Imp U</td>
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<td>Fatigue</td>
<td>Study of nature, diagnostic method, prevention of &amp; recovery from fatigue.</td>
<td>Katsunuma, Seizo and 36 others, Nagoya Imp U</td>
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<tr>
<td>Nutrition efficiency</td>
<td>Study on nutritional value of wartime food in Japan, Korea, Manchuria, &amp; determination of minimum amount required for different professions</td>
<td>Toda, Masazo &amp; 13 others, Kyoto Imp U</td>
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<tr>
<td>Eruptive typhus</td>
<td>Study on innoculation against diagnosis extermination of eruptive typhus &amp; also on problems concerning mass living sanitation.</td>
<td>Miyakawa, Yoneji and 20 others, Tokyo Imp U</td>
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<td>Brain Waves</td>
<td>Study on picturization of brain wave &amp; its application</td>
<td>Katsunuma, Seizo and 11 others, Tokyo Imp U</td>
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<tr>
<td>Enzymes</td>
<td>Chemical research on various enzymes &amp; quantity production of those which can be used to increase physical power &amp; heat standing ability.</td>
<td>Kobu, Yashiro and 16 others, Osaka Imp U</td>
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| Information, 
Examination, 

to determine injury from injuries to the body of the patient, to determine injury from the effects of various substances, and to determine injury from the effect of various substances. |
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<th>SUBJECTS</th>
<th>RESEARCH AIM</th>
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<tr>
<td>Insects, ¥35,000</td>
<td>To make clear the cycle of diseases such as malaria and eruptive typhus which are carried by insects &amp; to study prevention of these diseases.</td>
<td>Bokuzawa, Sanji &amp; 13 others</td>
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<tr>
<td>Military horses &amp; animals, ¥80,000</td>
<td>Study on increasing production of military horses &amp; other animals for military use &amp; on their sanitation so that source of military horses in wartime can be maintained.</td>
<td>Emoto, Osamu &amp; 14 others</td>
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<tr>
<td>Domestic animals &amp; domestic fowls, ¥44,000</td>
<td>To plan to increase number or best domestic animals &amp; fowls by applying principles of heredity in present situation of insufficient feed.</td>
<td>Masui, Kiyoshi &amp; 11 others</td>
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<td>Parasites of domestic animals</td>
<td>To exterminate harmful parasites of domestic animals, to promote efficiency of military horses &amp; general domestic animals.</td>
<td>Yoshimura, Ichiro &amp; 5 others</td>
</tr>
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<td>Wartime food for health, ¥89,000</td>
<td>Treating of food stuff; rationalization of combination &amp; cooking; preparing food from things not used as food but which are edible, making inedible substances edible; grains powdered food; country food stuffs; search &amp; use of natural vitamin sources; effects of vitamin &amp; others in a limited food supply.</td>
<td>Yabuta, Teijiro &amp; 28 others</td>
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<tr>
<td>Electronic microscope, ¥30,000</td>
<td>To study to improve electronic microscope itself &amp; to give basic assistance in solving various problems which require early solution.</td>
<td>Seto, Shozo &amp; 8 others</td>
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The following NRC projects have been turned over to other sections, as indicated, for investigation; since the subject indicated that the project would be of primary interest to that section.

1. Wartime Water Works and Sewage - To Office of Chief Engineer - Major Block.
2. Flight Medicine - TO ATIG, FEAF - Capt. Castor
3. Underwater Medicine - TO NAVTECHJAP - Comdr. Ayres

The following projects have been reviewed by the committee and it is considered that no further action is required. Many have been reported upon under the institute where the work was done.

1. Studies on the regulatory function in the animal body.
2. Factors influencing the growth and fermentation of microbes.
4. X-Ray indirect radiography.
5. Electro-encephalograms.
6. Balneotherapy
7. Studies on Vitamins.
10. Studies on Epidemic Typhus.
11. The metabolism and the action of Vitamins under hot temperature.
12. Section for the preparation of Anti-Malarial Remedies.
13. Chemotherapy of Tuberculosis.
15. Electron-Microscope
17. X-rays.
The following projects have been conducted or are in progress:

1. Water, Water, Where Do You Run?
   - Office of Chief Engineer, Water Supply
2. Light Metals - TO ADRP, NAV
d3. Underwater Medicine - TO NAV, NAVAL SUBMARINE

These projects have been reviewed by the committee and its consideration has contributed to advancing the techniques where the work was previously undertaken.
18. Projects relating to Physical Strength.

Attached are reports from the Japanese on the above subject.

Dr. T. Tani, Director of Bacteriological Institute

Dept. of Pharmacy

Dept. of Pharmacology

Pharmacology (Dr. H. Gomoto)
1. Biochemistry Department
2. Internal Medicine
3. Dr. T. Tani, Director of Bacteriological Institute
4. Department of Pharmacy
5. Dept. of Pharmacology
6. Pharmacology (Dr. H. Okamoto)
7. X Ray
PHARMACY GOVERNMENT MEDICAL COLLEGE

Proprietary Department

Insecticide Medicines

D.T. Sand Director of Pharmaceutical Institute

Department of Pharmacy

D.P. of Pharmacy

Professors (Dr. N. Okeowo)

X
Investigated and developed gasometric methods for chemical analysis. Has particularly studied and developed methods for determination of urea, uric acid, creatinine, guanidine, etc. in blood. Has developed a gas measuring apparatus in which 10 micrograms of Nitrogen can be determined, forwarded under separate cover. He also studied methods for the determination of Iodine.

The laboratory was very well equipped and organized and the reviewer believes the quality of work to be good.

Attached are a list and reprints of the work of the department.
Investigate and develop numerous methods for operation.

The importance of these will vary according to the
nature of the work to be done.

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nature of the work to be done.
Considerable work has been done by Dr. Suzuki on chemotherapy in tuberculosis. A study is now in progress on the treatment of tuberculosis with oaminophenal. Of sixty patients treated, 10% showed a disappearance of the organism from sputa, urine, or gastric washings, and on x-ray examination, healing of the lesions is attached. These articles are published in the faculty organ. This is a preliminary report.

No ill effects were reported in any of the patients up to this time.

Reprints of the work on tuberculosis will be forwarded under separate cover.

Reference is made to report on the Pharmacology department of this college.
Contrary to popular belief, it is not possible to demonstrate the effects of a single dose of penicillin on patients with meningitis. It is important to conduct further research on the treatment of meningitis to determine the optimal dosage and administration methods. This is a preliminary report.

No side effects were reported in any of the patients, and no further observations were made. The report on the work on the meningitis will be submitted soon.

Reference to make to report on the Penicillin Department of this college.
GOVERNMENT MEDICAL COLLEGE, Kanazawa
Dr. T. Tani, Director of Bacteriological Institute

The main interest of the institute has been in spirochaetal studies. Efforts are being directed principally in an effort to culture *T. pallidum* in-vitro and to prepare a vaccine.

Seventy-four reprints of the work in this Institute have been obtained. A translated listing of this work from 1940-1945 is attached. These articles are published in the faculty organ.
The main interest of the Institute has been in photoperiodic
response. Efforts were made to record the photoperiodic response in an
earlier experiment in order to evaluate the possibility of
continuing T. phillipi in vitro and to prepare a vaccine.

Seasonal-corn treatments of the work in this Institute have
been conducted. A supplementary listing of the work from 1940-1952
is attached. These studies are being included in the Faculty report.
Investigated certain alkaloids and found one (Nupharidin) useful as a local anesthetic.

Attached are 2 reprints and a list of publications with titles which were published in the Tokyo Journal of Japanese Pharmaceutical Society (reprints were not available).
A product o-aminophenol is being used after in-vitro and in-vivo (animal in tuberculosis. The attached self-explanatory

Reprints on the work on o-aminophenol and on Prof. Okamoto's work on streptolysin will be forwarded under separate cover.

A list of papers from the department, with titles and reprints are attached.
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agent of this work is

A molecule of e-simplification
family (n) in vivo in vitro
in innumerable, the attached
self-explanatory

Samples of e-simplification and another molecule of e-simplification
separate cover

The emphasis on the work on e-simplification and on plant e-simplifiers
work on e-simplifiers will be forthcoming under separate cover.
Investigated and synthesized new compounds for chemotherapy of pneumonia. Developed a compound (Decasulphone) which is claimed to be more effective against streptococcus pneumonia. Reprints attached, samples (2) under separate cover.

Tested numerous alkaloids and new synthetic compounds for treatment of bird malaria. Dimethoxy-8-diethylaminooethylamine-quinoline was found the most satisfactory (sample under separate cover). A list of compounds and summary of tests conducted are attached.

A list of papers from the department, with titles and reprints are attached.
Incorporated and synthesized new compounds for chemotherapy

Incorporated developed a compound (Deccanilone) which in

the clinical trials has shown better results than other compounds.

Further studies and experiments (2) major efforts continue.

Tests are being performed on other new synthetic compounds for

the treatment of mental disorders. (Deccanilone is the most effective

cure for mental disorders.) A major effort is being made to increase the

effectiveness.

Gained the expertise from the government with titles and re-

Ongoing efforts.
Leprosy Institute

Microbiology (Dr. R. Kimura)

Pharmaceutical Department

Department of Pharmacology

Research Projects

Tropical Diseases:

Utilizino-Laboratorium for Chemical Research

Experimental inoculation of dogs with bovine and pigeon L.J.,

dog in tests to determine if susceptible to the latter. The

dog, as a possible carrier, is indicated.

Experiments with human but not avian L.J. - by chick embryo

treatment. L.J. with avian strain, not susceptible to the chicken strain.

Tests for antibody with passively transferred chick serum and in

serum dilution. A weak titer of vaccine showing good protection in

sera of guinea pigs.

Pathological typing - Adopted animal infection in bovine, in

dog, monkey and as the conjunctive bacteria. Infection by

means of oral route successfully done.

Several unpublished manuscripts on avian types were picked up

by Dr. H. Sanger, US. Further data on this work could not

be obtained.

Aujeszky Disease (Undulant Fever) - Serum of dairy workers (Kyoto

similar to AP 227 strain, experimental titer between 1:100. 23 cases

studied. None gave positive reactions (reactors).

Examination of toxin by rabbit and other animals, digestion. A

study of the nature of toxin. (Chemical)

Morphological study of L. boehmiensis in upper respiratory infect-

tions, shown to be a common secondary invader.

Chemical Properties of Cultured Leishmania donovani
Dr. Kimura is the pioneer in electronic microscopy in Japan, using an instrument which he constructed. His photographs of microorganisms are the equal of any done in the U.S.A. (Mudd). His most pertinent observations in this field are on the intracellular granular material of the paratyphoids - other gram negatives and on C. diphtheriae. The exact nature and importance of the bodies brought to light by the electronic microscope has not yet been observed elsewhere and is in corroboration with American and German work.

The other studies by Dr. Kimura include the following:

**Fowl pest** - The development of a formolinized vaccine (virus) giving good immunity.

**Experimental inoculation of dogs with bovine and human T.B.** - Dog is resistant to former but susceptible to the latter. The dog, as a possible carrier, is indicated.

**Differentiation of human and bovine T.B.** - by chick embryo inoculation. Embryo more susceptible to the bovine strains.

**Dengue fever** - Cultivation of virus on chick embryo and in mouse brain. A mouse brain vaccine showing good protection in animals prepared.

**Endemic typhus** - Attempted animal infection intranasally, in open wounds, and on the conjunctive. Resultant infection by any of these routes successfully done.

Two unpublished manuscripts on endemic typhus were picked up by Lt. Col. Sanders, CWS. Further data on this work could not be obtained.

**Bangs disease** (Undulant fever) - Serum of dairy workers (Kyoto showed 2 of 116 men with agglutinin titer 1-100. Of 29 cows tested, eleven gave positive reactions (reactors).

**Analysis of toxin by peptic and other enzyme digestion.** A study on the nature of toxin. (Chemical)

**The incidence of M. tetragenous in upper respiratory infections.** Found to be a common secondary invader.

**Immunological Properties of Cultured Leishmania donovani**

Four rabbits were inoculated with killed (by heat) leptomanas forms of L. donovani. In the serum of these rabbits were found agglutinating substances, precipitins, complement-fixing antibodies and anaphylactic antibodies. All of these various reactions were said to be strain specific - could tell the difference between 2 strains of L. donovani.
Skin Reactions for the Diagnosis of Kala-Azar.

Antigen prepared from cultivated leptomonas forms. Injected 0.1 cc intradermally. Tested 16 Japanese soldiers infected with \( L. \) donovani and obtained positive results in all. The height of the reaction was from 12 to 24 hours. Some positive reactions were as much as 55 MM in diameter. Four controls were negative. About 30 cases of leishmaniasis in Japanese soldiers in Kyoto Hospital and many more in Himeji Hospital, near Kobe. All soldiers were from North China.

Chemotherapy of Kala-Azar with Five Antimony Preparations.

He found that all five drugs would cure striped squirrels infected with \( L. \) donovani. \textit{In vitro} and toxicity studies were conducted. These drugs were also injected into a normal animal and then an emulsion of livers infected with \( L. \) donovani was inoculated intraperitoneally. All drugs prevented the squirrels from acquiring leishmaniasis. All controls contracted the disease.

Injection of \( L. \) Donovani into Rabbit Tisticles.

Dr. Kimura injected leishmania and leptomas forms into the testicles of rabbits. In some animals the leishmania could be found in the liver, spleen and bone marrow but could always be found in the testicle.

Reprints of the above publications are attached.
Synthesized numerous sulfur-pyridine containing compounds, list of compounds, as well as reprints are attached.

One such compound was bromine with the exception of 2-methyl mercaptato 6-chlor-9-(diethylamino pentylamino) pyridine; 2 H 2; 2 H 3 quinoline chlor hydrate which was better than atabrine. Method of preparation attached, sample under separate cover.

Investigated an antimony compound (antimocynyl hexonate) prepared by Prof. Nakai at the National Chemical Institute, Takatsuki.

It was found very effective in treatment of 10 human cases of Kala-azar (reprints attached) and has also been recently found of decided value in 50 human cases of Schistosomiasis. The compound is relatively less toxic, given in a course of 2S-50 intravenous injections of 0.5 - 0.6 gm. Lethal dose for 10 gm. mouse is 40 mg.

Described certain antipyretics and one was synthesized with properties similar to morphine.

3 reprints attached. Attached is a list of 65 publications with attached reprints.
Investigated many compounds (list attached) for treatment of bird malaria. All were found less effective than atabrine with the exception of 2 methyl-mercapto 6 chlor - 9 - (diethylamino pentylamino) pyridino 3'2' : 2:3 quinoline chlor hydrate which was better than atabrine. Method of preparation attached, sample under separate cover.

Investigate an antimony compound (antimonyl hexonate) prepared by Prof. Nakai at the National Chemical Institute, Tskatsuki.

It was found very effective in treatment of 10 human cases of Kala-azar (reprints attached) and has also been recently found of decided value in 30 human cases of Schistosomiasis. The compound is relatively non toxic, given in a course of 25-50 intravenous injections of 0.5 - 0.6 gm. Lethal dose for 10 gm. mouse is 40 mg.

Investigated certain antipyretics and one was synthesized with properties similar to morphine.

3 reprints attached. Attached is a list of 63 publications with attached reprints.
Attached is the report of the research projects in medicine that have been pursued by the members of the staff since 1940.

Reprints of the articles which appeared to be of most interest are being forwarded under separate cover. Specific reports on most pertinent projects are submitted under separate title. He worked on the theory that a lowered oxygen tension, in the circulating blood, might help destroy the malaria parasites. Ten birds infected with a species of malaria (probably Plasmodium vivax) were first injected with quinine, then put in a glass desiccator and the air evacuated. They were kept at this negative pressure for 30 minutes. The treatment of birds in this manner was found more effective than by the simple administration of quinine.

During the past 5 years, he has published many papers on the parasites of fish and other animals.

Reprints are being sent under separate cover.
Attached to the report of the research projects in medicine.

Reports of the articles which appear to be of most interest.

The present permanent museum exhibit contains the specific reference to other pertinent projects of equal importance and interest.
Dr. Yamaguti was a Captain in the Japanese Navy. From August 1943 to December 1944, he was doing research work in the Macassar Navy Institute for Tropical Diseases in Macassar, Celebes.

**Malaria**

Most of his work was done on experimental bird malaria. He worked on the theory that a lowered oxygen tension, in the circulating blood, might help destroy the malaria parasites. Ten birds infected with a species of malaria (probably *Plasmodium praecox*) were first injected with quinine, then put in a glass dessicator and the air evacuated. They were kept at this negative pressure for 30 minutes. The treatment of birds in this manner was found more effective than by the simple administration of quinine.

During the past 5 years, he has published many papers on the parasites of fish and other animals.

Reprints are being sent under separate cover.
RESEARCH IN TYPHOID INFECTION

THREE YEARS OF EXPERIENCE IN THE TYPHOID FEVER OUTBREAKS OF 1913 AND 1914

J. H. REYNOLDS, M.D.

RESEARCH IN TYPHOID INFECTION

THREE YEARS OF EXPERIENCE IN THE TYPHOID FEVER OUTBREAKS OF 1913 AND 1914

J. H. REYNOLDS, M.D.

The work on the typhoid fever outbreaks of 1913 and 1914 has been conducted under the sponsorship of the U.S. Public Health Service, and the results of this work have been presented in a series of papers. The first paper, published in 1915, described the epidemiology of the outbreaks, and the second, in 1916, dealt with the laboratory investigations. The third and final paper, which is now in press, will deal with the clinical aspects of the disease and the methods of treatment.
Prof. Utzino, until 1942, was Director of Medical Chemical Institute, Imperial University, Sendai, and came to Kyoto in 1942.

Extensive investigations were carried out on digestive proteolytic enzymes. Enzymes from the kidney and liver of whales were recently studied.

Attached are 44 reprints covering work done at Sendai and Kyoto since 1940.
XXII. KYUSHU IMPERIAL UNIVERSITY

Bacteriology Dept.
Hygiene Dept.
Orthopedic Surgery
Pharmacology
Pathology Dept.
Public Health Dept.
Clinical Division

1. Recent progress in cultivation of cranial infections with haemophilus influenzal.

2. Recent progress in cultivation of cranial infections with haemophilus influenzal.

3. Recent progress in cultivation of cranial infections with haemophilus influenzal.

4. Calculations for titrations. - Experimental determination of the amount of the compound added to the system of compounds studied. The calculations were carried out by the writer.

\[ \text{Solute} \cdot \text{Solvent} = \text{Solute} \cdot \text{Solvent} \]

7. Certain new methods have been established which can be applied with effective and productive reactions. In order to produce the desired results, the investigator undertook:

No information of infections, types of morphologic were undertaken during treatment.
Dr. Tadao Toda, Prof. of Bacteriology and Protozoology.

Doctor Toda and his assistants have carried on an extensive research program during the war. Reprints of publications of the Department are being forwarded under separate cover. Among the problems studied are included the following:

1. BCG immunization - Doctor Toda claims to be the first to have used BCG immunization in Japan. He is the author of a monograph on the vaccine. He is in complete agreement with all other investigators in claiming marked reduction of tuberculosis morbidity and mortality among immunized individuals. His laboratory is the production center of BCG for use in Kyushu.

2. Leprosy - all attempts at cultivation of or animal infection with human leprosy bacilli failed.

3. Dengue - while the primary objective of Doctor Toda's studies on dengue was to determine size of the virus, the interesting point is that he claims to have grown the virus on the chorioallantoic membrane of the developing chick embryo.

A specimen of this virus in dried human blood, preserved in the frozen state since 1943, was infective to humans in 1945. A sample of the dried blood has been secured for forwarding under separate cover.

4. Chemotherapy of malaria - experimental antimalarial compounds were received from Prof. Takahashi of the Kyoto Imperial University for study. Among the group of compounds studied, one was regarded as having merit:

\[
\text{NH-CH-(CH}_2\text{)}_3 \cdot \text{N(C}_2\text{H}_5)_2 \cdot 3 \text{HCl}
\]

7 chlor 6' methoxy - 4 - (3 diathalamino S - penty - amino) - (pyridino - 3' - 2' - 2' = 3 chinolin) chlorhydrat.

5. Penicillin - an experimental product was obtained which was therapeutically effective but produced reactions. No commercial production of penicillin was undertaken.

No investigations of influenza, typhus or encephalitis were undertaken during the war.
Above, form Part of Research on Interferon and Interferon-like Factors.

In recent work, the interferon-like factors have been shown to act on the immune system, enhancing the body's ability to fight off infections. These factors are produced by cells in response to viral or bacterial infection, and can also be induced by certain types of cancer chemotherapy. The precise mechanisms by which interferon-like factors exert their effects are still under investigation, but it is clear that they play a crucial role in the body's defense against disease.

The diagram below illustrates the structure of a hypothetical interferon-like factor, with labeled key components. Further research is needed to fully understand the role of these factors in the immune system.

No figure caption exists.
Doctor Atsubo has interested himself in climatology but also has sponsored some research on the identification and distribution of helminths.

Reprints of publications of the Department of Hygiene are being forwarded under separate cover.

Three papers are appended:

2. Many studies have been conducted on the handling of traumatic amputations and joint injuries. Studies on the case of histamine and choline injected locally to prevent anklyosis and also on the use of fascia lata to prevent joint anklyosis have been made.

3. Much work has been done on the prevention of infection in traumatic joints and in compound fractures. He has developed no new techniques on adhesive procedure.

4. The professor has just started a study on the effect of the atomic bomb on bone growth in children. The bone tissue from autopsies is being studied.
Department of Education

Refers to the appointment of the Department of Education.

Passed unanimously under separate order.
"Prosthetic Limb Studies"

1. This department was asked early in the war to make researches into the problem of limb prosthesis and much work has been done along this line. The whole problem has been reviewed and the mechanics of various types of artificial limbs have been improved. Several new upper limb attachments have been devised to assist the crippled farmer in his occupations.

Three papers are appended.

2. Many studies have been conducted on the handling of traumatic amputations and joint injuries. Studies on the case of histamin and choline injected locally to prevent anklyosis and also on the use of fascia lata to prevent joint enkylosis have been made.

3. Much work has been done on the prevention of infection in traumatic joints and in compound fractures. He has developed no new techniques on adjustive procedure.

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PROFESSIONAL INQUIRY

Professor of Pathology
2. Director, Lower School of Dental Science and Faculty
Oral Pathology Director

"Proper Care and Study"

In this department were made many studies as to the need to make this...
Research was conducted in three phases:

1st Phase: Digitalis and digitalis-like substances. Extensive studies were made on Nerium Odorum, habitat: South Asia, a powdered extract was prepared and experiments conducted in frogs and rabbits. Action is the same as digitalis and found less toxic.

Reprint attached.

2nd Phase: Pharmacology and Physiology of heart and blood vessels. Study of no significance.

Reprint attached.

3rd Phase: Toxicological study of Globe fish (Japanese). A toxic substance known as "Tetradotoxin" was found in liver and ovary of fish and sometimes in the skin. Muscle of fish not poisonous.

Reprint attached.
Dr. Tani, who will succeed Dr. Yukizo Ohno as Professor of Pathology, discussed the work of the Department as follows:

1. Doctor Ono has spent many years studying the lymphatic system. His studies have been concerned chiefly with anatomy and physiology, the blood supply of the spleen, the etiology of splenomegaly and the pathogenesis of tuberculous lymphadenitis.

2. Doctor Ohno has studied the problem of jaundice for 20 years. He is responsible for the unitarian theory of icterus which implies that jaundice does not occur in the absence of liver pathology.

3. The autopsies performed on atomic bomb patients (24 total) are being reported to Colonel Oughterson, of the Atom Bomb Commission.

Reprints have been requested for forwarding under separate cover.
In the event of failure of the \textit{filtering device}, the system may be restored to normal operation by:

1. **Denier** (the use of the word 'Denier' is mentioned instead of 'Filtering device')
2. **Reduction** of the flow rate of the \textit{filtering device}
3. **Cleaning** of the \textit{filtering device}
4. **Maintenance** of the \textit{filtering device}

It is recommended that the \textit{filtering device} be checked regularly and that any necessary repairs be carried out promptly.

In case of failure, the \textit{filtering device} may be restored to normal operation by:

1. **Denier** (as mentioned before)
2. **Reduction** of the flow rate
3. **Cleaning**
4. **Maintenance**

It is advised to keep the \textit{filtering device} in good condition to ensure its effective operation.

If the \textit{filtering device} fails, it is important to take immediate action to restore normal operation.
KYUSHU IMPERIAL UNIVERSITY
Faculty of Medicine
Public Health Department
Dr. Haruo Mizusima, Prof. of Public Health

Doctor Mizusima, who holds a degree of Doctor of Public Health from Johns Hopkins University, has devoted most of his research to population problems in Japan, Korea, Manchuria, and Mongolia. He has reported on population increases in cities and rural areas and has developed life tables for Japanese, Koreans, and Manchurians. In addition, Doctor Mizusima has sponsored research in industrial hygiene, Vitamin C content of foods, purification of water by the oligodynamic action of silver, construction of houses for maximum comfort, effects of ultraviolet irradiation, effect of high temperature on the development of tuberculosis, effect of low pressure on the development of tuberculosis, bacteria which utilize carbon monoxide and the influence of flour in water on mottling of teeth in Koreans.

Reprints of publications are being forwarded under separate cover.
III. Dr. T. Mitsuya, Prof. of Urology

A large part of the work of this department, together with the apparatus used, was lost in the bombing and burning of the urological laboratory.

They have made a study of the normal physiology of the urinary tract using x-ray cinematographic methods. Peristaltic movements of the kidney, pelvis, ureters and bladder were studied.

Reprints were requested for forwarding under separate cover.

IV. Dr. F. Ishiyama, Prof. of Surgery

The professor has the reputation of being one of the best surgeons in Japan. He is carrying on the work of his deceased predecessor, Prof. H. Miyaki, on gall stones. He has collected stones from Japanese living in China, Formosa, Korea and other parts of the world in an attempt to explain the high incidence of bilirubin stones in Japanese.

The professor has studied the composition of gall stones, using microscopic, clinical, spectrographic and x-ray diffraction methods. He feels that the figures given in text books and in the literature for the incidence of various types of gall stones will have to be revised in the light of his researches. He feels that all the various analytical methods must be employed to determine the true make up of the calculus.

He is now applying his methods to the analysis of urinary stones.

His paper on X-ray crystallography is appended.

2. His department has used the Fuch's, Kurten and Sakai methods of diagnosis in early gastric carcinomas. In their hands the tests are about 82% accurate and are falsely positive in about 15%.

3. Ishiyama has done over 500 gastric resections for cancer and does not hesitate to take the hepatic artery if he feels it is necessary. He has done this in about 10 cases and has been successful in all. They have shown by animal experimentation, that the liver blood supply is readily taken over by the gastro-hepatico-duodenal artery.

4. He has done 40 frontal lobectomies in epileptics with discouraging results. He has resected the bronchial ganglia in 60 cases of asthma with mediocre results.

His paper on post operative pulmonary complications is appended.
The paper on that abstract is unfortunately not clear. It seems to discuss the importance and significance of certain factors. The text is fragmented and contains multiple incomplete sentences. There are also references to abstracts being mentioned and possibly being reviewed, but the specific details are not clear. The document appears to be a part of a larger report or discussion, but without more context, it is difficult to provide a coherent interpretation.
V. Dr. Sigeru Umayahara, Prof. of Obstetrics and Gynecology

The Department of Obstetrics and Gynecology has investigated such problems as blood supply of the embryo, liver function in toxemia of pregnancy, action of various hormones, roentgen pelvimetry, physical measurements of the newborn, insufflation tests for tubal potency, Vitamin C excretion and sodium taurocholate as a treatment for sepsis.

Reprints of publications are being forwarded under separate cover.

VI. Dr. G. Kusunaki, Prof. of Internal Medicine

The department of medicine of this university has an excellent reputation in Japan and is active in experimental and clinical research.

1. Studies have been conducted on the autonomic nervous system using the picrotoxic and section method.

   By this method a small area in the ventral part of the pons has been shown to be the center for tonic control of the intestine and the spinal cord and peripheral paths have been worked out. Reprints are attached.

2. Studies have been and are now being conducted on the effect of gastric and duodenal substance and human saliva and serum on polycythemia and pernicious anemia in the white rat. These studies have not been completed and have not been published.

3. They have shown that the use of gastric and duodenal substance in conjunction with typhoid vaccine causes a marked increase in the production of immune bodies and a higher titer is obtained than results from the use of the vaccine alone.

   A reprint of their paper on this reaction is appended.

4. The staff has conducted much experimental and clinical research on the problem of bronchial asthma. Many reprints on this problem are attached.

   They have used fever therapy and insulin shock therapy with claimed excellent results.

VII. Dr. M. Sasaki, Prof. of E-N-T.

The professor has published numerous papers on his method of tonsillectomy, on the clinical problem of tonsilitis, and on the removal of foreign bodies in the bronchial tree.

Reprints are appended.
The National Research Council is in-charge of the policy in the field of research and development. The Council is responsible for the promotion of scientific research and the development of new techniques and methods. It is also concerned with the coordination of research activities and the provision of facilities for scientific work. The Council is composed of representatives from all the major research institutions in the country.

IV. The National Research Council

The National Research Council is the central body responsible for the promotion of scientific research and the development of new techniques and methods. It is composed of representatives from all the major research institutions in the country. The Council is responsible for the promotion of research activities and the provision of facilities for scientific work. It is also concerned with the coordination of research efforts and the establishment of standards for scientific work.

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The only study conducted in this department recently has been one on the use of X-Ray therapy in the treatment of leprosy. Good results have been claimed for the maculose form of the disease. The results in the nodular form of the disease are not good.

Reprints will be forwarded under separate cover.
The only study conducted in this department recently has been

The data on the use of X-ray therapy in the treatment of cancer
good results have been obtained for the removal of the gummous
masses. The tumors in the majority of the cases have not

Reported will be furnished with separate cover.
Anatomy Department

Department of Bacteriology

Clinical Division

Comments on Medical Education

Hygiene Department

Ophthalmology

Pathology and Parasitology

Dept. of Pediatrics

Pharmacology (Miwa)
Faculty of Medicine  
Anatomy Department

C. Togari, Prof. of Histology and Embryology

The department has made many investigations in the histology and histogenesis of various organs in rodents.

Similar studies have been conducted on the sweat glands of the human axilla and on the nasal mucous membrane of man.

Reprints will be submitted under separate cover.

Dr. K. Yamada, Prof. of Anatomy (Micro)

The professor has been interested in the variations and anatomical abnormalities of trunk muscles of man, particularly of the levator scapulae. He has made exhaustive studies.

Reprints will be submitted under separate cover.

Dr. H. Nagamatsu, Prof. of Anatomy (gross)

The professor is conducting, in conjunction with all Japanese anatomists, a comprehensive study of the Japanese body types.

This work has not been published.

According to Dr. Ogasawara, no Japanese encephalitis virus vaccine was produced in Japan for control purposes.

The entire bacteriological laboratory and all equipment, data and cultures were destroyed during the first bombing attack on Nagoya.
During the war the Department of Bacteriology concerned itself with studies of the influenza virus. English, American and Japanese strains available for study were all type A. The few sporadic outbreaks of influenza in Japan during the war were identified by neutralization tests with patients sera as also due to type A virus.

Experimentally, four types of influenza vaccine were prepared:

1. Emulsion of infected mouse lung tissue.
2. Tissue culture
3. "Purified" suspensions of virus from mouse lung tissue.
4. Chick embryo preparations.

The first of these caused severe reactions in humans; the second was less drastic in its effect; the third was most acceptable to recipients. None was produced on a large scale and none was properly evaluated because there were no extensive outbreaks of the disease.

In addition to the above, studies were made of the feasibility of using the Manchurian hamster (Citellus mongolicus) as an experimental animal for Japanese encephalitis virus. It was found that the virus survived on 3-4 intracranial passages.

According to Dr. Ogasawara, no Japanese encephalitis virus vaccine was produced in Japan for control purposes.

The entire bacteriological laboratory and all equipment, data and cultures were destroyed during the first bombing attack on Nagoya.
I. Dr. U. Kikkawa, Prof., of Obstetrics and Gynecology

This is a busy clinical department and they have been conducting several clinical and experimental studies in the last 5 years:

1. A study of tuberculosis in pregnancy.
2. A clinical investigation of malignant choriocarcinoma.
3. An extensive study of foetal bone ossification.
4. A study of placenta praevia, particularly its X-ray diagnosis.
5. The use of laparoscopy in AZ tests.
6. A study of so-called foetal respirations by roentgenographic methods.

Reprints will be forwarded under separate cover.

II. Dr. M. Akune, Prof., Oto-rhino-lar

The experimental investigations of this department have been concerned with the physiological effects of industrial noises and of total body vibrations of high frequency:

1. The effect of noise on the B1 content of the livers of rabbits.
2. Histological changes in the organ of Corti of white mice subjected to factory (airplane riveting) noises.
3. A study of the effect of industrial noises on factory workers.
4. The effect of high frequency total body vibrations on the utricle sac of animals.

Reprints will be forwarded under separate cover.

III. A. Katsumuna, Prof., of Internal Medicine and Director of the Hospital.

The professor is the leading figure at the school and hospital and is interested in hematology.

1. He devised the sternal puncture apparatus used by the Army and Navy.
2. He has made a study of the histology of marrow tissue in lead poisoning.
3. He has devised a method of extracting cattle bones and used the extract in the treatment of emaciation due to starvation.
4. He has written a very interesting statistical paper on the incidence of the various types of brain tumor in Japan,
showing the relative infrequency of gliomas and the high incidence of parasitic cysts and tuberculosis.

5. Recently he has been working on the problem of fatigue in factory workers and has developed several fatigue tests.

S. Okada, Prof. of Internal Medicine

The professor has made extracts of various carcinomatous lesions and used them in the treatment of cancer.

He also has an extract from inflamed gall bladders which he used in the treatment of gall bladder disease.

Oral Insulin

Dr. Okada has prepared insulin for oral administration as follows:

Bosin 0.01 gm. Acid pigment
Methyl Violet 0.01 gm. Alkaline pigment
Saporin 0.1 gm.
Insulin - as required

Insulin given in this manner requires three times the quantity of insulin as when administered hypodermically.

Acid pigment prevents action of Pepsin
Alkaline pigment prevents action of Trypsin
Insulin prepared this way is absorbed by intestines

Clinical study was made on 50 cases.

IV. Dr. W. Saito, Prof. of Surgery

The professor is one of the best known surgeons in Japan and has been very busy during the war with his practice and running the surgical wards at the hospital.

He has done clinical research in spinal anesthesia and has directed a study of the oesophagus by roentgen kymography and tomography.

S. Kirihara, Prof. of Surgery

The professor is head of the 2nd Surgical Service at the university hospital. He has done considerable experimental work in nerve suture and on surgical shock. He has also done considerable gastroscopy and has devised an improvement of the Wolf shindler flexible scope. Reprints forwarded under separate cover.
The progress and development of various branches of knowledge, including medicine and surgery, has been marked by the introduction of new theories and the application of scientific methods. Recent years have seen a significant increase in the number of research workers and the expansion of various fields of study. A notable development in this regard is the increasing emphasis on the importance of preventive medicine and public health measures.

Challenges and Trends in Internal Medicine

Recent advancements in the field of internal medicine have led to a greater understanding of the complexities of diseases and their treatments. The role of the physician has evolved to include not only the management of acute illnesses but also the prevention of chronic conditions. This has necessitated a shift in the practice of medicine, emphasizing a holistic approach to patient care.

For instance, the development of new diagnostic tools and treatments has allowed for more precise and effective management of diseases. The use of technology, such as advanced imaging and genomics, has enabled healthcare providers to make more informed decisions and improve patient outcomes.

This evolution in healthcare practice is not only about treating patients but also about educating the public about health, promoting healthy lifestyles, and reducing the burden of disease. The healthcare system is increasingly focusing on the prevention of diseases and the promotion of health, which is a critical aspect of internal medicine.

In conclusion, the field of internal medicine is continuously evolving, driven by advances in technology, scientific research, and a growing awareness of the importance of preventive care. As we look to the future, it is clear that internal medicine will play a crucial role in shaping the healthcare landscape and improving the health of populations worldwide.
V. U. Sugita, Prof. of Psychiatry

He has made an extensive study of the character and personalities of war factory workers and find that 20% of them are abnormal. He believes that poor leadership of factory foremen is responsible for most of the variations.

He has also done considerable work with the use of the electroencephalograph in various psychoses.

Attached are reprints on recent work.

Other reprints will be forwarded under separate cover.

VI. S. Uegura, Prof. of Orthopaedic Surgery

The professor is world known for his studies of congenital dislocation of the hip and has seen over 1500 cases in his clinic in the last 20 years.

He has continued his studies during the war.

Reprints will be forwarded under separate cover.
Dr. K. Tamura, 
Prof. Dermatology and Dean of the Medical School.

"Comments on Medical Education"

The doctor's work has been confined to administration of the medical faculty and school.

The medical college graduated the same number of doctors during the war as before (400 per class) but the curriculum was shortened from 4 to 3 years.

There are (according to Dr. Tamura) 70,000 doctors in Japan and only about 20,000 of them are graduates of the full 4 years or 4½ year courses. He does not feel these men are properly trained and hopes many of them will return for graduate instruction.

Like other Japanese doctors with whom this matter has been discussed, Tamura's main concern is that the profession is over crowded.

According to Dr. Tanuma, the protective cover used as protection against domestic dust of the domestic type and non specific in their effect. In addition, Japanese industries were reluctant to wear proper respirators as a protection against dust. Ventilation equipment to remove both dusts and other atmospheric contaminants were limited in use because of a lack of material.
During the war Dr. Koinuma studied the problem of industrial dusts. He tested a variety of face masks and decided that a mask consisting of fine layers of "habutai" grade silk was most feasible for production in Japan. This mask, however, did not come into commercial production.

In addition to silicosis occurring in coal and copper miners, foundry workers and sand blasters, Dr. Koinuma also listed dermatitis, carbon monoxide poisoning and pneumoconiosis in people grinding duraluminum as common industrial health problems. In addition, tuberculosis was reportedly common in the last named group.

According to Dr. Koinuma, the protective creams used as preventives against dermatitis were of the cosmetic type and non specific in their effect. In addition, Japanese laborers were reluctant to wear proper respirators as a protection against dusts. Ventilation equipment to remove both dusts and other atmospheric contaminants were limited in use because of a lack of material.
Work was accomplished on the use of Posterior Lobe of Anterior Pituitary Gland, where a Melanophalen Hormone was extracted and used in night blindness. This hormone was extracted from fish and prepared by Aoyama Institute, Tokyo (Commercial Pharmaceutical bourse).

Dose: 1 cc, became effective after 2 hours and duration was about 24 hours.

Results: Night vision was improved, especially objects on the horizon.

Fish glands were used only because of the supply.

Note: Supplent to Appendix "A", Section IX, Navy Medical College, Tokyo - Dept. of Pharmacy.
Work was accomplished on the use of portation. I hope of unveiling
will in time develop. Wherefore a Medical motion picture was
executed and seen in right positions. This motion was extracted from film and
covered by a movie Institute. Today (Commercial Phonocardiograms)

Dose: I go, because effective after 3 hours and reduction
was enacted to power.

Feasible: Night action was improved, especially opposite
on the position.

May obtain were used only because of the minority.

Note: Supplement to Appendix "A" Section IX
For Medicall College. Tokyo - Dept. of
Pharmacology
Doctor Oshima has devoted many years to the study of the distribution, pathology and epidemiology of *Clonorchis sinensis*, *Metagonimus yokogawai* and *Dibothrioccephalus latum* infections. All three parasites are endemic in the prefectures surrounding Nagoya due to the native custom of eating raw or partially cooked fish. Since there are no satisfactory therapeutic measures, the only practical procedure at present is to educate the people to cook fish before eating. A reprint outlining some of this work is attached.

During the war Dr. Oshima also studies the pathology in soldiers who died of malaria. Reprints of this work are attached.

Before the war Dr. Oshima was studying carcinomas but was forced to discontinue the work due to lack of supplies. At present he is interested in the etiology and transmission of chicken sarcoma.
During the war the Department of Pediatrics was largely concerned with the study of "ekiri" (diarrhea in young children). The studies conducted by the staff show that the disease is prevalent in children between the ages of two and seven. Untreated patients have a 44% mortality rate. Death appears to be due to cardiovascular collapse. Experimental observations seemed to show that intravenous saline and glucose combined with the administration of strophanthin was the therapeutic procedure of choice.

The disease apparently is due to a variety of bacterial etiologic agents. A reprint is attached which describes the experimental observations made including etiology and therapy.
The purpose of the Department of Geology is to make the student familiar with the study of earth materials and processes. The student is expected to become acquainted with the general principles of geology, and to develop an understanding of the relationship between the earth's physical and chemical processes. The student is also expected to develop an appreciation of the historical development of geology as a science and the role of geology in modern society.
Research carried on over period 1940 to 1945.

1. Action of Adrenalin on the secretion of the stomach.
   
   Conclusion: Adrenalin does not directly increase secretion of the stomach, but stimulates activity of the stomach, which in turn stimulates secretions.

2. Effects of oxygen and air on movement of intestines.
   
   Conclusion: When oxygen content is reduced to 9%, a marked decrease is noted in movement of intestines, from 20% to 9% reduction. No change is noted.

3. Effect of acid on secretion of suprarenal glands.
   
   Conclusion: Injection of 5 cc. 1/5 N HCl showed an increase in secretion.

4. Action of caffeine as a heart stimulant.
   
   Conclusion: Caffeine stimulates heart by direct stimulation and not by increasing circulation of blood. This was proven by keeping blood pressure and rate of circulation constant. Blood pressure was held constant by withdrawing blood as circulation increased. Circulation of blood was held constant by withdrawing blood as blood pressure increased.
Anatomy Department
Bacteriology Department
Hygiene Department
Internal Medicine
Pharmacology Department
Pathology
Physiology
Biochemistry
Osaka University
Faculty of Medicine
Anatomy Department
Dr. Masaji Seki, Prof. of Anatomy and President of the Japanese
Anatomical Society.

Doctor Seki and his staff have concerned themselves primarily
with the histological changes due to hot springs therapy. Available reprints detailing these and other studies are being for-
warded under separate cover.

All buildings and practically all equipment and publications
of the Department of Anatomy were destroyed during an air raid.
The Department of Bacteriology, which also teaches parasitology, has investigated four major problems during the war. Available reprints are being forwarded:

1. Typhus vaccine - attempts were made to produce typhus vaccine from the peritoneal membranes of experimentally infected animals. This project never reached a practical conclusion.

2. Distribution of fluke infestation in fish - extensive surveys of the extent of metagonimus, clonorchis and other fluke infestations of fish have been made, using a digestion technique to liberate the encysted stages for identification.


4. Experimental therapy of R. prowazekii infections in guinea pigs - among a series of "chinon" derivatives prepared by the Kyushu Pharmaceutical Company in Okayama, three have shown promise in the treatment of guinea pigs experimentally infected with Rickettsia prowazekii:

\[
\text{Kylochinon} \quad 2-6 \text{ Dimethoxychinon} \quad 2\text{-Acetaminochinon}
\]
Practically all research sponsored by Dr. Ogata has been concerned with fundamental immunological phenomena. A large number of reprints are being forwarded under separate cover.

II. Dr. Hideo Yagi, Director of Gynecologic and Obstetric Clinic

Doctor Yagi has sponsored research programs dealing with problems of female sterility, treatment of carcinoma of the cervix and prevention of suicide and narcotics addiction. He desires of staff publications are being forwarded under separate cover.

While studying the diagnosis of the causes of sterility, Doctor Yagi developed a modification of the Rubin test for tubal patency. His method consists of instilling sterile saline into one tube at a time through specially designed instruments which block off the tube not being tested. The volume and rate of flow through each tube arc charted and the results obtained furnish corrective data on the patency of the tubes. Diagrams of the apparatus and sample charts are given in one of the aforementioned reprints.

Doctor Yagi also maintains an excellent pathology museum for teaching purposes.

III. E. Kirkpatrick, Prof. of Pediatrics

The professor's staff was partly entangled during the war and he has even been busy with clinical work.

Recently he has become interested in the study of certain sulphon protein in milk and serum.

Reprints have been requested and will be forwarded under separate cover.
I. Professor Kitayama has directed a study in the clinical and immunological aspects of influenza. They have been unsuccessful in their attempt to develop a good immunization.

2. The department has done a great deal of work on the problem of encephalitis Japonium. They have used a mouse brain antigen but production was curtailed due to the war.

3. The professor (Kitayama) claims to have clarified the relationship between the midbrain and the hypophysis cerebri. He has made extensive studies of the blood vessel and nerve fibres anatomy in the region of the tuber cinereum. He claims to have demonstrated a much closer neurovascular relationship between the pituitary gland and the mesencephalon than other workers.

II. Dr. Hideo Yagi, Director of Gynecologic and Obstetric Clinic

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Doctor Yagi also maintains an excellent pathology museum for teaching purposes.

III. E. Hanamoto, Prof. of Paediatrics

The professor's staff was greatly curtailed during the war and he has been busy with clinical work.

Recently he has become interested in the study of certain sulphur proteins in milk and serum.

Reprints have been requested and will be forwarded under separate cover.
The integration and sharing of data in the medical field is critical for effective patient care. However, there are significant challenges in this area. One major challenge is the lack of standardized data formats, which makes it difficult to compare and integrate data from different sources. Additionally, there are concerns about privacy and security, as sensitive patient data must be handled with care.

Another challenge is the lack of interoperability between electronic health record systems. This makes it difficult for healthcare professionals to access and use patient information efficiently. Furthermore, the reimbursement system often does not incentivize the adoption of new technologies, which can hinder the progress of data integration.

Despite these challenges, there are efforts underway to address them. For example, initiatives like HL7 FHIR (Fast Health Interoperability Resources) are being developed to improve data interoperability. These efforts are crucial for advancing the use of big data and analytics in healthcare, which can lead to better outcomes for patients.
IV. B. Hata, Prof. of Ophthalmology
I. Kajiura, Ass't. Prof. of Ophthalmology

This department has been conducting investigations into the problem of myopia. They are conducting clinical and animal experiments to show the effect of general diseases on the development of near sightedness.

Reprints will be forwarded under separate cover.

V. H. Hayashi, Prof. of Psychiatry

The department of psychiatry has been conducting a clinical investigation of schizophrenia.

They have shown the CO₂ tension of cerebral blood to be low in agitated dementia praecox and rises on amelioration of the patient's condition.

They have also shown the temperature of the brain to be subnormal in schizophrenics.

Reprints will be forwarded under separate cover.

VI. H. Negishih, Prof. of Urology and Dermatology

The professor's clinical researches have been on the therapy of syphilis. He has also conducted many animal experiments on bismuth absorption and elimination and on the spinal fluid concentration of the metal. He has been attempting to find a method of improving the spinal fluid absorption.

He has also done some experiments with auto transplanted dog kidneys and on the effect of Vitamin C deficiency on the susceptibility of the rabbit skin to infections.

Reprints will be forwarded under separate cover.

VII. S. Tsuda, Prof. of Surgery

The professor has been working chiefly on various serum and urine tests for cancer. He has confirmed the work of Fuchs and other German and Japanese workers in this field.

He has also revised interest in the use of a coli bacillus antivirus in the treatment of peritonitis.

The professor has always been interested in the problem of pancreatitis and he has continued his studies on this condition.

Reprints will be forwarded under separate cover.
Research for past five years was conducted in two phases.

First Phase constituted functional and morphological studies of various organs, and the action of drugs, especially on the central nervous system.

Second Phase constituted experimental and chemotherapy studies upon various infectious diseases, particularly Typhoid Dysentery, by the Aromatic Guanidin derivatives, especially P. oxybenzyl-guanidin.

Reprints attached.
Doctor Tanabe has been interested in the following problems and has furnished available reprints to be forwarded under separate cover:

1. Effects of the atomic bomb explosion in Hiroshima - Dr. Tanabe autopsied 19 patients in Hiroshima and 10 in Okayama. Reports are being sent to the Atomic Bomb Commission.

2. Pathology of Japanese virus encephalitis.

3. Pathological changes in endocrine glands associated with hydrogen sulfide or carbon disulfide poisoning.

4. Physiology and pathology of endocrine glands.

5. Pathology of interstitial pneumonia.

6. Pathology of pulmonary tuberculosis.

Dr. Hiroshi Tanabe, Prof. of Pathology

Dr. Y. Harazaki, Asst. Prof. of Pathology

Dr. Harazaki has published an extensive series of histopathologic studies dealing with virus inclusion bodies and various intracellular structures demonstrated by special stains.

Reprints are being forwarded under separate cover.
Prof. Hayashi concentrated his studies on the effects of various conditions on blood vessel walls, for the protection and cure of arteriosclerosis.

He claims that Vitamin C, upon Epinephrine-Arteriosclerosis protects the blood vessel walls and cures arteriosclerosis.

Reprints attached.

Studies made on relation between the cancerous disease and the abnormal production of nucleic bases.

(1) Nucleic base Uracil stimulates the growth of cancer tumor of the rat.
(2) Nucleic base Uracil decreases Carbohydrate Metabolism of the rabbit.
(3) The cancer tissue shows a remarkable decrease of Vitamin B1.
(4) The Uracil content is found abundantly in young rabbits and it is increased in cases of rats with growing implanted cancer tumor or in case of Vitamin A deficiency.

Reprints attached.
THE MECHANISM OF FIBROGENESIS AND THE PROTECTION OF THE EFFECTS OF
IONIC CONDITIONS ON FIBROGENESIS. FOR THE PROTECTION AND
PREVENTION OF FIBROGENESIS.

The claims that Attention... have been presented... and those presented...
Study on the physiology and chemistry of bile and, especially the origin and the formation of bile acid with 24 carbon atoms.

The gall-bladder of different kinds of animals (fish, the water lizard, the snapping turtle, birds, otter and buffalo) were studied and separated various kinds of sterols (C26, C27, C28) or sterochalic Acids (C26, C27, C28) which have a constitution of cholic acid or cholic acid itself. Furthermore, it was established that the other bile acids are formed from the cholic acid under oxyd-reduction in the animal body.

Studies made on relation between the cancerous disease and the abnormal production of nucleic bases.

(1) Nucleic base Uracil stimulates the growth of cancer tumor of the rat.
(2) Nucleic base Uracil decreases Carbohydrate Metabolism of the rabbit.
(3) The cancer tissue shows a remarkable decrease of Vitamin Bl.
(4) The Uracil content is found abundantly in young rabbits and it is increased in cases of rats with growing implanted cancer tumor or in case of Vitamin A deficiency.
XXV. OSAKA IMPERIAL UNIVERSITY

A Department of Biochemistry
B Microbiological Institute
C Department of Pharmacology
D Physiology Laboratory
E Surgical Clinic
F Takeo Institute for Tuberculosis
G Internal Medicine
Investigated enzymatic reactions, particularly the production of indole from tryptophane by bacteria. Studied the enzymatic oxidation of ascorbic acid. An outline of the work as well as reprints are attached.
Directly interested in virus and virus-like diseases from the standpoint of the elementary bodies and inclusion bodies. Principally the relationship to pathogenicity, etiology and the life cycle.

A listing of research for the past five years is appended. Reprints on the completed phases of this work will be forwarded under separate cover.

This institute has been engaged in the production of vaccines, antisera and antitoxins. None are different from those produced in other government laboratories.

Buildings and laboratory facilities exhibit the unkemptness observed elsewhere.

The director, Dr. Taniguichi, from his works, is an internationally recognized individual in the field of microbiology. A listing of his research publications to 1941 is included in the reprints.

Has done work on exo erythrocytic malaria in chickens (gallin-accum).
A failure of a reservoir for the perpetuity values to be distributed by the

The Institute has been engaged in the production of research papers and studies by different branches from those branches

In order to provide government information about the Institute's activities and facilities, the Institute published an annual report containing information on the activities of the Institute.
Professor Okagawa and his four assistants were interviewed. His most important investigations were studies on the pharmacology of adrenalin. He has studied the effect of vitamin C on adrenalin content of suprarenal gland and has published a paper on the formation of adrenalin from dioxyphenylalanine (the mother substance).

He studied over 100 drugs and essential oils as repellents for mosquitos. Those of value were capronic acid, caprilic acid, Shiso oil (from the shiso plant, grown in Hokkaido, containing 35% Pelliraldehyde) benzaldehyde, benzophenene, citronellaldehyde, and citronellyl acetate. The last three were the best. This work is not yet published.

Attached is a list of more recent studies, as well as reprints of their studies.
Investigation of oxidation-reduction potentials of various Biologic and Chemical systems. Attached is a list of papers published and 3 reprints.

Crushed fresh cow's spleen is treated with solutions containing a trace of MgSO_{4} and then 1.8 N HCl.

The dried material is extracted 5 times with 25% HCl at 360 for 1 hour, centrifuged, and filtered. An equal amount of NaOH is added and the solution is refrigerated 24 hours, crystals separate which are dried at 60°C. One gram of hemoglobin forms the red blood corpuscles.

A second method for solution of active material is to add 1 cc of water and 10 cc of alcohol containing 0.5% HCl to 1 gram dried spleen material. Crystalline material forms on the surface. Attached is an outline of this work.

Investigated a blood clotting material prepared by treating cow blood with 30% hydrogen peroxide. The form is skimmed off, dissolved in salt solution and prepared for injection. Prepared form is administered under separate cover. One in two capsules of 2% solution are said to stop bleeding from serious wounds.

Investigated and prepared a hemocellulose (Sulfuric Acid Paper) which was found useful as a substitute for blood plasma.

Sample under separate cover.

Developed Histaaminase and found it very useful in treating allergic conditions. Sample under separate cover.
Investigated the detoxification of Sulfanilimides in the animal body. Evidence submitted that nicotine acid may assist in the acetylation of Sulfanilimides. Three reprints attached.

Hideo Sei:

Investigated the physiology of the spleen and has prepared a spleen preparation which caused an increase in red blood corpuscles. This preparation is in the experimental stage, but is prepared as follows:

Crushed fresh cows spleens are washed with acetone and ether and stored in sealed containers. 10 such spleen treated with 0.3 Kg acetone, containing a trace of KNO₃ and then 1.3 Kg ether.

The dried material is extracted 5 times with 2% Na Cl at 36° C for 1 hour, centrifuged and filtered. An equal amount of glucose is added and the solution is refrigerated 24 hours, crystals separate which are claimed then given in 1 gram doses causes the rapid production of red blood corpuscles.

A second method for production of active material is to add 10 cc of water / 10 cc of Alcohol containing 0.5% H Cl to 1 gram of dried spleen material. Crystal like material forms on the surface. Attached is an outline of this work.

H. Nanaga, Chief Surgeon
H. Hana, Assistant

Investigated a blood clotting material prepared by treating cows blood with 1% hydrogen peroxide. The foam is skimmed off, dried, dissolved in salt solution and prepared for injection. Ampoules forwarded under separate cover. One or two ampoules of a 2% solution are said to stop bleeding from serious wounds.

Investigated and prepared a hemicellulose (Sulfuric Acid ester) which was found useful as a substitute for blood plasma.

Sample under separate cover.

Developed Histaminase and found it very useful in treating allergic conditions. Sample under separate cover.
Dr. Imamura is primarily working in tuberculosis, as director of the institute. He has been instrumental in the initiation of the B. C.G. vaccination program in Japan. From his statistics, over a fifteen year period, a definite reduction in the incidence of tuberculosis among the vaccinated is shown. By means of a mobile laboratory, over 700 thousand individual examinations of civilians from infancy to old age have been made, in determining further the prevalence of tuberculosis.

The work in progress at present is principally directed toward developing new attenuated \textit{M. tuberculosis hominis} strains by cultivation on a glycerine-gall-potato medium. Four strains showing a high degree of attenuation by animal experimentation, have been developed. These have not been used in humans.

A so-called spectroscopic diagnostic method for cancer, using an extract of cancerous tissue and serum, has been developed.

Reprints of research will be forwarded under separate cover.

A digest of the cancer diagnostic method is appended.
University of California, Los Angeles

Departments of Medicine, Surgery, Pediatrics, Pathology

The Department of Medicine at the University of California, Los Angeles, is engaged in comprehensive research in the field of medicine. It has a long-standing tradition of excellence in medical education and research, and its faculty is composed of internationally recognized experts in various fields of medicine.

The work in the Department of Medicine is conducted through a variety of research laboratories and clinical centers. The Department is home to several prominent research programs, including those in cardiology, cancer research, and neuroscience.

The Department is affiliated with the UCLA Health System, which includes the UCLA Medical Center and other affiliated hospitals. The Department's research is supported by grants from federal and private foundations, as well as by partnerships with industry and other organizations.

The Department of Medicine at the University of California, Los Angeles, is committed to advancing the field of medicine through rigorous research, outstanding clinical care, and exceptional medical education.
A specific Acid Turbidity Reaction Test for cancer diagnosis has been developed. The method, in Japanese hands, shows promise. The procedure is attached.

Also, attached are reprints of III Clinic for Internal Medicine.
and the procedures in execution.

Also, attached are drawings of the office top topographic information.
XXVI. TOKYO JIKEIKAI MEDICAL UNIVERSITY
Dept. of Forensic Medicine

XXVII. AGRICULTURAL EXPERIMENTAL STATION
Director of Research

XXVIII. JAPANESE ARMY DEPOT FOR MEDICAL MATERIAL
Research Dept.

XXIX. RESEARCH INSTITUTE OF TUBERCULOSIS
Dr. H. Oka, Director

XXX. WARTIME RESEARCH COMMISSION
Board of Technical Science

XXXI. EDUCATION REQUIREMENTS FOR MEDICAL DEGREE - Igakusi
Professor Ishikawa investigated Anaphylaxis in animals since 1934, with the object of its application to the prevention and treatment of allergic diseases, though no clinical application has been made to date. Little attention to date has been made by the clinicians to allergic diseases and their treatment.

Recent work has been on sensitization of animals to drugs and chemicals, somewhat similar to that of Landsteiner’s work. He has attempted to differentiate between chemicals causing skin sensitivity alone, or those causing skin and intestinal muscle sensitivity in guinea pigs. For example, aspirin and Barbital, quinine, chromium compounds, cresols caused only skin reactions while Iodine, such as lugols solution produced both skin and muscle sensitivity. He was unable to sensitize animals to thyroxin.

Attached is an outline of the research activities of Jikeikai Medical University, also the collected research papers of Prof. Ishikawa on Anaphylaxis.
Recent work has led to the identification of new factors that influence the progression of various diseases. The development of new therapeutic approaches has been crucial in combating these conditions. The role of inflammation in the development of chronic diseases has been a focus of considerable research. The identification of new targets for intervention has opened up new avenues for treatment.
Investigations of interest were the studies made on Vitamin B1 and C:

1. Caffeine sodium acetate and sodium cephaline sulphanate were produced from peanut skins and rice embryo.

Vitamin B1 was obtained from peanut skins and Dr. Yabuta states that it contains about 7000 units of Vitamin B1 in 100 Gms, as compared to rice embryo which contains 4500 units of Vitamin B1 in 100 Gms.

Vitamin C was found present in Persimmon Leaves and in Walnut Leaves from 1% to 2% on the basis of dried leaves.

Reprints attached.


5. Synthesis of thiazole nucleus for vitamin B1 without the use of phosphorus compounds.

6. Utilization of butyl ester of gallin acid to prevent oxidation of vitamin A.

7. Promotion of the therapeutic effect by the modification of quinine (seven new effective compounds have been obtained).


9. Simplified method of obtaining vitamin B1 from rice and wheat germ or rice bran.

10. Examination of the use of Berium Odorim, a cardioactive.

11. Manufacture of vitamin B1 from the waste liquor obtained during starch production.


Reprints and sample of Baccilus Butyricus enclosed.
A detailed report on incident where the substance was an oxidizer.

No evidence of ignition from present tests and no test data.

Atmospheric tests were conducted from 700 miles of the site in 100
cases. Tests are conducted at 700 miles with results and at
100
site in 700 cases.

Atmospheric tests were flown directly to Paradise Island in a
Leaves from the site of the fire.

Reprints available.
Research Plan since 1940 constituted studies on Cardiotanics, disinfectants, anesthetics, sulphanamides, Vitamins, anti-malaria remedies, and investigations for substitutes of chemicals and provison against lowering of specifications.

Investigations of interest are as follows:

1. Caffeine sodium acetate and sodium naphthaline-sulphnate were produced experimentally to economize the usage of toluene, the raw material for caffeine sodium benzoate.

2. Synthesis of dimethyl ester of phthalic Acid.


5. Synthesis of thiazole nucleus for vitamin B1 without the use of phosphorus compounds.

6. Utilization of butyl ester of gallic acid to prevent oxidation of vitamin A.

7. Promotion of the therapeutic effect by the modification of quinine (seven new effective compounds have been obtained).


10. Examination of the use of Nerium Odorum, a cardiotonic.

11. Manufacture of vitamin B1 from the waste liquor obtained during starch production.


Reprints and sample of Bacillus Butricus enclosed.
Investigation of interest rate fluctuations...

1. Calculating certain margins and solving projection problems...
2. Stabilising methods of controlling interest rate fluctuations...
3. Application of pre-proportioning such factors and pre-proportion...
4. Significance of pre-proportioning for new developments...
5. Expostion of practical effects of getting ready to prevent...
6. Utilisation of pre-proportioning...
7. Identification of the pre-proportioning affect on the pre-proportion...
8. Simplifying methods of summarising statistical information from the...
RESEARCH INSTITUTE OF TUBERCULOSIS
1005 Shimakiyoto, Kiyose, Kitatama County, Tokyo
Director: Dr. Harumita Oka.

This modern appearing laboratory is one of the important centers for tuberculosis research. Dr. Oka has headed a 24 man committee which has been responsible for giving BCG vaccine to more than nine million people, exclusive of the Army and Navy. This committee has studied a group of 100,000 Japanese receiving the vaccine and another equal size group in another area which served as a control.

Using repeated tuberculin tests as the basis for X-ray examination during a 5 year period of observation completed in 1943, the following general conclusions were drawn:

The 100,000 people receiving BCG in certain areas showed only 50% of the X-ray evidence of infection seen in the control areas, 1/4 the clinical evidence of infection and 1/7 the death rate. In the group receiving BCG, the percentage of extra pulmonary lesions was reduced and the usual peak death rate between 20-25 years of age was flattened.

The vaccine is made from the original BCG strain brought from France. This culture is maintained on potato bile medium. When vaccine is to be produced, the organisms are cultured two weeks in Sauton's fluid, dried somewhat on sterile filter paper, weighed, suspended by shaking in saline and gelatin and dispensed for immediate use. The vaccine is outdated after seven days.

It is administered intracutaneously in a dose of 0.1 cc which contains 0.04 - 0.06 mg. of tubercle bacilli. It is only given to tuberculin negative individuals. It is not given subcutaneously because of the danger of abscess formation. The age groups most extensively studied have been 15-25.

Dr. Oka has furnished English summaries of research publications, copies of the publications and reports pertaining to BCG and a stock culture of the BCG culture used to produce the vaccine. (Additional reports on work with BCG vaccine, have been accumulated from other sources and reported under other institutions).

Stock culture carried to Surgeon General's Office by Lt. Col. Henry Cotton, on 18 November 45.

Reprints are attached.

English summaries will be forwarded under separate cover.
The following request constitutes an urgent appeal to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by sea to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by land to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by air to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by rail to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by river to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by canal to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by foot to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by horse to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by bicycle to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by dog to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by cat to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by mouse to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by fly to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by bird to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by fish to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by shell to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by stone to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by saw to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by hammer to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by bottle to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by vase to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by teapot to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by kettle to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by pot to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by pan to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.

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The Secretary of State is hereby directed to secure the immediate delivery of the Thunderbolt by pan to the President of the United States in the Office of the Secretary of State, as the President's representative in this matter.
This appears to be an overall scientific development and research organization which is responsible to the Cabinet. Its governing section is the **Chamber for Technical Sciences**.

The Chamber for Technical Sciences is composed from the Vice Ministers of Cabinet positions and from Technical services such as Aviation, Shipbuilding, and Ordnance Administrative Headquarters. In all there are 25 members. This chamber decides upon what projects shall be undertaken, allots funds, decides upon priority, and delegates the work. However, the chief of each project is appointed by the agency for which the project is undertaken.

Most of the scientists working on WRC projects are also those associated with the NRC. It is said that this results from the lack of qualified men.

Reference is made to Research Projects of Army Medical College of Appendix "A", Section III of the periodic reports.
The Director for Technical Education is composed of the

Director of Technical Education, and the Director of Technical Services.

The responsibilities of these positions may vary depending on the specific needs of the organization. The Director of Technical Services is responsible for providing technical support and guidance to the organization. The Director of Technical Education is responsible for developing and implementing educational programs to support the organization's goals.

The role of the technical staff working on the multiple projects is to ensure that the projects are completed on time and within budget. The project managers are responsible for overseeing the projects and ensuring that they are proceeding smoothly.

Reference to Appendix A for details on the technical team.
EDUCATIONAL REQUIREMENT FOR MEDICAL DEGREE - IGAKUSI

(From interrogations of responsible members of the Ministries of Education and of Public Health and Welfare and Dr. Tamiya, Dean of Tokyo Imperial University Medical College.)

Curriculum requirements are set by the Ministry of Public Health and Welfare, and the Ministry of Education sees that they are met by the colleges.

SCHOOL       YEARS       AGE
Elementary School  6 Years   6 - 12
Intermediate School 4 or 5 Years 12 - 16 or 17
   (Semmon Gekko or Class B Medical College requires an extra year in lieu of Higher School Course)
Higher School  3 Years  19
   (Reduced to 2 years during the war)
Medical College  4 Years  23
   (Reduced to 3 years during the war)

Upon graduation from Medical College, a student may apply for license; no special examination is required.

Faculties of the Universities, other than Medicine, require 3 years for graduation.

Internship is not required but is customary. Though clinical work is included, the greater effort goes toward study and preparation of a thesis which usually requires 2 - 3 years to complete. Then the student is granted a higher degree, termed "Hakushi".

The Semmon Gekko (class B school) was designed about 1937 to produce medical men for the forces exploiting East Asia. Semmon Gekko students entered after Intermediate school. Course was for 3 years in contrast to 4 years for the University course. During the war it was reduced to 2 years. In this manner a large group of poorly educated men was produced. The Japanese say that these men "lack culture".

The above appears to mention two of the factors tending to lower standards of medicine:

1. The mass production of the Semmon Gekko.

2. The large proportion of University graduates seeking a higher degree rather than going into clinical work. This also tends to "pad the literature" with worthless papers.
The seminar Gelen (class & school) was conducted from 1933.

It was the formal provision of the Technical College, which was the foremost educational body. The seminar Gelen, established under Intermediate School, was the first to be conducted. A seminar was held to ensure the maintenance of a high level of education.

To promote the faculty's struggle, the seminar Gelen:
- Published a quarterly bulletin
- Organized annual conferences

The seminar Gelen is a significant institution in the history of education.