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AD NUMBER

AD347849

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FROM: confidential

LIMITATION CHANGES

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Controlling Organization. Central Intelligence Agency, Office of Central Reference, 2430 E. Street, NW, Washington, DC 20505.

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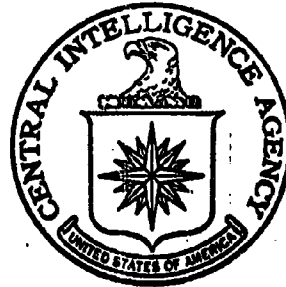
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**SCIENTIFIC INFORMATION REPORT
CHINESE SCIENCE**

(43)

Summary No. 5407

2 March 1964

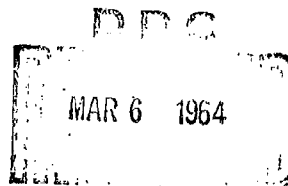
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W A R N I N G

**THIS MATERIAL CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE
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C-O-N-F-I-D-E-N-T-I-A-L

SCIENTIFIC INFORMATION REPORT

Chinese Science (43)

This serial report contains unevaluated information prepared as abstracts, extracts, summaries and translations from recent publications of the Sino-Soviet Bloc.

Abstracts represent all articles except brief notes and news items from all available issues of the Actas Sinica series, under which 42 separate titles are known to be published in Peiping. English, Russian, or Chinese abstracts are either given in their entirety or condensed and are so identified. Whenever no abstract accompanies the Chinese text, one is prepared for this report. Brief notes and news items are prepared in the form of summaries and extracts and are presented separately in this report.

Individual items are unclassified unless otherwise indicated.

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ABSTRACTS FROM ACTAS SINICA

Biological and Medical Sciences

HUNG T'ao (3163/3447)
CH'EN Liang-piao (7115/5328/2871)
P'ANG Ch'i-fang (1690/0366/2455)

"Electron Microscope Studies of the Fine Structure of a Human Tumor Virus-Molluscum Contagiosum Virus"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 321-332

Text of English Abstract: This article presents the results of electron microscopic studies molluscum contagiosum virus by means of the negative staining technique. In the experiments, an attempt has been made, using chemical treatments together with the negative staining method, to study the fine structure of the virus. The following results are obtained: (1) Four kinds of virus particles (i.e., types A, B, C, and B-like) have been observed, and a dynamic relationship

(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 321-332)

between these particles has been discussed. (2) The surface layer of the mature (type A) virus of molluscum contagiosum is built up by stripes composed of numerous tubular subunits arranged in rows. The manner of arrangement of these stripes closely resembles that of ORF virus, but fails to show a regularity of Coiling. (3) A short-period digestion with proteolytic enzymes (pepsin, trypsin) makes the inter-strike spaces of the virus widen and gradually disappear, and finally type B-like particles were formed. The stripes eventually disappeared and left a thin sheet after persistent digestion. No apparent effect has been observed after digestion of type B particles. (4) Combined action of the proteolytic enzymes and the nuclei results in an appearance of some dense bodies in type A particles. These bodies are different in number and shape when BNase and RNase are used separately. (5) Based on the analysis of these results, a stereoscopic conception is suggested. A morphological relationship of the three main parts of the virus, namely, stripes, nucleoids, and dense bodies, is also discussed.

The authors express thanks to JIU Yuan-yuan (2692/0337/0337), Dr TS'ENG I (2532/3015), Dr LIU Ch'ung-pai (0491/1504/2672), and Prof

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(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 321-332)

HUANG Chen-hsiang (7806/4394/4382) for their enthusiastic help; to Prof SHIH Lu-chi (2457/1462/0679), Institute of Biophysics, Chinese Academy of Sciences, for his valuable opinions; to Dr WANG Wen-yuan (3769/2429/0337) and Dr SHA Lin-tsao (3097/2651/5679) of the Peking First Hospital for their help; to Dr LI Ch'ung-yen (2621/1504/6056) of T'ien-t'an Hospital for his help; to Dr TS'AO Jen-lieh (2580/0088/0441) and others of the Sino-Soviet Friendship Hospital for their help; and to the Institute of Dermatology and Venereology, Chinese Academy of Medical Sciences, and the Department of Dermatology, Peking Union Hospital, for their help.

This paper was received for publication on 21 August 1963.

Authors' Affiliation: All of Department of Virology, Chinese Academy of Medical Sciences, Peiping.

CHANG Shu-cheng (1728/2885/2398)
WANG Hui-lien (3769/1920/5571)
YANG Lien-wan (2799/1670/1238)

"Studies on the Production of Glycerol and Arabitol by Osmophilic Yeasts -- IV. Carbohydrate Metabolism in Osmophilic Yeasts"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 334-343

Text of English Abstract: (1) Activity of enzymes of EMP and pentose phosphate cycle was determined in cell-free extracts of two strains of osmophilic yeasts, i.e., Hansenula Arabitolgenes Fang 275 and Zygosaccharomyceschevaliere guill. 2. 309. Except for phosphofructkinase, which was not detected in 2. 309, all key enzymes were present in the extracts of both strains. (2) A Nadp-linked polyol dehydrogenase, which catalyzed the reduction of dihydroxyacetone to glycerol (in both 275 and 2. 309) and D-Ridulose to D-Arabitol (in 275 only) was found in both strains. (3) Respiration experiments using glucose-C¹⁴ showed that pentose phosphate cycle was more dominant in strain 275. This is in accordance with the fact that strain 275 produced more 5-carbon compound -- arabitol. The author expresses thanks to HAN Chen-chen.

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(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 334-343)

(7281/2429/3791) and JEN Yung-o (0117/3057/1230) for their participation in part of the technical work.

This paper was received for publication on 15 August 1963.

Authors' Affiliation: All of Institute of Microbiology, Chinese Academy of Sciences, Peiping.

CHANG Shu-cheng (1728/2885/2398)
YANG Lien-wan (2799/1670/1238)

"Oxidative Metabolism in Geotrichum Candidum"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol. 9, No 4, Nov 63, pp 344-350

Text of English Abstract: (1) Intact resting cells of Geotrichum Candidum readily oxidized ethanol, acetate, pyruvate, and oxaloacetate, but other intermediates of the TCA cycle, such as succinate, fumarate, α -ketoglutarate, malate, citrate, cis-aconitate, and isocitrate, were slowly oxidized. (2) The following enzymes or enzyme assistance of the TCA cycle were detected in cell-free extract of Geotrichum Candidum: condensing enzyme, isocitric dehydrogenase, α -ketoglutaric dehydrogenase, succinic dehydrogenase, fumarase, malic dehydrogenase, "malic" enzyme, and oxalacetic carboxylase, and the existence of the acetate activating enzyme and L-glutaric dehydrogenase was also indicated. (3) The two key enzymes of glyoxalate cycle, isocitratase and malate synthetase, were also detected in cell-free extract of this mold. (4) From the above results, it was obvious that Geotrichum candidum could use the TCA cycle as the pathways of terminal respiration.

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(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 344-350)

The author expresses thanks to JEN Yung-o (0117/3057/1230) for his help in part of the technical work; to LIN Ying-jui (2651/2019/6904) for his synthesis of maleic and aconite acid anhydrides; and to FANG I-ch'eng (2455/0001/3397) and WANG Hui-lien (3769/1920/5571) for their help.

This paper was received for publication on 15 August 1963.

Authors' Affiliation: Both of Institute of Microbiology, Chinese Academy of Sciences, Peiping.

CHANG Hsien-wu (1728/2009/2976)
HAN Ching-shu (7281/7234/3219)
LIN P'ei-chen (2651/0160/4176)

"Studies on the Fat Synthesizing Micro-organisms III. Examination of the Physical and Chemical Properties of the Fat From Rhizopus-280"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 352-354

Text of English Abstract: The fat from Rhizopus-280 has been found to have a relatively high saturated fatty acid content and a lower iodine number and much resembled animal fat. By paper chromatographic analysis, it has been found that lauric, myristic, palmitic, stearic, arachidic, and behenic are the saturated fatty acid components, while linolic, oleic, and two unidentified fatty acids, the unsaturated fatty acid components.

C. V. Viswanathan's circular paper chromatography method with slight modification is a simple and adequate method for the analysis of higher fatty acids of biological origin. It can be used for the identification of fatty acid mixture with carbon atoms from 12 to 22 with clear-cut separation.

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(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 352-354)

This paper was received for publication on 4 February 1963.

Authors' Affiliation: All of Institute of Forestry and Pedology, Chinese Academy of Sciences, Shenyang.

HSUEH Yu-ku (5641/4417/6253)
YIN Kuang-lin (1438/0342/3829)
CHANG Yung-ch'ing (1728/3057/1987)

"The Effect of X-ray Radiation on the Reproduction of Yeast"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 356-361

Text of English Abstract: (1) The logarithmic phase in the life span of *Saccharomyces cerevisiae* is the most sensitive; the lag phase, less; and the stationary phase, the least, to X-ray radiation. (2) Relation between the number of survival cells and radiation dose is somewhat sigmoid. Both the medial lethal dose (LD50) and the mean lethal dose (LD63) have been determined to be 16.5 Kr and 20.65 Kr, respectively. (3) One of the effects of X-ray treatment is the delay of the starting time of yeast cell divisions. (4) Within the range of doses (0-150 Kr) used in the experiments, X-irradiation has no significant effect on the constant K of the equation $N = N_0 e^{Kt}$. The differences found among the postirradiation growth curves are mainly determined by the number of survival cells and the length of lag phase.

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(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 356-361)

The author expresses thanks to SHIH Lu-chi (2457/1462/0679) for his valuable opinions; to the Institute of Microbiology, Chinese Academy of Sciences, for their X-rays.

This paper was received for publication on 7 August 1963.

Authors' Affiliation: All of Institute of Microbiology, Chinese Academy of Sciences, Peiping.

HSUEH T'ing-yao (5641/1694/5069)
SUN Kuo-yu (1327/0948/3768)
TING Mei-li (0002/5019/7787)

"Studies on the Anaerobic Photosynthetic Sulfur Bacteria -- I. Isolation and Cultivation of the Purple Sulfur Bacterium"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 362-366

Text of English Abstract: A pure culture of the purple sulfur bacteria has been isolated from the marine mud collected at the low tide near Chan-qiao (a pier) of Tsingtao. The culture consisted of gram-negative, motile rod, or long ovoid cells 2.2 to 3.6 by 1.2 to 2.2 microns, usually containing 2-4 sulfur globules per cell and red pigments coloring the cells various shades of red for the characteristics of the genus Chromatium. On van Niel medium and under anaerobic conditions, cells are rod shaped with the formation of red colonies. No growth has been observed on potato slant, beef-extract agar, or in milk medium. Gelatin was not liquified. The culture has been identified as Chromatium gracile Strzeszewsky. A capillary two method for the isolation and cultivation of the purple bacteria has been adopted. The culture has been

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(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 362-366)

obtained by a special capillary glass tubing containing nefelova (Russian word) modified van Niel medium, in which sodium bicarbonate is substituted for by acetic acid as the sole carbon source for depriving of the contaminated bacteria. Five different forms of sulfur compounds have been tested and the maintenance, preservation, and nutritional requirements of the bacteria studied.

The author expresses thanks to Ch'en Shih-chiang (3088/0013/3179) and KAO Yueh-hua (7559/2588/5478) for their help in several items.

This paper was received for publication on 28 February 1963.

Authors' Affiliation: HSUEH of the Shantung College of Oceanography and the Institute of Oceanography, Chinese Academy of Sciences, Tsingtao; SUN and TING of the Institute of Oceanography, Chinese Academy of Sciences, Tsingtao.

SUN Chi-shen (1327/4764/3947)

"On the Technique of Cultivating Brucella Abortus on Colloidin Films and Morphological Observations Under the Electron-Microscope"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 367-370

Text of English Abstract: Brucella abortus strain Ba19 was cultivated on Colloidin Films by a modified method which made reference to the original work of Hillier-Knaysi-Baker and Pokotinskiy. The Colloidin Film preparations were studied under electron-microscope. Under the electron-microscope, it was observed that among many isolated cells of Brucella, quite a number of cells were in the stage of active application and most of them showed a process of transverse fission. Some cells with branching at one end were also observed. The cell wall, as well as the cytoplasm of the bacteria, gave a configuration like the letter Y. This is believed to be in a process of bacteria multiplication by branching.

The modified method of cultivating Brucella on the Colloidin Film for electron-microscope study is described and its advantages discussed.

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(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 367-370)

The author expresses thanks to Prof WEI Hsi (7614/2569) and Prof HSIN Chun (6580/6874) for reading the manuscript and for their guidance; to HUANG Min-hua (7806/3046/5478), CH'EN Kuo-ch'i (7115/0948/0796), and others for helping in the experimental and research work.

This paper was received for publication on 29 August 1963.

Author's Affiliation: Institute of Epidemiology and Microbiology, Chinese Academy of Medical Sciences, Peiping.

YEN Hsun-ch'u (7051/6676/0443)
TENG Yu-hsiu (6772/1342/4423)

"Studies on the Classification of Actinomyces -- II. Determination of Actinomyces Hygroscopicus Group"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 371-378

Text of English Abstract: This group of Actinomyces is characterized by the formation of dark violet-grey to brownish black moist patches on the surface of its colonies. Each patch is a slimy mass in which one or several sporophores are embedded. Three species and one variety were described. They are Act. hygroscopicus jensen; Act. hygroscopicus var. violaceus n. var., growth and soluble pigment violet-purple (this variant is considered similar to actinosporangiumviolaceus Krassilnikov and Juan, 1961); Act. cinreohygroscopicus n. sp., aerial mycelium light grey, spores oval-shaped; and Act. glauchohygroscopicus n. sp., aerial mycelium glaucous green-grey, spores oval-shaped. The type species (Act. hygroscopicus Jensen) and its violet variety were found to produce 1-3 antibiotics capable of inhibiting the growth of Gram-positive bacteria and filamentous fungi.

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(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 371-378)

The author expresses thanks to CHANG Ya-mei (1728/0068/5019) for helping in the technical work.

This paper was received for publication on 13 March 1963.

Authors' Affiliation: Both of Institute of Microbiology, Chinese Academy of Sciences, Peiping.

YEN Hsueh-ch'u (7051/6676/0443)
LU Yun-yu (4151/6663/3768)

"Studies on the Classification of Actinomyces -- III. Determination of Actinomyces Glaucus Group"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 379-393

Text of English Abstract: This group of actinomyces is characterized by its glaucus green grey aerial mycelium. Nine species and one variety were described. One species (Act. coeruleofuscorectus n. sp.) is characterized by straight sporophores. Three species presents sporophores in close pirals; they are Act. glaucescens Gause et al., growth colorless; Act. glaucoflavus n. sp., soluble pigment yellow; and Act. glaucus lehmann et Schutze, soluble pigment brown. Five species and one variety present sporophores in open spirals. They are Act. coeruleescens gause et al., growth yellowish, no soluble pigment; Act. coeruleofuscus gause et al., soluble pigment brown; Act. viridochromogenes Krainsky, growth dark green; Act. glaucovioatratus n. sp., soluble pigment black violet; Act. glaucoviolaceus n. sp. soluble pigment violet, which does not utilize arabinose and sorbitol; and Act. glaucoviolaceus bar. pallens

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n. var., which produces light violet pigment and utilizes arabinose and sorbitol as a sole source of carbon.

Act. glaucoviolaceus and its life-colored variety were found to produce different antibiotics capable of inhibiting the growth of gram positive bacteria and filamentous fungi.

This paper was received for publication on 7 March 1963.

Authors' Affiliation: Both of Institute of Microbiology, Chinese Academy of Sciences, Peiping.

YEN Hsun-ch'u (7051/6676/0443)
CHANG Kuo-wei (1728/0948/0251)

"Studies on the Classification of Actinomyces -- IV. Determination of Actinomyces Verticillatus Group"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 394-405

Text of English Abstract: Twenty-two strains of whorl-forming actinomyces with straight sporophores were grouped into eight species. Their cultural characteristics on Gause's synthetic agar are as follows:

- A. Aerial mycelium pink to rose, growth red to brownish red
 - 1. Act. biverticillatus Gause et al., 1957, no soluble pigment.
 - 2. Act. rubroverticillatus Yen, 1955, soluble pigment yellow.
 - 3. Act. pentaticus Umezawa et Tanaka, 1958, soluble pigment brown.
- B. Aerial mycelium light pink to rose, growth light yellow to yellow
 - 4. Act. lilacinoverticillatus n. sp., no soluble pigment.
 - 5. Act. fradioverticillatus n. sp., soluble pigment yellow.
- C. Aerial mycelium yellowish white to light pink
 - 6. Act. luteoverticillatus Shinobu, 1956, soluble pigment pale yellow.

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D. Aerial mycelium yellowish white to greyish white. Growth pale yellow, soluble pigment pale yellow

7. Act. ochraceoverticillatus n. sp.

E. Aerial mycelium pink to yellowish grey or brownish grey. Growth red to red brown

8. Act. cinereoverticillatus n. sp.

These species were found to produce different antibiotics capable of inhibiting the growth of Gram-positive bacteria, yeasts, and filamentous fungi.

The author expresses thanks to LI Yung-hua (2621/3057/5478), HSING Kuei-hsiang (6717/2710/7449), and CHIANG Shu-jen (3068/2885/0086) for their help in the technical work.

This paper was received for publication on 13 March 1963.

Authors' Affiliation: Both of Institute of Microbiology, Chinese Academy of Sciences, Peiping.

CHANG Hsiao-yu (1728/4607/3768)
HSIEH Hsin-yuan (6200/0207/1254)
HSU Wen-szu (6079/2429/1835)

"Selection of High-Yielding Strains in Streptomyces Fradiae"

Peiping, Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica), Vol 9, No 4, Nov 63, pp 406-409

Text of English Abstract: The killing and mutation rate of mutagenic agents u. v. and nitrogen mustard on streptomyces fradiae were measured. Nitrogen mustard was shown to be a more potent mutagen than u. v.

A strain 61-7-12, obtained after nitrogen mustard treatment, gave significantly higher yield of antibiotic than the original strain U₁-19; as high as 200-220 percent was achieved in shaker fermentation tests. The growth rate and colony morphology of 61-7-12 were quite different from the parent strain both on natural and synthetic media. It grew very slowly and required 10-12 days at 28 degrees C to obtain full growth on slants. It also differed from U₁-19 in being darker in spore color and in the utilization of carbon source.

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(continuation of Wei-sheng-wu Hsueh-pao, Vol 9, No 4, pp 406-409)

This paper was received for publication on 21 January 1963.

Authors' Affiliation: Both of the National Shanghai No 3 Pharmaceutical Plant, Shanghai.

HSU Ch'un-yuan (6079/2404/6678)
YEH Yun-ling (5509/7301/3781)

"Early Transplanting in Avoiding Paddy Borer Damage of Medium Rice Crop in Anhwei"

Peiping, K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica), Vol 12, No 4, Sep 63, pp 385-393

Text of English Abstract: The paddy borer *Schoenobius incertulas* (Wlk.) is the most serious pest widely distributed in the rice-growing regions of Anhwei Province. It breeds three to four generations per year. Its serious damage is done to the medium crop of rice in its third generation. Experimental results and agricultural practice in the past few years have shown that early transplanting of the medium crop of rice is the most economical method for controlling this insect. It is shown that advancing the transplanting date of the medium crop of rice prior to 5-10 June is effective in avoiding borer damage in the rice fields along the Yangtze River in Anhwei.

LIANG Yu-te (2733/7411/1795), director of the Tang-t'u Hsien Institute of Agriculture, contributed many invaluable views; KUO Ling-ti

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(continuation of K'un-ch'ung Hsueh-pao, Vol 12, No 4, pp 385-393)

(6753/3781/1229), HSU Ching-kuo (1776/7231/0948), HSUEH Ch'ao-ying (5641/2600/5391), P'ENG Lu-t'u (1756/4478/4422), and CHANG Tao-t'ung (1728/6670/4827) assisted with the work.

This paper was received for publication on 8 January 1963.

Authors' Affiliation: HSU, Anhwei Academy of Agricultural Sciences;
YEH, Tang-t'u Hsien Institute of Agriculture.

CHANG Tsung-ting (1728/1350/3521)
TS'AO Tse-p'u (2580/3419/3302)
CHIANG Yung-chia (1203/3057/0857)

"Studies on Insect Chemosterilants: I. Screen Test of 35 Chemicals as Insect Chemosterilants"

Feiping, K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica), Vol 12, No 4, Sep 63, pp 394-401

Text of English Abstract: Thirty-five chemicals, mostly new compounds and a few standard anticancer drugs, were tested on housefly adults (*Musca domestica vicina*) as chemosterilants. The chemicals were added in solution to milk powder at 1.0% or 0.5% concentration, dried, and fed for 24 or 48 hours. The number of eggs laid and the percentage of hatching were counted for a period of 14 days.

Only Thio-TEPA (the S-analog of aphoxide) proved to be a very effective chemosterilant; it induced complete sterility at 0.5% concentration when fed for 24 hours. Very few or no eggs were laid, and of those laid, none hatched. 6-MP and N-mustard were less effective; the other anticancer drugs such as Nitromin, Sarcoclysin, acetylsarcoclysin, dopan, and endoxan and other substituted purines and pyrimidines were still less effective.

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(continuation of K'un-ch'ung Hsueh-pao, Vol 12, No 4, pp 394-401)

Three new compounds of the triazine type proved to be as effective as the standard anticancer drugs, but most of the others were ineffective. Investigation of the use of Thio-TEPA as insect chemosterilant and screening of other new compounds are in progress.

Prof WANG Hsu (3769/1645) of the Organic Chemistry Teaching and Research Section, Pharmacy Department, Peking Medical College, as well as the Peking Institutes of Oncology, the Institute of Materia Medica of the Chinese Academy of Medical Sciences, and the Institute of Zoology of the Chinese Academy of Sciences, supplied the chemicals used in this experiment.

This paper was received for publication on 19 March 1963.

Authors' Affiliation: All of the Department of Biology, Peking University; TS'AO is a postgraduate student at Peking College of Forestry.

WU Ch'iu-yen (0702/4428/7159)
K'AO Fu (6753/6744)

"The Endocrine Role of the Corpora Allata on the Egg Maturation in the Armyworm *Leucania Separata* Walker (Lepidoptera)"

Peiping, K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica), Vol 12, No 4, Sep 63, pp 402-410

Text of English Abstract: Several decisive experiments have proved that the development of eggs in lepidopterous insects does not need the presence of corpora allata. However, it is worthy to note that the lepidopterous insects so far used are species which are unable to feed in the adult stage and whose eggs are already ripened during the pupal development. We doubted whether this conclusion can be applied to all lepidopterous insects. To solve this problem, experiments were performed on the armyworm, the adult of which needs to feed on honeydew or nectar as the supplementary nutrients to ripen their eggs.

The development of eggs in the adult ovarioles may be divided into three stages: (i) transparent opalescent stage, (ii) yolk deposition stage, and (iii) mature stage. The whole process was completed in a period of 5 days. Gross anatomical observation showed that there was a rough

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correlation between the secretory activity of the corpora allata and the vitellinogenesis of the eggs.

In the decapitated female moths which had previously been well fed on honey after emergence, the eggs showed no sign of further development in the first 5 days. When the brains or the corpora allata-corpora cardiaca complexes were implanted in the abdomens of these decapitated females, it was found that only the eggs of the recipients which had received a pair of corpora allata from the well-fed male and female adults had developed to the stage iii, while those of the recipients which received the brains of corpora cardiaca were unable to develop. Therefore, it is concluded that egg maturation in the armyworm is under the hormonal control of the adult corpora allata. It was also seen that the volume of the corpora allata in males increased continuously during the adult life span, but their function in relation to sexual activity remained obscure in our experiments.

CH'IN Chun-te (2953/0193/1795) read and corrected the draft manuscript; CH'EN Jui-chin (7115/3843/3866) made the drawings; and HSIANG Hsiu-fen (7309/4423/5358) assisted with the work.

(continuation of K'un-ch'ung Hsueh-pao, Vol 12, No 4, pp 402-410)

This paper was received for publication on 4 February 1963.

Authors' Affiliation: All of the Institute of Zoology, Chinese Academy of Sciences.

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CH'EN Ch'ing-kang (7115/3237/0474)
LIU Fang (0491/5364)
FENG Hui (7458/1979)

"Studies on Metabolism of Eri-Silkworm During Metamorphosis: I. Changes of the Chief Constituents of the Fat Body and Hemolymph Before and After Pupation"

Peiping, K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica), Vol 12, No 4, Sep 63, pp 412-421

Excerpts of English Abstract: The changes in the weights and constituents of the fat body and hemolymph of the female and male Eri-silkworm (*Philosamia cynthia ricini* Boisd.) before and after pupation have been studied and their interrelations discussed. The main results of this investigation are given.

CH'IN Chun-te (2953/0193/1795) offered valuable views and read and corrected the draft manuscript; HSU Mu-yu (1776/1970/4416) assisted with the technical work.

This paper was received for publication on 6 March 1963.

(continuation of K'un-ch'ung Hsueh-pao, Vol 12, No 4, pp 412-421)

Authors' Affiliation. All of the Institute of Zoology, Chinese Academy of Sciences.

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LI Ping-chun (2621/4426/6874)
WU Wei-chun (0702/4850/0971)
HUANG K'o-hsun (7806/0668/6064)

"A Preliminary Study on the Effect of Photoperiod and Temperature on the Induction of Diapause in the Peach Fruit Borer (*Carposina niponensis* Walsingham)"

Peiping, K'un-ch'ung Hsueh-pao (*Acta Entomologica Sinica*), Vol 12, No 4, Sep 63, pp 423-429

Excerpts of English Abstract: The results of these studies are summarized under the following four topics: (1) the percentage of diapause under field conditions, (2) effect of the length of daily photoperiod on the induction of diapause, (3) the effect of temperature on diapause, and (4) the relationship between the length of photoperiod and diapause under natural conditions.

Part of this work was conducted by the Northeast Borer Research Team, principally in Liaoning Province in 1957.

This paper was received for publication on 6 March 1963.

(continuation of K'un-ch'ung Hsueh-pao, Vol 12, No 4, pp 423-429)

Authors' Affiliation: WU and HUANG of the Peking Agricultural University; LI of the Liaoning Provincial Institute of Pomology.

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LIU Shih-hsien (0491/1102/6343)
FANG Ting-chien (2455/1353/1017)
HUANG Tzu-jan (7806/5261/3544)
HUANG Ch'u-hui (7806/2806/6540)
CHU Ch'i-wen (2612/4860/7186)

"On the Relationship of the Content of Organic Acids, Aminoacids, and Sugars in Mulberry Leaves and in the Organism of Mulberry Silkworm Caterpillars"

Peiping, K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica), Vol 12, No 4, Sep 63, pp 432-445

Excerpts from Russian Abstract: The chromatographic method is used to determine the content of free organic acids, free aminoacids, and sugars in mulberry leaves and in the organism of mulberry silkworm caterpillars nourished by these leaves in various stages of their development. The problem of the possible effect of the quality of the leaves on the viability of the mulberry silkworm caterpillar is examined on the basis of the obtained data.

Profs CHAO Shan-huan (6392/0810/2970) and YANG Tang-chieh (2799/6721/

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2638), South China Agricultural College, directed this research. SU Ta-tao (5685/1129/6670), Kwangtung Provincial Academy of Agricultural Sciences, rendered assistance.

This paper was received for publication on 1 February 1963.

Authors' Affiliation: All of the Kwangtung Provincial Academy of Agricultural Sciences.

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CH'EN Shih-hsiang (7115/0013/7534)

"Results of the Entomological Expedition to Tibet in 1960-1961;
Coleoptera Chrysomelidae"

Peiping, K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica), Vol 12,
No 4, Sep 63, pp 447-455

Excerpts of English Abstract: The Chrysomelid beetles obtained by the expedition, although few in number, are very interesting in relation to geographical distribution, since we are at present almost unacquainted with the beetle fauna of Tibet, as far as the Chrysomelidae are concerned, only a few single species having been described at different times. The present collection gives us at least some idea on the nature of the Tibetan fauna which is discussed in the Chinese text. The scientific names of the new species studied are: (1) *Basilepta scutellare*, (2) *Trichotheca fuscicornis*, (3) *Phratora flavipes*, (4) *Morphosphaera gracilicornis*, and (5) *Longitarsus tibetanus*.

This paper was received for publication on 7 June 1963.

Author's Affiliation: Institute of Zoology, Chinese Academy of Sciences.

HSIUNG Kuang-hua (3574/0342/5478)

WANG Chieh (3769/2212)

HU Yung-te (5170/3057/1795)

LIU P'i-tsung (0491/0012/1350)

"Studies on the Bionomics of *Phlebotomus Alexandri* in Kansu Province"

Peiping, K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica), Vol 12,
No 4, Sep 63, pp 458-462

Text of English Abstract: Systematic observations on the bionomics of *P. alexandri* Sinton, 1928, were made in Hei-shan-hu area, Kansu Province. The main results obtained from the studies are briefly summarized as follows:

1. The sandfly season starts from the first or latter part of June to the latter part of August or the middle part of September, covering a period of 3 months. The highest peak occurred within the first 10 days of July.
2. *P. alexandri* has only one brood per year in this area.
3. The resting places of the adults of *P. alexandri* were found in dry wells, mountain caves, crevices, and burrows of rodents.
4. Under laboratory conditions when the temperature was being kept

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between 20 and 40° C, the entire period for the development of the ovaries from stage I to stage V took 5-9 days.

5. In nature or in the laboratory, *P. alexandri* was observed to feed on man or other higher animals.

Prof FENG Lan-chou (7458/5695/3166) directed the research.

This paper was received for publication on 23 October 1962.

Authors' Affiliation: HSIUNG, WANG, and HU of the Institute of Parasitology, Chinese Academy of Medical Sciences, Shanghai; LIU of the Kansu Provincial Institute of Medical Sciences.

CH'EN Yung-lin (7115/3057/3651)

"A New Subspecies of *Locusta migratoria* -- Tibetan Migratory Locust (*Locusta migratoria tibetensis* Subsp. N.)"

Peiping, K'un-ch'ung Hsueh-pao (*Acta Entomologica Sinica*), Vol 12, No 4, Sep 63, pp 463-475

Excerpts of English Abstract: The present paper describes a new subspecies of *Locusta migratoria* from different localities in Tibet Autonomous Region of China. A comparison with the oriental locust and migratory locust on certain taxonomic and morphometrical characters is also mentioned. A key is also given for the separation of the three known subspecies of the *Locusta migratoria* in China.

The Tibetan migratory locust is readily distinguishable from the oriental locust (*L. migratoria manilensis*) and migratory locust (*L. migratoria migratoria*) in being smaller, with shorter elytra and femora in the solitary phase. These differences are made quite obvious when the standard measurements and ratios of the three subspecies are compared. There is no doubt that the Tibetan migratory locust should be regarded as a distinct subspecies of *Locusta migratoria*.

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Prof MA Shih-chun (7456/0013/7486), Prof CHIU Shih-pang (6726/1709/6721), and FU K'ai-ling (1788/0418/7881) offered valuable opinions and read and corrected the draft manuscript; WANG Lin-yao (3769/2651/3852) and WANG Ch'un-kuang (3769/2504/0342) collected specimens and assisted HUANG Liang-wen (7806/0081/2429) and LUNG Ch'ing-ch'eng (7893/1987/2052) with specimen identification; YU Yen-fen (0060/1693/5358) made the photographs; and LIU Yin-tseng (0491/5593/1073) did the drawings.

This paper was received for publication on 6 May 1963.

Author's Affiliation: Institute of Zoology, Chinese Academy of Sciences.

HUANG Ch'i-lin (7806/0366/2651)

"A Review of the Chinese Stenopsychidae (Trichoptera)"

Peiping, K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica), Vol 12, No 4, Sep 63, pp 476-488

Excerpts of English Abstract: The stenopsychids are very well represented in the trichopterous fauna of China, especially in the southern provinces. So far as the genera Stenopsyche and Parastenopsyche are concerned, 24 out of the 48 and one out of the 4 species are endemic to China, respectively. A preliminary review is made by compiling the literatures relating to the Chinese species. Keys to the Chinese species of the genera Stenopsyche and Parastenopsyche are given, and three new species of the former are described, namely, Stenopsyche yunnanensis, Stenopsyche lanceolata, and Stenopsyche appendiculata.

This paper was received for publication on 19 March 1963.

Author's Affiliation: Nanking Agricultural College.

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TS'AI Pang-hua (5591.6721/5478)
HUANG Fu-sheng (7806/1788/3932)

"A Preliminary Study of *Serica Orientalis* Motschulsky (Coleoptera: Melolonthidae)"

Peiping, K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica), Vol 12, No 4, Sep 63, pp 490-504

Excerpts of English Abstract: *Serica orientalis* Motschulsky is one of the most important insect pests of forest and nursery in Northeast China. The host plants include 149 species in 45 families, 116 genera. The adult infests the bud, leaf, and flower, causing considerable damage to the plant. This study deals with the life cycle of the insect.

Assistance was rendered by Chang-ku-t'ai Erosion Prevention Afforestation Station, Forestry Bureau of Liaoning Province, the Chang-ku-t'ai Work Station, Institute of Forestry and Pedology of the Chinese Academy of Sciences; and LI Ya-chieh (2621/0068/2638).

This paper was received for publication on 31 October 1962.

(continuation of K'un-ch'ung Hsueh-pao, Vol 12, No 4, pp 490-504)

Authors' Affiliation: Both of the Institute of Zoology, Chinese Academy of Sciences.

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HSIAO Ts'ai-yu (5618/6846/3842)

"The Chinese Bamboo Coreids of the Tribe Cloresmini Stal With the Description of a New Subspecies (Hem.-Heter.)"

Peiping, K'un-chung Hsueh-pao (Acta Entomologica Sinica), Vol 12, No 4, Sep 63, pp 506-509

Excerpts of English Abstract: The present paper deals with three genera and nine species of the tribe Cloresmini Stal from China with a key to the genera and the species. These new species are: (1) *Noto-bitus Excellens* Dist., (2) *N. sexguttatus* Westw., (3) *N. meleagris* F., (4) *N. montanus* Hsiao, (5) *Cloresmus pulchellus*, (7) *C. yunnanensis* Hsiao, (8) *C. modestus* Dist., and (9) *Cloresmus similis* Dall.

This paper was received for publication on 8 September 1962.

Author's Affiliation: Department of Biology, Nankai University.

WANG Chao-chun (3769/0340/0133)
CHANG Jung-sheng (1728/2837/3932)

"A New Sandfly, *Phlebotomus Tumenensis* Sp. N., Found in Szechwan Province, China"

Peiping, K'un-chung Hsueh-pao (Acta Entomologica Sinica), Vol 12, No 4, Sep 63, pp 511-513

Excerpts of English Abstract: A new species of sandfly, *Phlebotomus tumenensis*, obtained in 1957 from the Tumen village, Mouwenhsien, Szechwan Province, is described. The special features of the pharyngeal armature enable us to differentiate it from the male of *Phlebotomus kiangsuensis*.

This paper was received for publication on 16 May 1962.

Authors' Affiliation: Both of the Shantung Institute of Parasitic Diseases.

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PEN Ch'ang-en (6321/7022/1869)

"Histological and Histochemical Study of the Effect of Hydrocortisone Acetate on the Rat Liver"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 209-220

Text of English Abstract: Hydrocortisone acetate was administered daily by intramuscular injection (2.5 MG/100 GM body weight) to 14 adult rats. Another six rats were used as controls. The experimental animals were divided into three groups, of which the first group were sacrificed 24 hours after 3 injections, the second group 24 hours after 6 injections, and the third group 9 days after 6 injections. The livers of both the experimental and control animals were studied with routine histological and histochemical methods. After the hydrocortisone treatment, the rats decreased in body weight, but the liver weight/body weight percentage increased. The Parenchymal cells showed a marked depletion of eosinophil granules, protein, and ribonucleic acid, but the content of glycogen and the activity of phosphorylase increased. There was a drop in the activity of nonspecific esterase.

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The change of alkaline phosphates was not consistent. The content of desoxyribonucleic acid and lipids and the activity of acid phosphatase and succinic dehydrogenase did not show any distinct changes.

The author expresses thanks to Prof Li Chao-te (2621/5128/3676) under whose guidance the experiments were done.

Author's Affiliation: Histology and Embryology Teaching and Research Section, Peking Medical College; PEN's present address is Histology and Embryology Teaching and Research Section, Peking Traditional Chinese Medical College.

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CHENG Tse-hui (6774/0463/1979)

"Distribution of Collaterals of Optic-Tract Fibers in the Ventral Nucleus of Lateral Geniculate Body and Its Adjacent Structures"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 222-228

Text of English Abstract; Recent neurophysiological studies indicate that there may exist an unorthodox afferent visual pathway consisting of optic nerve fibers, leading to the cerebral cortex via the unspecific thalamo-cortical projection system. In the present work, it was attempted to test the validity of this hypothesis by an anatomical means. A modified intravital methylene blue method has been used to stain the optic nerve fibers in both normal rabbits and in rabbits with various lesions. The orientation and the distribution of the collaterals of the optic nerve fibers in the lateral geniculate body and its adjacent structures were studied.

In normal preparations, it was observed that at or near the ventral nucleus of the lateral geniculate body many nerve fibers in the optic tract give collaterals which either enter into the ventral nucleus and terminate there or head for the dorsal nucleus of the lateral geniculate

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body and nucleus lateralis, pars posterior, or pulvinar. Some of the fibers giving off collaterals to the ventral and dorsal nuclei of the lateral geniculate body persisted after enucleation of both eyes, but underwent complete degeneration and disappeared after additional extirpation of the cerebral cortex, indicating that these fibers were of cortical origin. But removal of all the descending fibers alone by destruction of the internal capsule and corpus striatum could not annihilate all the fibers with collaterals in the optic tract. It is thus concluded that the collaterals of the nerve fibers in the optic tract came from both the optic nerve and the cerebral cortex.

From the anatomical, as well as the developmental, point of view, the ventral nucleus of the lateral geniculate body is intimately related to the reticular nucleus of the thalamus. The collaterals of the optic nerve fibers and the ventral nucleus of the lateral geniculate body may be regarded as constituent parts of the reticular system, subserving functionally as a pathway for the diffuse projection of visual impulses to the cerebral cortex. The fibers in the anterior, but not the posterior, accessory optic tract are considered also to take part in the visual activity of the reticular system.

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Author's Affiliation: Institute of Physiology, Chinese Academy of Sciences, Shanghai.

CHAO Tseng-han (6392/1073/5060)

"Age Changes of the Neurons in the Cerebellum of the Rhesus Monkey"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 233-244

Text of English Abstract: From 32 Rhesus monkeys, the vermis cerebelli and the portion containing the dentate nucleus were fixed in 10 percent formalin. The animals of both sexes were divided into four age groups according to their dental status. Paraffin sections, as well as frozen sections, were prepared. The Purkinje cells per unit area of the cortex were estimated on sections stained with methyl green and pyronin. With advancing of age, the numbers of the purkinje cells decreased gradually, with an average reduction from 1,391 to 1,065 in the males and from 1,203 to 1,108 in the females. Histochemically, the lipofuscin pigments differed from melanin and hemosiderin. They were almost insoluble in fat solvents, readily stained by Sudan Black, and PAS-positive. The pigments in group IV usually appeared acidfast with the long Ziehl-neelsen method, while those in theyounger age groups were stained poorly or not at all. With schmohl's ferricyanide method, only the pigments in the Purkinje cells of group IV reacted positively. These characteristics indicated that pigments belong to the cercoid-type lipofuscin as

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described by Pearse "1960." The magnitude of the pigments in both types of cells was estimated in the Sudan Black-stained sections. In both sexes, the numbers of pigmented cells and the cells with higher grades of pigmentation were found to be increased concomitantly with the increase of age. The differences were statistically significant. The pigments of Purkinje cells were more or less uniform in size and accumulated lateral to or above the nuclei. The pigments in the neurons of dentate nucleus varied in size and distribution in the cytoplasm. In both types of the cells, pigments were found occasionally in the dendrites.

The author expresses thanks to Prof CHENG Kuo-chang (6774/0948/4545), under whose direction this paper was done; to the Institute of Medical Biology, Chinese Academy of Medical Sciences, together with the Institute of Zoology, Chinese Academy of Sciences, for supplying the materials; to CHUNG Su-chuan (6945/4790/1227), CHANG Yu-lien (1728/3768/1670), and CHAO Hsueh-k'un (6392/1331/0981) of the Institute of Zoology, Chinese Academy of Sciences, for helping in the technical work; and to Prof TSANG Yu-ch'uan (5258/3768/8672) for correcting the first part of this paper.

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Author's Affiliation: Institute of Zoology, Chinese Academy of Sciences.

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CH'IEN Kuo-chen (6929/0948/2823)
CHAO Hui-chuan (6392/1979/1227)
WANG P'u-shih (3769/3877/4258)

"Morphological Changes of the Superior Cervical Ganglion Cells Following X-Irradiation"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3,
Aug 63, pp 245-250

Text of English Abstract: Albino rats weighing 180 to 200 grams were used for studying the effects of a single session of X-irradiation on the superior cervical ganglion cells. In the animals exposed to a dosage of 600 r, only a few of the ganglion cells showed central chromatolysis as early as 2 hours after radiation. But on the first day after irradiation, the Nissl bodies in the majority of the ganglion cells were decreased in amount and stained lighter than the controls. After 3-20 days, some of the animals recovered, and the RNA of the ganglion cells began to increase around the nucleus. Pronounced chromatolysis and regressive changes occurred within 3 days in the superior cervical ganglion cells of those animals which were irradiated with 1,000 r.

CHANG Tien-ming (1728/3013/2494)

"Electromyographic Studies on the Postural Muscles of the Lower Extremity, Especially the Gastrocnemius"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3,
Aug 63, pp 257-265

Text of English Abstract: Multilead electromyographic studies were made on 15 healthy young adult males to investigate the action of the postural muscles of the lower extremity, especially the gastrocnemius. The results were as follows:

1. In standing position, when either both legs or one leg supported the body weight, the gastrocnemius of the weight-bearing leg or legs, as well as hamstring muscles, showed some potentials. When changing the body position from standing to squatting or the reverse, the gastrocnemius showed similar activity. It indicates that the gastrocnemius acts together with the hamstring muscles to counteract the action of the quadriceps in maintaining the extended position of the knee joint.
2. When one leg stands on the ground and the other hangs freely, then flex and extend the free leg slowly, no activity is recorded in the gastrocnemius. Similarly, no activity is recorded in the gastrocnemius

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when flexing the knee joint in a sitting position. It is, therefore, assumed that the gastrocnemius is not necessarily a flexor of the knee joint, as is usually considered, but an important extensor under certain conditions.

3. When the leg was rotated medially or laterally in a sitting position, both heads of the gastrocnemius showed activities. The rotation of the leg toward either direction is not the action of a single head, although the medial head is always more active than the lateral one.

4. The activities were also shown in the gastrocnemius when standing on the toes or stepping forward of the weight-bearing leg in walking. It confirms the common view that the gastrocnemius is a flexor of the ankle joint.

The activities of the quadriceps, hamstring muscles, and soleus were also recorded and discussed.

The author expresses thanks to Asst Prof LIU Han-shen (0491/3352/4800), Physiology Teaching and Research Section, Tientsin Medical College, who was the teacher of the electromyograph.

Author's Affiliation: Human Anatomy Teaching and Research Section, Tientsin Medical College.

CHANG Tien-ming (1728/3013/2494)

"Electromyography of the Primary Rotators of the Forearm"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 267-272

Text of English Abstract: The electromyographies were made on 12 healthy young adult males to investigate the function of supinators and pronators in the extended and flexed elbows during pronation and supination. The potentials were picked up with a needle electrode from the pronator teres, pronator quadratus, the supinator, the biceps brachialis, and the brachioradialis. The study revealed the following facts:

1. During slow pronation, regardless of whether the elbow was flexed or extended, the potentials from the pronator quadratus were always more active than that from the pronator teres. The former showed the activities from "marked" to "most marked," and the latter, from "slight" to "moderate." When the pronation was resisted, the activities increased in both muscles.
2. During slow supination, both pronators showed activities of various degree as antagonistic muscles. During slow supination in the extended

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elbow, the potentials appeared in the supinator alone, but no activities were seen in the biceps unless the supination was resisted. The biceps were, therefore, not proved to be supinator when the elbow was in an extending position. When the flexed elbow was supinated from a prone position, the activities were recorded from the supinator immediately, but none from the biceps at first. When the forearm reached an intermediate position, it began to show "slight" activity, whereas the supinator showed "marked." When the forearm moved toward full supination, the activities of the supinator decreased gradually, reaching "no activity" at the end, but the activities of the biceps increased gradually. It was proved that the supinator was a primary supinator and the biceps was a reinforcer.

3. The brachioradialis is usually described as a pronator when the forearm is in supine position and a supinator in prone position. This present study showed it was neither a pronator nor a supinator in the extended forearm, and it was only so when supinating a flexed forearm from a prone to semiprone position. In the further course of supination, the activities were not increased at all. Thus the brachioradialis could be considered as an axillary supinator from prone to semiprone position.

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The author expresses thanks to Asst Prof Liu Han-shen (0491/3352/4800), Physiology Teaching and Research Section, Tientsin Medical College, who did the teaching on the electromyograph.

Author's Affiliation: Human Anatomy Teaching and Research Section, Tientsin Medical College.

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CH'EN Wei-ch'ang (7115/1919/2490)
CHU Ch'in (2612/2953)
CH'EN Ta-kuang (7115/6671/0342)

"The Action of Gastrocnemius and Hamstring Muscles During Knee Extension; an Electromyographic Study"

Feiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 273-277

Text of English Abstract: The electromyography of gastrocnemius and hamstring muscles was studied by surface electrodes. Nine healthy male volunteers were involved in this experiment. The results of the electromyogram showed that when squatting up or stretching the knee against the wall, the gastrocnemius and the hamstring muscles participated in the knee extension. This was more prominent during the later phase of knee extension. When the hip flexed, the quadriceps femoris relaxed, and then both the mentioned groups of muscles acted as the prime movers of knee extension. Viewed from mechanical analysis, the authors suggest that when the heel is fixed and the lower limb is burdened, the combined force of the gastrocnemius and hamstring muscles draws the knee backwards; thus a lifting force to extend the knee is produced,

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and the erecting posture is maintained.

Authors' Affiliation: CH'EN and CHU of the Human Anatomy Teaching and Research Section, Inner Mongolia Medical College; CH'EN Ta-kuang of the Department of Physical Therapy, Inner Mongolia Hospital.

C-O-N-F-I-D-E-N-T-I-A-L

"Observations on Coronary Arteries in the Chinese"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 285-296

Text of English Abstract: The coronary arteries of 200 human hearts, 176 adults and 24 children, were studied. The results were outlined as follows:

1. In 77.8 plus or minus 2.08 percent of cases (left: 66.5 plus or minus 3.34 percent, right: 89.0 plus or minus 2.21 percent), the origin of the coronary artery commenced at the level below the upper margin of the aortic sinus. The diameter of the left coronary artery was greater than that of the right in 82.0 plus or minus 2.72 percent and less than or equivalent to that of the right side in 9.0 plus or minus 2.02 percent for each.
2. The incidence of the accessory coronary artery was rather high in our series. It occurred in 56.5 plus or minus 3.51 percent. Almost all of the accessory coronary arteries arose from the right coronary artery except 2 -- one for the left coronary artery and the other from pulmonary artery.
3. According to the distribution of the coronary arteries on the diaphragmatic surface, the coronary arteries were grouped into four types.

(continuation of Chieh-p'ou Hsueh-pao, Vol 6, No 3, pp 285-296)

Type II, i.e., the posterior surface of the left ventricle was supplied mainly by the right circumflex artery, was the most common pattern found in 58.0 plus or minus 3.49 percent. The terminations of each main branch were also observed.

4. The ventricular septum was supplied by both the anterior and the posterior descending arteries, respectively. We found the posterior descending arteries originating from the left circumflex artery in only 1.5 plus or minus 0.86 percent. In such cases, the blood supply of the ventricular septum was derived from the left coronary artery alone.
5. Ramus septi fibrosi (atrioventricular nodal artery) arose from the right circumflex artery in 90.0 plus or minus 2.12 percent, from the left circumflex artery in 7.0 plus or minus 1.80 percent, and from both the right and left circumflex in 3.0 plus or minus 1.19 percent.
6. Ramus ostii cavae superioris (sinoatrial nodal artery) arose from the right coronary artery in 52.5 plus or minus 3.53 percent, from the left in 39.5 plus or minus 3.46 percent, and from both in 8.0 plus or minus 1.92 percent.
7. By means of injection, we found the anastomoses rich between the two coronary arteries in all of the infantile hearts examined. The

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accessory coronary artery, as well as the left and the right coronary arteries, participated in the infra-pericardial arterial anastomoses.

8. The arterio-venous communications of the coronary arteries may associate with interarterial defects-foramen ovale and the incomplete communication between the two atria.

This paper was authored by the Human Anatomy Teaching and Research Section, Chekiang Medical University.

LEI Ch'i (7191/3823)

"The Determination of the Angle of Torsion of Neck of Femur"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 298-302

Text of English Abstract: A new instrument was devised to determine the angle between the long axis of the neck and the bicondylar plane of the femur. The superior border of the neck was first determined by a line connecting the two superior ends of the junctions between "head and neck" and "neck and great trochanter," respectively; the inferior border was determined in a similar way. The angle between the superior border of the neck and the bicondylar plane and the angle of the inferior border with the same plane were then measured. The average of the two angles was taken as the angle of torsion of the neck.

Three hundred femurs of both sexes were measured. It was found that the angle of torsion of the neck in the adult male is 7.88 degrees and that, in the females, it is 9.73 degrees. The average value is 8.66 degrees. It was discussed how the angle of torsion in the neck is formed; perhaps it results from the pulling effect of the muscles.

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(continuation of Chieh-p'ou Hsueh-pao, Vol 6, No 3, pp 298-302)

The author expresses thanks to Prof CHENG Szu-ching (6774/1835/4552), under whose guidance this paper was done, and to Prof CH'I Teng-k'o (7871/4098/4430) and Prof WU Ting-liang (0702/1353/5328) for their guidance in the research on this paper.

Author's Affiliation: Anatomy Teaching and Research Section, Shanghai First Medical College; present address is Anatomy Teaching and Research Section, Hupeh Medical College, Shih-chia-kuang.

HU Jen-i (5170/0086/5030)

"The Dendrite-Vasal Relations in the Cerebral Cortex of the Rabbit"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 304-309

Text of English Abstract: The present work deals with the dendrite-vasal relations in the cerebral cortex of the adult rabbits. The brain pieces taken from the visual, auditory, somatic sensory, and motor areas were prepared by the silver impregnation methods of golgi and golgi-Deineka.

In the silver impregnated specimens, the findings show that numerous dendrite processes of the neurons are topographically closely connected with the blood vessels in the cerebral cortex. The axo- and dendrite-vasal synaptic relations were found in these areas. The types of the dendrite-vasal relations in the cerebral cortex were very complex. The gemmules of the dendrites contacted with both capillaries and large vessels.

The author expresses thanks to Prof WANG Yu-ch'i (3769/2589/3825), Shanghai First Medical College, for reading and correcting the paper; to

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(continuation of Chieh-p'ou Hsueh-pao, Vol 6, No 3, pp 304-309)

Professor CHANG Hsiang-t'ung (1728/7449/2717) and LU Tzu-hui (7627/1311/1920), Institute of Physiology, Chinese Academy of Sciences, for their corrections; and to Lecturer TS'ENG Hsiao-lu (2582/1420/7627) of Kiangsi University and FAN Shu-jung (5400/3219/2837), Physiology Teaching and Research Section, Kiangsi Medical College, for their help.

Author's Affiliation: Physiology Teaching and Research Section, Kiangsi Medical College.

T'ANG Chu-wu (0781/4554/0710)
SUN T'ing-k'uei (1327/1694/7608)
CHANG Shu-ch'in (1728/2579/3830)
LIU Ch'ao-peao (0491/2600/1405)
WANG Wen-kuei (3769/2429/6311)

"The Metrical Features and Distribution of the Muscular Branches of the Sciatic and the Femoral Nerve in the Lower Extremity"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 310-318

Text of English Abstract: Measurement of the length of the muscular branches of the nerves in the lower extremity was made on 40 dissection-room specimens. The muscular branches of sciatic nerve and of its two major divisions were measured in Sunderland's method. For the femoral nerve, we chose the interspinous line as the fixed point. The results were as follows:

A muscle may be innervated by a single or several branches. In most cases, the popliteus was supplied by a single branch, and the extensors of the thigh were supplied by many branches. In each muscle group, the number of the muscular branches to one or two muscles was

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always larger than that to the others. The largest and most powerful muscle (or muscles) received most nerve supply. The order of origin of the muscular branches to a muscle and each muscle group was usually fixed. The muscle or high origin received an earlier branch from the trunk. The muscle of superficial position seemed to enjoy the similar privilege as that of higher origin. Thus in the anterior muscle group of the thigh, the branch to the sartorius came out first, the branch to the rectus femoris was next, and that was followed by that of the vastus intermedius, the vastus lateralis, and the vastus medialis; this order corresponds to the sequence generation of the peripheral nerves after injury. This paper was first read at the 1957 Port Arthur-Dairen Anatomy Conference.

Authors' Affiliation: All of Anatomy Teaching and Research Section, Dairen Medical College.

WAN Yu-pi (5502/3768/4310)

"Number of Phalanges on the Third, Fourth, and Fifth Toes in Chinese"

Peiping, Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica), Vol 6, No 3, Aug 63, pp 320-325

Text of English Abstract: The number of phalanges on the third, fourth, and fifth toes of 615 feet was observed.

In the 615 feet, toes with two phalanges amounted to 73.34 plus or minus 1.77 percent on the fifth toe and 13.18 plus or minus 1.36 percent on the fourth toe. In the 294 feet examined, only 3.43 plus or minus 1.06 percent showed presence of two-phalanx third toe. Nearly three fourths of the cases had two phalanges on the fifth toe; thus it may be considered that the total number of phalanges of a foot in the Chinese is less than 14.

The distribution of toes with two phalanges in the two feet of an individual can be grouped into symmetrical and asymmetrical types. The symmetrical type occurs more frequently than the asymmetrical. In case the third or fourth toe has two phalanges, the fifth toe is always to be a two-phalanx one.

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No apparent difference in frequency of the occurrence of the two-phalanx toes was noted in the left or right foot or in the different age groups. The occurrence of toes with two phalanges was oftener in the female than in the male.

The authors express thanks to Prof CHUNG Ying-fu (6945/5391/0479) and Prof HO Kuang-chiao (0149/0342/0299) for their guidance and to SHEN Wulung (3088/0710/7893) for the X-rays.

Author's Affiliation: Anatomy Teaching and Research Section, Seventh Military Medical University.

TS'ENG Yen-lin (2582/5888/7207)

"Studies on Antibilharzial Drugs: 29. A New Colorimetric Method for the Determination of Tartaric Acid in Biological Materials"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 7, Jul 63, pp 389-392

Text of English Abstract: Oxidative cleavage of tartaric acid by means of periodic acid gave glyoxylic acid quantitatively; the latter was then condensed with p-nitrophenylhydrazine. The p-nitrophenylhydrazone thus formed was purified by some extraction procedures and determined colorimetrically after treatment with sodium hydroxide. Quantities as small as 5 μ g could be estimated by means of an electrophotometer. The average relative mean deviation was $4 \pm 3\%$. Recoveries were $106 \pm 15\%$ for urine and $74 \pm 6\%$ for serum.

The absorption spectrum of glyoxylic acid p-nitrophenylhydrazone after treatment with sodium hydroxide was determined. As the spectrum did not change even in the presence of antimony in quantities as much as 20 times the molar concentration of tartaric acid, this method would be suitable especially for the studies on the metabolism of the tartaric acid portion of potassium antimony tartrate.

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(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 7, pp 389-392)

The author expresses thanks to Prof CHANG Ch'ang-shao (1728/2490/4801) for his guidance, to Prof CHI Ju-yun (1518/3067/6663) for reviewing the original draft, and to KO Min-tung (5514/3046/2767) for participating in the technical work.

This paper, received for publication on 15 June 1962, was read at the Shanghai Physiology Society Conference on 17 December 1961.

Author's Affiliation: Institute of Materia Medica, Chinese Academy of Sciences, Shanghai.

TS'AO Chao-ho (2580/0340/0735)
HU Chia-yu (5170/1367/3768)
LU Kuei-ch'en (7627/2710/3819)
CHENG To-k'ai (6774/1122/2818)
CHAO Chih-chung (6392/4249/0022)
LIANG Hsiao-t'ien (2733/2556/1131)

"Phenothiazine Derivatives"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 7, Jul 63, pp 394-405

Excerpt of English Abstract: Twenty-eight 2- and 10-substituted phenothiazine derivatives have been synthesized for testing their actions on the central nervous system.

This paper was received for publication on 14 November 1962.

Authors' Affiliation: All of the Institute of Materia Medica, Chinese Academy of Medical Sciences, Peiping.

C-O-N-F-I-D-E-N-T-I-A-L

CHENG Hsien-yu (6774/6343/5148)
CH'EN Ch'ang (7115/2490)
CH'EN I-fen (6929/2184/5358)
KAN P'in-chen (3927/0756/3791)
CHIN Hsi-lu (6855/6932/4389)
HSIAO Shu-hua (5618/2885/5478)
SHAO Pao-jo (6730/5508/5387)

"A Preliminary Note on the Relationship Between Structure and Antischistosomal Activity of Nitrofurazones"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 7, Jul 63, pp 407-416

Excerpts of English Abstract: The semicarbazone of 5-nitro-2-furaldehyde (nitrofurazone, Furacin) (I) has been shown to be a broad spectrum antibacterial agent and possesses certain antiparasitic activities. We have tested its therapeuticoprophylactic effects on mice experimentally infected with *Schistosoma japonicum*, and it is found that nitrofurazone has shown chemoprophylactic activity against schistosomiasis japonica. The results of our preliminary experiments may illustrate the following facts: (1) The 5-nitro-2-furaldehyde thiosemicarbazone possesses also

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chemoprophylactic activity, as does isostere of nitrofurazone. (2) The increase of one double bond in the nitrofurazone molecule does not lose the chemoprophylactic activity. It is believed that certain relationships between the effect of conjugated system and antischistosomal activity is existing. (3) All the benzene analogs of furan have been proved to be ineffective against schistosomulae, and it is thought that the principle of analogy could not be applied in this case. (4) The nitrofurazone is found to possess prophylactic activity against schistosomiasis japonica only, but the β -(5-nitro-2-furyl) acrylamides are proved to be both prophylactic and therapeutic. (5) The antischistosomal activity of nitrofurazones is related to



group and also to the elongation of its conjugated double bond system.

The authors express thanks to Prof HUANG Lan-sun (7806/5695/1327) and CH'EN Shih-ts'ung (7115/0013/7500) for their guidance; P'AN Chiu-ju (3382/4428/1172), CHAN Ch'ung-ch'ing (3277/1504/3237), HSU Yueh-ch'in (1776/2588/3830), MAO Fei-fei (3029/5481/5481), MA Jung-sheng (7456/2837/3932), CH'EN Yao-hua (7115/3852/5478), YAO Jun-hua (1202/3387/5478),

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(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 7, pp 407-416)

and CH'EN Jun-hua (7115/3387/5478) participated in some of the technical work; original analyses were made by the Analysis Section, Department of Pharmaceutical Chemistry, Institute of Parasitology, Chinese Academy of Medical Sciences, Shanghai.

This paper was received for publication on 4 October 1962.

Authors' Affiliation: All of Institute of Parasitology, Chinese Academy of Medical Sciences, Shanghai.

LEI Hsing-han (7191/5281/5060)
CHANG Li-chu (4545/7787/3796)
HSU Mao-li (1776/2021/7787)
CHANG Hsiu-p'ing (1728/4423/1627)
CHENG K'o-ch'in (6774/0344/0530)
YEN Min (7346/7036)
SHAO Pao-jo (6730/5508/5387)
HSIAO Shu-hua (5618/2885/5478)
CHAN Ch'ung-ch'ing (3277/1504/3237)

"Chemotherapeutic Studies on Schistosomiasis: 1. The Synthesis of Derivatives of β -(5-Nitro-2-Furyl) Acrylamides and Esters"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 7, Jul 63, pp 418-434

Excerpts of English Abstract: Compounds with high phenol coefficient have been used as effective remedies in the treatment of many diseases caused by certain kinds of worms in the human bodies. In many instances, the anthelmintic activity has paralleled the antibacterial activity. These facts led the authors to prepare a number of compounds for the purpose of screening tests against Schistosomiasis japonica. In 1958, the

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(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 7, pp 418-434)

authors found Furacin and Xis-30 (hexachlorodiphenyl methane) to be effective in animal tests against *Schistosomiasis japonica*. This encouraged the authors to study further along this line. In this paper, the syntheses of 107 derivatives of β -(5-nitro-2-furyl) acrylamides and esters are described. The amides were prepared by the condensation of β -(5-nitro-2-furyl) acryloyl chloride with various amines (alkyl, aromatic and substituted aromatic, amino acids, etc.), while esters were obtained directly from β -(5-nitro-2-furyl) acrylic acid and alcohols in suitable conditions.

The authors express thanks to Prof CHANG Ch'ang-shao (1728/2490/4801) and Prof SHEN Chia-hsiang (3088/1367/4382) for reviewing the work and to CHANG Ying-min (1728/2019/3046), P'AN Ch'iu-ju (3382/4428/1172), and HSU Yueh-ch'in (1776/2588/3830) for participating in the pharmacological experiments. The microanalysis aspects in this work were prepared by the analysis team of the Medical Synthesis Laboratory of Shanghai Research Academy of Pharmaceutical Industry, Ministry of Chemical Industry.

This paper was received for publication on 15 December 1962.

(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 7, pp 418-434)

Authors' Affiliation: LEI, CHANG Li-chu, HSU, CHANG Hsiu-p'ing, CHENG, and YEN, Shanghai Research Academy of Pharmaceutical Industry, Ministry of Chemical Industry; SHAO, HSIAO, and CHAN, Institute of Parasitology, Chinese Academy of Medical Sciences.

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CH'EN Ch'lung-hua (7115/3890/5478)
YU Wen-hsueh (0060/2429/1331)
LAI Wei-sheng (6351/3262/5116)

"Studies on Chinese Rhubarb: 3. Determination of Anthraquinone Derivatives in Body Fluids and Tissues"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 8, Aug 63, pp 455-458

Text of English Abstract: A method is proposed for the determination of anthraquinone derivatives in whole blood, plasma, urine, feces, and various organs or tissues. The anthraquinone derivatives in the sample is first extracted with alcohol-ether mixture and hydrolyzed with acid. The free anthraquinone derivatives are then extracted successively with chloroform and alkali. The alkaline solution is acidified and again extracted with chloroform. Evaporate the chloroform to dryness. Dissolve the residue with methyl alcohol. Add Mg-acetate reagent to give a pink color which is determined colorimetrically. The recovery of this method is practically complete. The anthraquinone derivatives are equally distributed between the plasma and red cells.

(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 8, pp 455-458)

The authors express thanks to CHANG Kuei-chih (1728/2710/5347) and CH'ENG P'ei-t'ien (2052/3099/3944) of the Biochemistry Teaching and Research Section, Tientsin Medical College, for participating in some of the technical work.

This paper was received for publication on 20 September 1962.

Authors' Affiliation: All of Biochemistry Teaching and Research Section, Tientsin Medical College; YU, now taking refresher courses at Hpeh Provincial Academy of Medical Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

HAN Jui (7281/6904)
WANG Chen-kang (3769/2182/4854)
CHI Hsiu-chuan (4694/4423/1227)
LI Kuang-ts'ui (2621/1684/4733)
LIU Keng-t'ao (0491/5087/7118)
CHANG Hui-yun (1728/1979/7189)
HO Shih (0149/6684)
FAN Li-li (5400/4409/3810)
LEI Hai-p'eng (7191/3189/7720)

"Studies on Antitumor Drugs: 8. The Antitumor Effects of the Ethyl Ester of N-formyl-sarcosylsin-phenylalanine on Experimental Tumors"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 8, Aug 63, pp 460-464.

Text of English Abstract: The ethyl ester of N-formyl-sarcosylsine-phenylalanine (FSPA) was synthesized in this institute. At a daily dosage of 100-200 mg/kg, FSPA markedly inhibited the growth of Yoshida ascites sarcoma. The intraperitoneal LD₅₀ for mice was 4.5 gm/kg. When the drug was administered orally to normal monkeys at 100 mg/kg daily for 14 days, no change in blood picture or impairment of liver

(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 8, pp 460-464)

and kidney functions was noted. However, at 200 mg/kg FSPA showed definite inhibitory effect on the bone marrow. This compound has been recommended for clinical trial.

This paper was received for publication on 19 October 1962.

Authors' Affiliation: All of Pharmacology Department, Institute of Materia Medica, Chinese Academy of Medical Sciences, Peiping; WANG, now with Pharmacology Teaching and Research Section, China Medical University, Peiping.

C-O-N-F-I-D-E-N-T-I-A-L

T'ANG Hsi-shan (0781/1585/3503)
CHIN Kuo-chang (6855/0948/4545)
HSU Pin (5171/1755)

"Studies on the Pharmacologic Actions of the Amaryllidaceae Alkaloids:
1. Neuropharmacologic Actions of Lycoramine and Galanthamine"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 8,
Aug 63, pp 466-472

Excerpts of English Abstract: Galanthamine has been used in clinics for treatment of infantile paralysis, myasthenia gravis, and other diseases. Recently, 19 alkaloids were isolated at this institute from *Lycoris squamigera* Maxim, cultivated in China. Among these alkaloids were galanthamine and lycoramine, and the content of the latter compound was found to be about nine times that of the former. It is known that lycoramine is the dihydro derivative of galanthamine, but until now its pharmacologic action has received little attention. In the present paper, some neuropharmacologic actions and toxicity of these alkaloids were described.

In our experiments, the pharmacologic actions of galanthamine prepared at this institute resembled those nivalin (galanthamine prepared in

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Bulgaria). It should also have practical value for clinical use.

CHIEN Ch'i-wen (4675/0796/2429) participated in some of the technical work.

This paper was received for publication on 31 October 1962.

Authors' Affiliation: All of Institute of Materia Medica, Chinese Academy of Sciences, Shanghai.

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LIU Keng-t'ao (0491/5087/7118)
LEI Hai-p'eng (7191/3189/7720)

"The Stimulation of the Release of ACTH by Corydalis B in Rats"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 8,
Aug 63, pp 474-479

Excerpts of English Abstract: Corydalis B has been reported to have strong analgesic and sedative actions resembling morphine and a number of tranquilizers. It is well known that both morphine and the tranquilizers, such as reserpine and chlorpromazine, stimulate the release of ACTH, as well as depress the secretion of ACTH by the pituitary in response to a number of stressful stimuli under certain conditions. Since Corydalis B has been shown to have pharmacological properties similar to those of the aforementioned compounds, an attempt was made to study whether corydalis B would also affect the pituitary-adrenal axis. From the results, it would appear that Corydalis B has a stimulatory action on the pituitary-adrenal system.

KAO Hui-ying (7559/1979/5391) participated in some of the technical work. HSU Pin (5171/1755) of the Institute of Materia Medica, Chinese

(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 8, pp 474-479)

Academy of Sciences, Shanghai, provided the sulfate of Corydalis B for the Institute of Materia Medica, Chinese Academy of Medical Sciences, Peiping. CHIN Yin-ch'ang (6855/5593/2490) and Prof SUNG Chen-yu (1345/2182/3768) corrected the work.

This paper was received for publication on 28 December 1962.

Authors' Affiliation: Both of Department of Pharmacology, Institute of Materia Medica, Chinese Academy of Medical Sciences, Peiping.

C-O-N-F-I-D-E-N-T-I-A-L

TS'ENG Kuang-fang (2582/1684/2455)
CHOU Ping-nan (0719/3521/0589)
CHAO Chih-yuan (6392/1807/6678)

"Studies on the Flavonoids Present in Chinese Drugs: 10. A New Flavonoid Glycoside, Clerodendrin, From Clerodendron Trichotomum Thumb"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 8, Aug 63, pp 480-487

Excerpts of English Abstract: The Chinese drug Hai-chou-cheng-shan (clerodendron trichotomum Thumb.) belongs to family Verbenaceae, which has been used as a sedative and antihypertensive drug. From the aqueous extract of its leaves, we have succeeded in isolating three crystalline components.

The component (I) was obtained in light yellow needles, $C_{27}H_{26}O_{17} \cdot 3 \frac{1}{2} H_2O$, m.p. $215^{\circ} C$ (decomp.), yield 0.5%.

The component (II) was obtained in colorless crystals, m.p. $221^{\circ} C$, sweet taste; its acetate melted at $215-216^{\circ} C$.

The component (III) is an alkaloid. It was obtained in colorless needles, m.p. $235^{\circ} C$, and gave positively with most alkaloid reagents, but its yield was too low for detailed investigation.

(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 8, pp 480-487)

Original analyses and ultraviolet spectrograph determinations were made by the Analysis Department, Institute of Materia Medica, Chinese Academy of Sciences, Shanghai; infrared spectrograph determinations were made by the Institute of Organic Chemistry, Chinese Academy of Sciences.

This paper was received for publication on 29 December 1962.

Authors' Affiliation: All of Institute of Materia Medica, Chinese Academy of Sciences, Shanghai.

C-O-N-F-I-D-E-N-T-I-A-L

LIN Ch'i-shou (2651/0796/1108)
YU Te-ch'uan (0060/1795/3123)

"Studies on the Constituents of Rhizomes and Roots of Podophyllum
Versipelle Hance"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 8,
Aug 63, pp 489-494

Text of English Abstract: The resin (about 4.2% in yield) obtained from
the dried rhizomes and roots of Podophyllum versipelle Hance had been
subjected to chemical examination with the aid of liquid chromatography,
and two crystalline compounds were isolated. One of them was identified
as podophyllotoxin (yield about 15% of the resin); another one yielded
only in small quantity (about 0.33% of the resin) was proved to be
identical with dehydropodophyllotoxin.

Keampferol, a flavonoid, was also detected from the resin by means of
the paper chromatography and the paper ionophoresis.

Podophyllum versipelle Hance was supplied by Prof HSIENH Ch'eng-k'o
(6200/2052/4430) of the Raw Drugs Teaching and Research Section, Depart-
ment of Pharmacy, Szechuan Medical College, and determinations were made
by Prof CHING Hsieh (4842/6200); original analyses were made by the

(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 8, pp 489-494)

Analysis Department, Institute of Materia Medica, Chinese Academy of
Medical Sciences, and by TSAO Chu-lan (2580/4554/5695) of the Department
of Pharmacy, Peking Medical College.

This paper was received for publication on 17 January 1963.

Authors' Affiliation: Both of Department of Pharmacy, Peking Medical
College; YU, now at Institute of Materia Medica, Chinese Academy of
Medical Sciences, Peiping.

C-O-N-F-I-D-E-N-T-I-A-L

FENG Yu-hsiu (7458/3022/4423)
LIEN Wen-yen (6647/2429/8827)
LOU Chih-ts'en (2869/0037/1478)

"Studies on Certain Chinese Acacia Gums"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 10, No 8,
Aug 63, pp 496-506

Excerpts of English Abstract: Three plants, *Acacia farnesiana* Willd.,
A. decurrens Willd. var. *mollis* Lindl., and *A. decurrens* Willd., growing
in southern tropical China were found to exude gums somewhat similar to
the imported Acacia gum produced in Africa.
The morphology, habit, and distribution of the above plants were de-
scribed in detail with illustrations.

The authors express thanks to Prof HO Mao-chih (0149/5399/5347) for his
valuable opinions; the Department of Statistics, Institute of Materia
Medica, Chinese Academy of Medical Sciences, assisted with statistics;
diagrams were made by CH'UN Hsueh-ying (2797/1331/5391) of the Depart-
ment of Statistics, Institute of Materia Medica, Chinese Academy of
Medical Sciences; plant specimens and experimental materials were

(continuation of Yao-hsueh Hsueh-pao, Vol 10, No 8, pp 496-506)

supplied by CH'EN Li-oh'ing (7115/4539/0615) and YANG Chueh-min (2799/
6030/3046)

This paper was received for publication on 25 December 1962.

Authors' Affiliation: All of Institute of Materia Medica, Chinese
Academy of Medical Sciences, Peiping.

C-O-N-F-I-D-E-N-T-I-A-L

PIANG Shih-i (1690/6108/1355)

"The Effect of Temperature on the Embryonic Development of Goldfish"

Peiping, Shih-yen Sheng-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 271-277

Translation of Russian Abstract: This paper is a study on the relationship of temperature to the development of goldfish embryo. The experiment was conducted in two sections: the first group under constant temperatures of 7° C, 10° C, 15° C, 20° C, 30° C, 35° C, and 40° C; the second group under inconstant temperatures of 10° C → 20° C → 30° C → 20° C → 10° C. Temperature changes occurred every 12 hours. The following data were obtained: (1) Definite temperatures are required in the development of goldfish embryos. Full development of the embryo could not be attained at 7° C and 40° C. The embryo perished during the blastula period. The embryo reached the larval stage at 10° C, but could not hatch. Optimum temperatures for embryonic development were found to be within the range of 21° C-26° C; (2) Maximum critical temperature during embryonic development was 40° C; minimum -- 7° C; (3) The relationship of embryonic development to inconstant temperatures depends on the specific condition. If the temperature changes within

(continuation of Shih-yen Sheng-wu Hsueh-pao, Vol 7, No 3, pp 271-277)

the optimum range, there is no noticeable effect on embryonic development. A negative effect is obtained when the temperature changes outside the optimum range.

The author expresses thanks to Prof CHU Hsi (2612/3156) for his guidance.

This paper was received for publication on 19 March 1961.

Author's Affiliation: Institute of Experimental Biology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

Earth Sciences

CHAO Pai-lin (6392/2672/2651)
HSUEH Fan-ping (5641/0416/3521)

"On the Growth Mechanism of Hailstones"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4,
Nov 63, pp 411-420

Text of Russian Abstract: This paper examines the effect of the distribution of rising currents and humidity on the growth mechanism of hailstones. A new method is derived for prognosis on the size of the hailstones.

This paper was received for publication on 10 October 1962; a revised manuscript was received on 24 July 1963.

Authors' Affiliation: Both of Department of Geophysics, Peking University.

CHAO Pai-lin (6392/2672/2651)
MA Chen-hua (7456/2182/7520)

"On the Problem of the Optimal Wave Length of a Radiolocator for Rainfall Distribution"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4,
Nov 63, pp 421-425

Text of Russian Abstract: This paper determines the optimum wave length for radiolocators investigating rainfall distribution. The accuracy of rainfall distribution observations is examined with the aid of photography of the indicator screen.

This paper was received for publication on 10 November 1962; a revised manuscript was received 15 August 1963.

Authors' Affiliation: Both of Department of Geophysics, Peking University.

C-O-N-F-I-D-E-N-T-I-A-L

CH'EN Chia-i (7115/1367/1355)

"On the Correlation of Wind Speed Fluctuations in a Turbulent Atmosphere"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 3, No 4, Nov 63, pp 426-434

Text of English Abstract: When the gustiness factor is small, the standard deviation and correlation function, together with structure function of wind speed fluctuations, may be expressed in terms of horizontal eddy components to a moderate degree of approximation. Also, the time correlation of wind speed fluctuations may be used instead of space correlation. In case of gusts usually occurring in the atmosphere, the computed correlations of wind speed fluctuations, by the expression given by the author, are in good agreement with the observed values of correlations of eddy components along the mean direction based on the data given by H. A. Panofsky and H. E. Cramer. The validity of the basic assumption introduced by the author in computing various expressions has also been discussed briefly from the point of view of atmospheric turbulence.

This paper was received for publication on 12 October 1962; a revised manuscript was received in July 1963.

(continuation of Ch'i-hsiang Hsueh-pao, Vol 3, No 4, pp 426-434)

Author's Affiliation: Department of Geophysics, Peking University.

C-O-N-F-I-D-E-N-T-I-A-L

SU Ts'ung-hsien (5685/1783/0341)

"On the Effects of Thermal Stratification on the Turbulent Exchange in the Diabatic Surface Layer"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 3, No 4, Nov 63, pp 435-448

Text of English Abstract: In this paper, the effects of stratification on turbulent exchange in the surface layer of the atmosphere are studied from the viewpoint of similarity theory and dimensional analysis. Using data recently published, the size of the experiment coefficient D in the universal function of the turbulent exchange is calculated. A scheme of transition from forced to free convection shows a rather smooth character. Based on a characteristic length L_{R1} , the author set up a model of turbulent exchange in diabatic surface layer.

This paper was received for publication on 1 December 1962; a revised manuscript was received in February 1963.

Author's Affiliation: Lanchow Institute of Geophysics, Chinese Academy of Sciences.

CH'AO Chi-p'ing (1560/4764/1627)
HU Kuang-hsing (5170/1684/5281)

"On the Drag Effects of Precipitation Particles in a Convective Cloud on the Air Current"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 449-458

Text of English Abstract: In this paper, the drag effects of the precipitation particles on the air current in convective cloud are investigated, by applying the theory of motion of sand particles. It is found that (1) the downward velocity of air thus produced is reasonable; (2) the precipitation has the character of a shower.

This paper was received for publication on 19 January 1963.

Authors' Affiliation: Both of the Institute of Geophysics and Meteorology, Chinese Academy of Sciences, where the present investigation was conducted; HU is current with the Shanghai Meteorological Observatory.

C-O-N-F-I-D-E-N-T-I-A-L

CHENG Ch'eng-chun (6747/2052/0971)

"The Structure and Seasonal Action of Subtropical Jet Currents Over the Tibetan Plateau"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 459-471

Text of Russian Abstract: This paper analyzes materials in aerological abstracts for O&Z for each month of the years 1957-1959. Cross-sections for the latitudes and times at 90°E, 105°E, and 125°E were compiled from the mean values for wind and temperature registered during the 3 years. Observations are made of the jet currents and wind and temperature fields during the winter, summer, and transitional seasons. Subtropic and deep depressions in the western current, directly connected with the shift of subtropic jet currents were established. The general atmospheric circulation undergoes a change generally in the months of May to July and September to October. Thus, corresponding shifts will also be observed in the jet currents, either from low to high altitudes or conversely. The author considers this change to be effected through several consecutive stages of changes in the general circulation of the atmosphere. The main conclusions of this paper are as follows: (1) Subtropic jet

(continuation of Ch'i-hsiang Hsueh-pao, Vol 33, No 4, pp 459-471)

currents can freely intersect the Tibetan Plateau. However, at altitudes lower than 350-mb, the velocity of the currents is considerably reduced under the effect of friction in the plateau. (2) Because of the uneven shifts of the center of subtropic anticyclones in the north, the jet currents shift in the same manner under summer conditions. (3) The shift in the deep depressions in the east and the intrusion of cold air induce the motions of jet currents to the south during average winter conditions.

C-O-N-F-I-D-E-N-T-I-A-L

TSENG Ch'ing-ts'un (2582/1987/1317)

"Characteristic Parameters and Dynamic Equations of Atmospheric Motions"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 472-483

Excerpts of Russian Abstract: This paper is a study on hydrothermodynamic equations of atmospheric motions and describes the relationship and the differences between the various atmospheric models and the extent of their applicability. The author derives three basic parameters which define the characteristics of the motions and the process of development. He further proposes a general system for finite-difference equations with reference to time. The various models correspond to different values of the coefficients in the equations. This paper examines the asymptotic convergence of expansion methods with respect to the lease parameter. Equations for medium-scale processes are examined separately. It is demonstrated that an uneven change in the pressure may occur when $M_a = U/C_0 \ll 1$.

The author thanks YEH Tu-cheng (0673/4648/2973) for his invaluable suggestions during the course of this work.

(continuation of Ch'i-hsiang Hsueh-pao, Vol 33, No 4, pp 472-483)

This paper was received for publication 9 9 October 1962; a revised manuscript was received in April 1963.

Author's Affiliation: Institute of Geophysics and Meteorology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

CH'OU Chi-fan (0010/4764/5400)
CHOU Tsu-tung (0719/4793/2639)
TU Hsing-yuan (2629/5887/6678)

"On a New Method of Solving a Barotropic Prognostic Model"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4,
Nov 63, pp 484-493

Text of Russian Abstract: This paper presents a new method of solving barotropic prognostic equations and balance equations by using integral functions and the Galerkin method. By utilizing symmetry relative to the equator, artificial boundary conditions are eliminated and the actual prognostic regions expanded. It is demonstrated that the average height of isobaric surfaces cannot change. The model also serves for study of the difference between wind direction on the earth and at 500-mb surfaces.

This paper was received for publication on 8 December 1962; a revised manuscript was received on 6 April 1963.

(continuation of Ch'i-hsiang Hsueh-pao, Vol 33, No 4, pp 484-493)

Authors' Affiliation: All of Institute of Meteorological Research,
Central Weather Bureau.

C-O-N-F-I-D-E-N-T-I-A-L

CHI Hsien-o (7871/3759/5501)
LI Kuang-ch'ing (7812/0342/3237)
CHOU Tzu-tung (0719/4793/2639)

"Comparative Study of the Use of Iterative Method and of Local Green Functions in Solving Helmholtz Equations"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 494-500

Text of Russian Abstract: This paper presents numerical results of experiments on two methods of integrating a two-level model on the northern hemisphere. The obtained results indicate that the Lippmann iteration method is generally superior to that of Green's local function. First, the divergence in the actual synoptic situation obtained by Green's local function method is larger than Lippmann's method in certain fields. Second, the time of the emergence of a nonlinear computed instability through Green's method is 12 hours earlier than by the Lippmann method.

This paper also presents a mathematical analysis relative to Green's local function. It is proved that the solution by Green's method is

(continuation of Ch'i-hsiang Hsueh-pao, Vol 33, No 4, pp 494-500)

equivalent almost to a third iteration of Lippmann's.

This paper was received for publication on 27 December 1962; a revised manuscript was received in April 1963.

Authors' Affiliation: CH'I of the Institute of Computation Techniques, Chinese Academy of Sciences; LI and CHOU of the Institute of Meteorological Research, Central Weather Bureau.

C-O-N-F-I-D-E-N-T-I-A-L

LIAO Tung-hsien (1675/3159/6343)

"On the Displacement of Pressure Waves and Temperature Waves in a Baroclinic Atmosphere:

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 501-511

Text of English Abstract; This paper consists of two parts. First, using a modified two-layer model, two formulas for evaluating the velocity of pressure waves and that of temperature waves in the case of a uniform basic current are derived. The main results are as follows:

1. In the general case, the velocity of a temperature wave is greater than that of a pressure wave of the same wave length, except for wave numbers 3 to 10.

2. In the westwind belt, the velocity of a pressure trough is accelerated when it is moving from lowland to highland, and vice versa. For the pressure ridge, the reverse is true.

In the second part, a case with a basic current changing with latitude is discussed. The main results are as follows:

1. Both the velocity of pressure waves and that of temperature waves are closely related to and in a large part determined by the distribution

(continuation of Ch'i-hsiang Hsueh-pao, Vol 33, No 4, pp 501-511)

of basic current. Roughly speaking, the magnitude of their speeds is proportional to the speed of basic current averaged with respect to latitude.

2. In the general case, the velocity of a pressure wave passing through the north of a certain highland is faster than that of a wave passing through the south of the same highland, except in some special cases. By application of the above results, some synoptic facts such as the genesis of tilted trough, the splitting of jet stream to the west of Tibet plateau, etc., may be explained reasonably.

References; Among nine bibliographic references given is an unpublished report by the author on a preliminary study of horizontal troughs in the upper atmosphere over Western Asia.

This paper was received for publication on 22 January 1963; a revised manuscript was received in May.

Author's Affiliation: Institute of Meteorological Research, Central Weather Bureau.

C-O-N-F-I-D-E-N-T-I-A-L

LIAO Tung-hsien (1675/3159/6343)

"The Transformation of Curvature Vorticity and Shearing Vorticity in a Barotropic Atmosphere and Its Application to Weather Prediction"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 512-517

Text of English Abstract: From a large number of operational numerical predictions with the barotropic model, it is found that the development of the pressure systems at 500 mb, isobaric surface can sometimes be well predicted to some extent, even though the zonal current is predominant in the initial stream field. On the other hand, it is well-known from synoptic experience that the development of a pressure pattern is closely related to the changes in curvature vorticity and shearing vorticity. Therefore, for the sake of investigating the problem of development, two equations for predicting the two quantities are derived. It can be shown that each of them is not conservative and that one can be transformed into the other in confluent or defluent stream region under certain circumstances, regardless of the effect of variation of Coriolis parameter with latitude. From these results, the phenomena previously mentioned may be explained.

(continuation of Ch'i-hsiang Hsueh-pao, Vol 33, No 4, pp 512-517)

Finally, for practical purposes, some rules for weather prediction are proposed therefrom.

This paper was received for publication on 22 January 1963; a revised manuscript was received in May.

Author's Affiliation: Institute of Meteorological Research, Central Weather Bureau.

FU Pao-p'u (0265/2128/3877)

"Wind Speed in a Valley"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 518-526

Text of English Abstract: Based on facts observed in various parts of the country, we have analyzed the wind speed in a valley. The main results are as follows:

1. The relative speed of wind in a valley is dependent on the angle between the wind direction and the valley, as well as on the ratio of the width L of valley to the height H of mountain on both sides of the valley. The wind speed in a valley is greater than that in open country when the angle is smaller than 15° - 35° , but less when B is larger than 15° - 35° . In the former condition, the smaller the angle B and the ratio L/H , the more the wind speed in a valley is strengthened, while in the latter condition, the larger the B and the smaller the L/H , the more this wind is diminished.
2. The variation of wind speed with local elevation can be expressed by equation (5).
3. The increase of wind velocity with height above the ground can be

(continuation of Ch'i-hsiang Hsueh-pao, Vol 33, No 4, pp 518-526)

expressed by equation (6a) except when the wind is strong, in which case equation (7a) should be applied instead.

4. In a valley, the diurnal course of wind speed near the ground is of double or even multiple maxima. Generally, its minimum is found in morning and evening, but maximum in afternoon and night.

This paper was received for publication on 13 November 1962; a revised manuscript was received in June 1963.

Author's Affiliation: Department of Meteorology, Nanking University.

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CHU Jui-chao (2612/3843/0340)

"Climatic Frontal Zones Over East Asia"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 527-536

Text of English Abstract: Based on the daily 18:00 GCT surface charts (1955 to 1959), the frequency distribution of the front occurrence is analyzed and the locations of the climatic frontal zones are determined.

This paper was received for publication on 28 April 1963; a revised manuscript was received in June.

Author's Affiliation: Institute of Meteorological Research, Central Weather Bureau.

LAN Hung-ti (5663/7703/4575)
CHANG Yang-ts'ai (1728/7402/2088)
YANG Ching-wen (3769/7234/2429)

"Preliminary Investigation of the Agroclimatic Index of Paddy Rice With Respect to Photoperiod and Temperature in the Middle and Lower Reaches of the Yangtze River"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 537-548

Excerpts of Russian Abstract: This paper presents a preliminary investigation of the agroclimatic index of irrigation rice with respect to the length of the day and the temperature of the air, based on materials of frequent phenological observations on 26 sorts during 1956-1957 in Nanking and 1958-1959 in Hankow. By using data on the average length of the day and the average temperature of the air during the interphase periods, a connection was established between the rate of plant development and the length of the day and the temperature of the air. Using the method of least squares, the temperature biological boundary of the "Hsien-tao" rice (Oryza sativa japonica) was determined, and it was divided into five groups according to the photosensitivity of the 26 sorts.

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The author lists the agroclimatic index for the entire vegetation period of these five groups.

The authors thank FENG Hsiu-tsao (7458/4423/5679) and OU-YANG Hai (2962/7122/3189), both of Nanking Meteorological College, for reading their manuscript. WANG Ping-chung (3769/4426/1813) participated in part of this study.

This paper was received for publication on 17 September 1962; a revised manuscript was received in March 1963.

Authors' Affiliation: All of Institute of Meteorological Research, Central Weather Bureau.

CH-EN Shou-chun (7115/0649/6874)

"Analysis of the Effective Potential Energy Spectrum in the Build-up and Disintegration of Latitudinal Circulation"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 549-553

Abstract: In a previous article, which was published in 1962, the author analyzed the kinetic energy spectrum of a latitudinal circulation build-up and disintegration which took place during 16 February-10 March 1956. In the present article, he discusses changes in the effective potential energy spectrum of the same event and some related phenomena.

This article was received for publication on 7 July 1962; a revised manuscript was received in August 1963.

Author's Affiliation: Department of Geophysics, Peking University.

C-O-N-F-I-D-E-N-T-I-A-L

FANG Ta-hsiung (6785/1129/7160)

"Analysis of Snow Crystals Which Fell During Light Precipitation in North China"

Peiping, Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 4, Nov 63, pp 554-561

Abstract: This article describes the order of changes which took place in the structure of some snow crystals which fell in Peiping, on 16 February 1963, during light precipitation which is typical in North China. The structure of the clouds of that synoptic system is also discussed.

The author thanks the following persons for their suggestions and participation in the study: CH'ENG Ch'un-shu (4453/4783/2873), MA P'ei-min (7456/1014/3046), and LI Hung-chen (2621/3163/3791).

References: Five English and Japanese references were published between 1954 and 1962.

Author's Affiliation: Institute of Meteorological Research, Central Weather Bureau.

MAO Han-li (3029/3352/4409)
KAN Tzu-chun (3927/1311/6874)
LAN Shu-fang (5663/3219/5364)

"A Preliminary Study of the Yangtze Diluted Water and Its Mixing Processes"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 3, Aug 63, pp 183-205

Excerpts of English Abstract: In this paper, the distributions and variations of the Yangtze diluted water and its mixing processes have been studied on the basis of the hydrographic data of the area off the mouth of the Yangtze River. The study is divided into three parts. In the first section, relationships between the distribution and variation of the Yangtze diluted water and the monthly flow of the Yangtze, the monthly air current, etc., have been studied statistically. In the second part of this article, the directions of movement of the Yangtze diluted water during the months from April to September 1959 have been studied in a rather detailed manner, and the mixing processes of this diluted water with its neighboring water masses have been investigated. In the third part of this article, the distribution of the fresh water

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(continuation of Hai-yang yu Hu-chao, Vol 5, No 3, pp 183-205)

concentration of the off-shore section of the Yangtze diluted water of July 1959 has been analyzed in detail. At the end of this article, the order of magnitude of the vertical velocity and the vertical coefficient of eddy diffusion of the same area have been roughly estimated.

This paper is Investigation and Research Report No 231 of the Institute of Oceanography, Chinese Academy of Sciences.

Authors' Affiliation: All of Institute of Oceanography, Chinese Academy of Sciences.

CHENG Chih-chung (6774/1013/0022)
CHENG Shou-i (6774/1343/0308)

"An Attempt at a Preliminary Delineation of the Geographic Regions of Planktonic Foraminifera of the Yellow Sea, the East China Sea, and Adjacent Waters"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 3, Aug 63, pp 207-213

Excerpts of English Abstract: The boundary of the geographic distribution of planktonic organisms shifts with the seasonal change in the direction and intensity of currents. A reliable delineation of the geographic regions of planktonic organisms should be based on data which represent the effect of long-standing interacting environmental factors. The dead tests of planktonic foraminifera, having accumulated on the sea floor over a long period, are a reflection of the sum of the ecologic factors acting upon them and are, therefore, more reliable than their living counterparts, collected within a limited period, as a basis for delineating their geographic regions. The planktonic foraminifera found in our seas comprise about 29 species. In the South China Sea, there are 28 species; and in the East China Sea, there are 25 species of which

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only 3 species are distributed up to the South Yellow Sea. In the North Yellow Sea and Pohai, we have not as yet encountered any planktonic species. Based on species composition, relative abundance, and ecological characteristics, the distribution areas of planktonic foraminifera of the Yellow Sea, the East China Sea, and adjacent waters were delimited into six regions.

This paper is Investigation and Research Report No 241 of the Institute of Oceanography, Chinese Academy of Sciences; it was read at the conference on marine plants and animals jointly sponsored by the Chinese Society of Oceanology and Limnology and the Institute of Oceanography, Chinese Academy of Sciences in Tsingtao, in June 1962, as well as at the conference on Western Pacific marine animals and grasses sponsored by the Western Pacific Fishery Research Committee in Leningrad, USSR, in September 1962.

Authors' Affiliation: Both of Institute of Oceanography, Chinese Academy of Sciences.

CHANG Tso-jen (1728/0155/0086)

"Studies on the Intestinal Ciliates From Echinoderms on the Coast of China"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 3, Aug 63, pp 215-225

Excerpts of English Abstract: This paper is a general survey of the intestinal ciliates infesting various species of echinoderms that are found along the coast of China. The work began in 1957 and ended in 1961. Localities investigated include Tsingtao, Ch'eng-hsi, Amoy, Tungshan, Shan-wei, Ao-t'ou, Hsin-ts'un, and San-ya. Various species of sea urchins and sea cucumbers were examined. Nine species are described in the present article, namely: (1) Bigaria bermudense (Biggar), (2) Biggaria polynucleatum (Nie), (3) Biggaria echinometris (Biggar), (4) Anophrys elongata Biggar et Wenrich, (5) Cryptochilidium echini Maupas, (6) Cyclidium ozakii Yagiu, (7) Metopus circumlabens Biggar et Wenrich, (8) Metopus phyllopharius Tchang n. sp., and (9) Metopus ellipsoidis Tchang n. sp. Of these, two are new species occurring in great numbers in the sea cucumber Phyllopharus sp. and two are recorded for the first time in the Pacific. So far as we know, there are about 25 species of

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intestinal ciliates of echinoderms found on the West Pacific Coast; for the coast of China, there are about 17 species. Of these, two species infesting the intestines of the sea cucumbers *Metopus phyllopharius* Tchang and *Metopus ellipsoidis* Tchang are new, being found only on the sea coasts of Hainan.

The author expresses thanks to T'AN Chih-yuan (6223/2535/3293) of the Institute of Oceanography, Chinese Academy of Sciences, and to HUANG Hsien-feng (7806/0752/7685) and LAI Wei (6351/0251) of East China Normal University for participating in some of the work. LIU Shang-ming (0491/1424/6900) assisted with the photography.

This paper is Investigation and Research Report No 243 of the Institute of Oceanography, Chinese Academy of Sciences; it was read at the conference on marine plants and animals jointly sponsored by the Chinese Society of Oceanology and Limnology and the Institute of Oceanography, Chinese Academy of Sciences, in Tsingtao, in June 1962.

Author's Affiliation: Institute of Oceanography, Chinese Academy of Sciences and East China Normal University.

LIU Jui-yu (0491/3843/3768)

"Zoogeographical Studies on the Macrurous Crustacean Fauna of the Yellow Sea and the East China Sea"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 3, Aug 63, pp 230-241

Excerpts of English Abstract: The number of species of Macrurous Crustacea (shrimps and lobsters) of the waters off the eastern coasts of China decreases with the increasing of latitudes. A total number of about 118 species of Macrura are found in the Yellow Sea and the western part of the East China Sea, excluding the other 14 species which have been recorded only from the waters of its eastern part along the coasts of Kyushu and Ryukyu Islands of Japan. Among them, 96 species (belonging to 41 genera) are found in the East China Sea; and 54 (belonging to 24 genera), in the Yellow Sea, of which only 22 (belonging to 11 genera) are recorded from the Pohai Gulf -- the most shallow part of the Yellow Sea.

This paper is Investigation and Research Report No 204 of the Institute of Oceanography, Chinese Academy of Sciences; it was read at the con-

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(continuation of Hai-yang yu Hu-chao, Vol 5, No 3, pp 230-241)

ference on marine plants and animals jointly sponsored by the Chinese Society of Oceanology and Limnology and the Institute of Oceanography, Chinese Academy of Sciences, in Tsingtao, in June 1962, as well as at the conference on Western Pacific marine animals and grasses sponsored by the Western Pacific Fishery Research Committee in Leningrad, USSR, in September 1962.

Author's Affiliation: Institute of Oceanography, Chinese Academy of Sciences.

TS'ENG Ch'eng-k'uei (2582/0701/1145)
CHANG Chun-fu (1728/1498/3940)

"A Preliminary Analytical Study of the Chinese Marine Algal Flora"

Peiping, Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica), Vol 5, No 3, Aug 63, pp 245-252

Excerpts of English Abstract: On the basis of published data and materials to be published soon, there are 681 species of Chinese marine algae, including 143 species of Chlorophyta belonging to 37 genera and 19 families, one species of Xanthophyta, 145 species of Phaeophyta belonging to 47 genera and 20 families, 54 species of Cyanophyta belonging to 13 genera and 12 families, and 338 species of Rhodophyta belonging to 106 genera and 32 families. With very few exceptions, these are benthic marine algae of the littoral region. On the Yellow Sea coast, there are 242 species of marine algae among which are 45 species of Chlorophyta, 15 species of Phaeophyta, and 30 species of Rhodophyta, totaling 61 species, have been definitely reported from this region. There are 519 species of Chinese marine algae so far known definitely from the South China Sea.

C-O-N-F-I-D-E-N-T-I-A-L

(continuation of Hai-yang yu Hu-chao, Vol 5, No 3, pp 245-252)

This paper is Investigation and Research Report No 193 of the Institute of Oceanography, Chinese Academy of Sciences; it was read at the conference on marine plants and animals jointly sponsored by the Chinese Society of Oceanology and Limnology and the Institute of Oceanography, Chinese Academy of Sciences, in Tsingtao, in June 1962, as well as at the conference on Western Pacific marine animals and grasses sponsored by the West Pacific Fishery Research Committee in Leningrad, USSR, in September 1962.

Authors' Affiliation: Both of Institute of Oceanography, Chinese Academy of Sciences.

CHO Chien-ch'eng (0587/0256/2052)

"Some Problems on the Accurate Estimation of Functions of Equilibrated Values With Respect to the Error Factor in the Initial Data"

Peiping, Tse-hui Hsueh-pao (Acta Geodetica et Cartographica Sinica), Vol 6, No 4, Nov 63, pp 217-228

Abstract: The abstract for this item was given in Vol 6, No 3, August 1963.

The first part of this paper appeared in Vol 6, No 3, August 1963, pages 137-160.

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HSU Hou-tse (6079/0624/3419)

"Formulas for Calculating the Effect of Remote Zones on the Deflection of a Plumb Line"

Peiping, Tse-hui Hsueh-pao (Acta Geodetic et Cartographica Sinica), Vol 6, No 4, Nov 63, pp 229-242

Excerpts of Russian Abstract: The problems in this paper concern investigation of formulas for calculating the effect of remote zones on the deflection on a plumb line. Proceeding from Molodenskiy's basic principle on this problem, three formulas are induced to estimate the effect, using two methods: direct differentiation of the formula for the height or the quasigeoid and substitution of the Vening-Meinesz function by the approximation to its m -order polynomials (see formulas 23 and 25 or 47 and 42 in the text).

The paper also discusses the termination and comparison of boundary errors in these three formulas. The author lists three conclusions with respect to these formulas.

WANG Chih-cho (3769/0037/0587)

"Determining the Accuracy of Measuring Altitudes on a Topographic Stereometer"

Peiping, Tse-hui Hsueh-pao (Acta Geodetica et Cartographica Sinica), Vol 6, No 4, Nov 63, pp 244-253

Excerpts of Russian Abstract: This paper discusses accuracy in measuring altitudes on a topographic stereometer, as based on accurate measurement of the difference in the longitudinal parallaxes m p. Measurement of points on a topographic stereometer is conducted by several methods: orientations on four or six points and orientation on a preliminary setting of the convergent corrector β . The main contents of this paper consist of determining the coefficient of the multiples of m p. In his conclusions, the author points out that the six-point orientation method is somewhat inferior to the four-point. Only in the instance when errors are distributed according to the method of the least square does the six-point orientation produce somewhat higher accuracy. As regards the convergent corrector, theoretically, the accuracy obtained is fundamentally equal to that without the preliminary setting.

C-O-N-F-I-D-E-N-T-I-A-L

CHOU Wei-yu (0719/4850/3558)

"Investigation of Expanded Formulas for Computing Second-Order Elements in Mutual Orientations"

Peiping, Tse-hui Hsueh-pao (Acta Geodetica et Cartographica Sinica), Vol 6, No 4, Nov 63, pp 255-266

Excerpts of Russian Abstract: This paper analyzes three formulas of the second order for determining the elements of mutual orientation, widely used in production: Zhukov's practical formulas, practical second-order formulas for aerial photograph orientation with reference to the base line, and Valov's formulas. In his detailed study, the author concludes that the fields for the application of the given formulas are considerably limited. New practical formulas for the orientation of aerial photographs with reference to the mean base line are proposed on the basis of the formulas in this paper. The new formulas can produce results with higher accuracy, and the computation operations will be simplified.

HU Yu-chu (5170/3022/6880)

"Analysis of Methods for Measuring Surface Areas on Topographic Maps With Horizontals"

Peiping, Tse-hui Hsueh-pao (Acta Geodetica et Cartographica Sinica), Vol 6, No 4, Nov 63, pp 268-277

Excerpts of Russian Abstract: This paper analyzes various methods for the measurement of surface areas on topographic maps with horizontals. General characteristics and differences in the various methods are compared from the point of geometry. Their complex and simple qualities are compared with respect to practical operations. The author states his own point of view, which differs from that of reference three in that he "defends" Method two. He deems it improper to assume that the error in Method II is "comparatively large," since the differences which reflect the changes in the roughness of the land surface are considerably smaller than the horizontal distances. Thus, he considers this method still quite applicable. The author finally proposes a method for improving the practicable application of Method II so that it will be useful in making measurements in sections, using various reliefs. Practical tests indicate that his suggestion increased the accuracy of surface area measurements.

C-O-N-F-I-D-E-N-T-I-A-L

LI Kuo-tsao (2621/0948/5679)

"Double Azimuthal Projections"

Peiping, Tse-hui Hsueh-pao (Acta Geodetica et Cartographica Sinica),
Vol 6, No 4, Nov 63, pp 279-301

Excerpts of Russian Abstract: In analyzing distortions in ordinary azimuthal projections, the author of this paper proposes a basis of double azimuthal projections. This new method proves to be simpler, since the values of the distortions can be controlled. (In practice, only a single distortion value can be controlled.) This paper also develops two variants of projections for the map of Communist China. They represent equal interval orthographic azimuthal projections and satisfy well the requirements concerning projection distortions for maps on China.

WEN Chen-wang (2429/2182/2489)

"On the Problem of Soil Classification (Based on the Classification of Soils in Sinkiang)"

Peiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3,
Sep 63, pp 232-242

Excerpts of Russian Abstract: This paper presents the current status on the study of soil classification in China and indicates the derived successes and the unsolved problems in this regard. The author outlines six principles of soil classification and proposes criteria for the division of taxonomic soil units (type, subtype, genus, species, variety). The paper concludes with a list of soil systems in Sinkiang as an example of soil classification. Summary characteristics are given.

This paper was read at a conference of the Chinese Society of Soils in June 1962 and reported separately to the soil societies in Urumchi and Peiping; it was discussed by the scientific and technical committee, Institute of Soils, Chinese Academy of Sciences, and at the national conference on the classification of soils in June 1963.

C-O-N-F-I-D-E-N-T-I-A-L

(continuation of T'u-jang Hsueh-pao, Vol 11, No 3, pp 232-242)

Author's Affiliation: Institute of Soils, Chinese Academy of Sciences.

HSI Ch'eng-fan (1598/2110/5672)
T'ANG T'ung-yeh (0781/2717/5509)
HU T'ien-hsiang (5170/1131/4382)

"Detailed Soil Study in a Production Brigade of People's Commune in the Semiarid Plane; 2. Soil Genesis and Characteristics Related to the Basic Categories of Soil Classification."

Peiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, pp 244-259

Excerpts of English Abstract: The present paper deals with soil genesis and characteristics involving basic categories of soil classification. Scientific papers concerning the principle and practice on the classification of soil groups and subgroups are manifold. However, the subdivision of the basic soil categories on soil classification is still quite different.

In a detailed soil survey of the people's commune of the semiarid plain, attempts have been made to divide basic soil units according to genetical soil properties.

A soil classification system is appended in the Chinese text.

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(continuation of T'u-jang Hsueh-pao, Vol 11, No 3, pp 244-259)

The authors expressed thanks to FAN Pen-lan (5400/2609/5695) for participating in the work.

Authors' Affiliation: All of Institute of Soils, Chinese Academy of Sciences.

T'ANG Sung-wen (0781/6139/2429)
CHIANG Mei-yin (5592/2734/5419)
YU So-fu (5713/6956/1381)
KU Hsin-yun (7357/2450/6663)
HSU Chi-ch'uan (6079/0370/3123)

"Investigation of Soil Colloids in China: IV. Classification of Clay Minerals in Certain Soil Profiles in the Nanking Region"

Peiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, pp 261-273

Excerpts of Russian Abstract: Four soil profiles developed in various source rocks were subjected to chemical analyses, determination of the volume of cation exchange, and differential-thermal and X-ray diffraction analyses. This paper discusses the results obtained from specimens of soils formed from gabbro, granite, violet shale, and limestone.

The authors express thanks to HSIUNG I (3574/3015) for his guidance.

Authors' Affiliation: All of Institute of Soils, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

CH'ENG Yun-sheng (4453/7189/3932)

CHAO Kuo-hua (6392/0948/7520)

"Preliminary Study on the Role of Temporary Loss of Water in Rice Fields"

Feiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, pp 275-284

Excerpts of Russian Abstract: Field experiments were conducted to examine the effect of the temporary loss of water on the properties of rice fields, with respect to agrotechnical processes, for the purpose of obtaining high rice yields. This paper describes the ensuing chemical changes in the soil properties which strengthen the physiological activity of the rice root system. Thus, the function of the temporary loss of water in rice fields consists in regulating and improving aeration and water-permeability of the soil. Satisfactory physical, chemical, and biological soil conditions are created for the growth and development of rice, with the aim of obtaining high yields. The author recommends an intensive study of this problem, important in practice as well as in theory.

(continuation of T'u-jang Hsueh-pao, Vol 11, No 3, pp 275-284)

The authors express thanks to WANG Tsung-li (3076/1350/4539) of the Kiangsu branch, Chinese Academy of Agricultural Sciences, and to CHU Chao-liang (2612/0340/5328) and CHANG Ching-i (1728/4737/0001) of the Institute of Soils, Chinese Academy of Sciences, for giving them permission to use their unpublished data. Prof CHING Hsiung-i (4842/3574/3015) corrected the work.

Authors' Affiliation: Both of Institute of Soils, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

YUAN K'o-neng (5913/0668/5174)

"Studies on the Organo-Mineral Complex in Soil: 1. The Oxidation Stability of Humus From Different Organo-Mineral Complexes in Soil"

Peiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, pp 286-292

Excerpts of English Abstract: A simplified method to determine the oxidation stability of humus is proposed, in which the total organic carbon is oxidized by digestion with 0.4 N $K_2Cr_2O_7$ -- 1:1 H_2SO_4 mixture, while readily oxidizable organic carbon is oxidized by more dilute 0.2 N $K_2Cr_2O_7$ -- 1:3 H_2SO_4 mixture. Both are boiled for 5 minutes in oil bath with a temperature about 170-180° C and 130-140° C, respectively. The coefficient of oxidation stability (K_{OS}) is calculated by the formula:

$$K_{OS} = \frac{b - a}{a}$$

where b is the total organic carbon and a is the readily oxidizable organic carbon in m.e./g soil.

(continuation of T'u-jang Hsueh-pao, Vol 11, No 3, pp 286-292)

Organo-mineral complexes from different origin, including podzolized soil, red earth, chernozem, and paddy soil, were extracted separately with cold 0.1 N NaOH and 0.1 M $Na_4P_2O_7$ solution. The coefficient of oxidation stability of humus varied among different types of soils, thus the K_{OS} values for podzolized soils and red earth were about 0.5-0.6; for chernozem and neutral alluvial soil, about 0.8-1.0; and for paddy soils, about 0.7-1.3, which seemed to vary mainly with the water-logging conditions.

Author's Affiliation: Chekiang Agricultural University.

C-O-N-F-I-D-E-N-T-I-A-L

HSIEH Chien-ch'ang (6200/1696/2490)
CH'EN Chi-hsing (7115/7139/0992)
CHU Yueh-chen (2612/2588/3791)
HUANG Shun-chung (7806/7311/1813)
MA Mac-t'ung (7456/5399/2717)
SHIH Cheng-yuan (2514/2973/0337)

"Magnesium Supply in Certain Soils in Red Soil Regions and Initial Results of Investigating the Efficacy of Magnesium Fertilizers in These Soils"

Peiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, pp 294-304.

Excerpts of Russian Abstract: This paper is a study on the magnesium content in certain soils in areas of Central and South China as stipulated by stages of erosion and the degree of soil cultivation. Maximum content of magnesium is observed in violet soils (over 3%); minimum, in red soils developed on granites or granite-slate in South China (only 0.1%). Rice soils located in the valleys are characterized by a reduction of magnesium content but increase of its accessibility. Field tests on irrigated and nonirrigated red soils and vegetation tests in

(continuation of T'u-jang Hsueh-pao, Vol 11, No 3, pp 294-304)

various soils indicate that magnesium fertilizer used on rice and soy crops shows a positive action. However, it was not possible to establish chemical indexes to reflect the degree of their efficacy. As a result of analyses and tests with respect to magnesium balance, the author concludes that magnesium fertilizer in red soils is of great importance to agricultural production.

Authors' Affiliation: All of Institute of Soils, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

I P'in-hsien (2496/0756/0103)

"Preliminary Results on the Study of Soil Structure"

Peiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3,
Sep 63, pp 306-311

Excerpts of Russian Abstract: This paper develops a method for determining the pressure coefficient of soil samples taken from rice fields. This pressure coefficient is closely related to the composition of organic substances in the soils. Where the value of the pressure coefficient is less than one, a positive relationship is observed with respect to the "property of soil processing." However, if this value is larger than one, the soil under the influence of water is characterized by a "high degree of dispersion." The pressure coefficient of soil masses in fields under crop rotation with rice is always larger than in fields where a second rice crop is sown during the year. In the latter case, a relatively large amount of reducing substances is noted and a smaller content of $\text{NH}_4\text{-N}$ and available phosphorus. Such soil characteristics are also found in fields which maintain a water layer throughout the winter, while the reverse is observed in fields under winter crops.

(continuation of T'u-jang Hsueh-pao, Vol 11, No 3, pp 306-311)

The work was carried out under the guidance of HSIAO Tse-hung (5135/3419/1347) and HSU Wen-cheng (1776/2429/1767). CH'EN Shu-chun (7115/0647/0689) and YANG Wen-chan (2799/2429/1455) participated in the work.

Author's Affiliation: Hunan Provincial Institute of Agricultural Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

HSUEH Chia-hua (5641/1367/7520)
CH'EN Ming-po (7115/2494/0130)

"Study on Clays as Emulsifiers: 1. pH Value of Clay Suspension and Stability of Emulsion"

Peiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, pp 312-315

Text of English Abstract: Three native clays were investigated as emulsifiers for kerosene in water system. The stability of emulsions obtained is considerably affected by the pH value of clay suspension. For every clay studied, there is a specific pH value beyond which the emulsions obtained are unstable. For Nanking yellow drab soil, the specific value is 5.3; Chuwen red soil, 7.0; and Chu-san-den clay, 5.0.

The authors expressed thanks to Prof TAI An-pang (2071/1344/6721) for correcting the work.

Authors' Affiliation: Both of Nanking Agricultural College.

P'EI Te-an (5952/1795/1344)
LIU Hsun (0491/0534)
KU Kuo-ts'ai (0657/0948/5932)
CHANG Chen-yu (1728/2823/2589)

"Evolution of Soil Fertility in the Process of Red Soil Cultivation"

Peiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, p 316

Translation of Russian Abstract: This paper summarizes the changes in soil profiles and chemical, physical, and biochemical properties of soils in the process of red soil cultivation in Kiangsi Province.

Authors' Affiliation: All of Kiangsi Provincial Institute of Agricultural Science.

C-O-N-F-I-D-E-N-T-I-A-L

CHOU Ming-cheng (0719/7686/6927)
SHEN Tung-lien (3088/7850/5571)

"A New Volumetric Procedure of Sodium Tetraphenylboron Method for the Determination of Soil Potassium"

Feiping, T'u-jang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, pp 318-324

Text of English Abstract: A given quantity of standard sodium tetraphenylboron solution is introduced to the prepared sample solution to precipitate potassium, and the excess reagent is then titrated by a standard solution of ammonium chloride using Nessler's reagent as an outside indicator. Carbonate ions interfere. But this interference can be eliminated by acidifying the sample solution previously. Ferric and manganous ions form colored precipitates with the Nessler's reagent. They should be precipitated in slightly alkaline solution after oxidation. The modified procedure of tetraphenylboron is suggested for the determination of total potassium of soils following Na_2CO_3 decomposition.

(continuation of T'u-jang Hsueh-pao, Vol 11, No 3, pp 318-324)

Authors' Affiliation: Both of Institute of Soils and Agricultural Chemistry, Chekiang Academy of Agricultural Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

KU Chih-wei (7357/4249/1792)

"Note on the Occurrence of Some Late Cretaceous Fresh-Water Lamelli-branches in the Chusiung District of Central Yunnan With a Brief Review on the Continental Cretaceous of Yunnan"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10, No 3, Aug 62, pp 287-298

Excerpts of English Summary: The fossils described in the present paper were collected by a geological party of the Geological Bureau of Yunnan in the autumn of 1959. The fossil locality is on the top of the mountain near Chusichung in the Chusiung District. They were discovered from the "red bed" deposits which are concordantly overlying the Lufeng Chun. According to the latest classification made by the party of Regional Geological Survey of Yunnan in 1960, the fossil bed is in the lower part of the Chiangtiho Tzu of the Yenfeng Chun, which is a newly created formational name to represent the lower part of the tentatively assigned Cretaceous "Red Beds." The summary goes on to give the age of the fossils and identifies the species.

A brief review on the Continental Cretaceous of Yunnan is given. A description of fossils is given with diagnosis, description, and

(continuation of Ku-sheng-wu Hsueh-pao, Vol 10, No 3, pp 287-298)

remarks on the fossils.

Two pages of plates are given with translations in English.

Author's Affiliation: Institute of Geology and Paleontology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

SHENG Chin-chang (4141/6855/4545)

"On the Occurrence of Polydiexodina Fauna From Tunglu, Western Chekiang"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 3, Aug 62, pp 312-318

Excerpts of English Abstract: Seven fusulinid species and one variety from the uppermost part of the Tingchiashan formation are described and illustrated in the Chinese text. All of these fusulinid species were obtained from outcrops in a quarry at village Lengwu of Tunglu County, Western Chekiang. Polydiexodina is the first known in Southeastern China. The fusulinid-bearing limestone of the Tingchiashan formation can best be correlated with the Yageina Zone of Southwestern China. The North American upper Guadalupian Polydiexodina Zone may be equivalent, at least in part, to the late Lower Permian Maokou stage of South China.

The abstract goes on to give a description of the new species with remarks on them. Also two tables are given -- one is the results of measurements in millimeters, and the other is measurements in millimeters of *P. Tungluensis* Sheng.

Two pages of plates with English translations accompany this article.

(continuation of Ku-sheng-wu Hsueh-pao, Vol 10, No 3, pp 312-318)

Author's Affiliation: Institute of Geology and Paleontology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

SU Wang-shih (0702/2598/1193)

"Upper Carboniferous Corals From Yishan, Kwangsi"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 3, Aug 62, pp 326-334

Excerpts of English Summary: The corals described in this paper were collected by Dr J. C. Sheng, Miss Y. T. Hou, and the author from Maping limestone 5-6 kilometers south of Dsheng in the Yishan District, northern Kwangsi, in the winter of 1956. Fourteen species belonging to eight genera are recognized, among which one genus and five species are new. The Maping limestone of this region is divided into three parts: the lower part is composed of thick-bedded gray and dark gray limestone; the middle part is light-gray massive limestone; the upper part of the formation of this region is characterized by the greyish white massive limestone. No corals have been found in this part.

It is noteworthy that the Upper Carboniferous fauna of Yishan District is different from that of North China, where the dominant coral is *Laphocarinophyllum*. It is difficult to decide whether the faunal difference of these two regions is mainly due to differences in physical environment.

(continuation of Ku-sheng-wu Hsueh-pao, Vol 10, No 3, pp 326-334)

The summary goes on to give a description of new genera and species. Two pages of plates with English translations accompany this article.

Author's Affiliation: Institute of Geology and Paleontology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

YU Ch'ang-min (0205/2490/3046)

"Note on the Multisolenid Corals From Sinkiang, Kansu, and Szechwan"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 3, Aug 62, pp 343-350

Excerpts of English Summary: In recent years, a number of multisolenid coral-specimen have obtained from different localities in the provinces of Sinkiang, Kansu, Ningsia, and Szechwan. They form the subject of the present paper. The fauna comprises three genera and six species and one subspecies. (The species are given in the summary.)

The genera Multisolenia, Mesosolenia, and Sapporipora may be well grouped, as a whole, into a cognate family, for which the name Multisolenidae Fritz is introduced. The main characteristics of these newly defined families are summarized.

It is interesting to note that in regard to the position of solenia, the relationship of the genera of this family, i.e., Multisolenia, Mesosolenia, and Sapporipora, strongly requires the relationships of the genera of the family Favositidae. It appears that a parallel development of these two coral stocks existed during the Paleozoic time. It is, therefore, more justified to place the family Multisolenidae under

(continuation of Ku-sheng-wu Hsueh-pao, Vol 10, No 3, pp 343-350)

the Order Favositina.

The summary goes on to give a description of species, remarks, and also the horizon and localities.

Three pages of plates with English translations accompany this article.

Author's Affiliation: Institute of Geology and Paleontology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

KUO Yung-ling (6753/0516/1545)
CHIEN Wan-chou (5054/5502/4693)

"New Materials of the Paleozoic Faunas From Northwestern Szechwan"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 3, Aug 62, pp 361-364

Excerpts of English Summary: The faunas dealt with here were collected from the Lung-men-shan region of northwestern Szechwan. They are imbedded in compact limestones and oolitic limestones. The entire collection is given with genera and species in this summary. The summary gives the Genus Mesofavosites Sokolov, 1950, with a diagnosis, a description, and remarks. One page of plates is given with the translation in English. A conclusion is also given in this summary.

Authors' Affiliation: Both of Department of Geology, Northwest University.

KUO Hung-chun (6753/7703/0193)

"Some Silurian Trilobites From the Er-tao-kou Group of Gilin"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 3, Aug 62, pp 369-375

Excerpts of English Summary: The Trilobites here described were mainly collected by members of a geological party of Changchun Geological Institute, in 1961, from the Xiao-sui-ho section near Erh-tao-kou, about 15 kilometers to the west of the Yong-ji City. A part of the material was collected by Y. Z. Su from the same section in 1960. The Erh-tao-kou Group, which attains a thickness of about 935 meters, is mainly represented by a series of dark gray sandstones and shales, with a coral-bearing limestone in the lower part. It was first considered to be the Middle Silurian by Yabe and Eguchi (1944), as based on the study of the Rugose coral Pseudomphyma. Later, Prof C. C. Yu and W. T. Chang (1951) restudied the stratigraphy of this region and referred it also to the Silurian.

Two horizons of trilobites which occur in association with many well-preserved brachiopods in corals which have been found from the Xiao-sui-ho section are listed in this summary.

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(continuation of Ku-sheng-wu Hsueh-pao, Vol 10, No 3, pp 369-375)

Before considering the geological age of the trilobite horizons given, the writer intends to briefly summarize the geological and geographical distributions of the members of the genera. The discovery of the genus and Encrinurus in this region is of great importance and interest. The summary goes on to discuss the genus Encrinurus.

The summary goes on to discuss and give descriptions of the families and genus genera.

Two pages of plates with English translations accompany this article.

Author's Affiliation: Changchun Geological College.

CHU Chao-ling (2612/0340/3781)

"On the Occurrence of Paleolenus in Fengyang, Anhwei"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10, No 3, Aug 62, pp 386-389

Excerpts of English Summary: The specimens described here as a new species of Paleolenus, P. Fengyangensis Chu (sp. nov.), were collected by the writer and her co-workers from the upper part of the Houchiashan formation of Feng-yang, central Anhwei, in 1960.

The summary goes on to discuss the genus Paleolenus and where it is distributed throughout the world. The summary also gives the super family, family, and genus of some of these specimens.

One page of plates is given with an English translation.

Author's Affiliation: Institute of Geology and Paleontology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

HSIANG Li-wen (7309/4409/2429)

"Some Trilobites From the Middle Cambrian of Western Honan"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 3, Aug 62, pp 394-396

Excerpts of English Summary: In 1956-1958, the author went to western Honan and studied the Cambrian stratigraphy in the district of Pao-feng, Lu-shan, and Teng-feng. The Cambrian formation is widely distributed in that region. The Middle Cambrian sediment consists of purple-reddish, brownish, yellow-greenish shales, glauconitic limestones, massive limestones, and oolitic limestones, in which abundant and well-preserved trilobites have been found. This article is intended to introduce some significant forms, including four genera and species (one new genus and two new species).

The summary goes on to list the family and genus of the specimen. One page of plates with explanations in English is given.

Author's Affiliation: Research Academy of Geology, Ministry of Geology.

P'AN Chiang (3382/3068)

"A New Silurian Fish From Nanking, China"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 3, Aug 62, pp 403-406

Excerpts of English Summary: The material of Cyathaspida dealt with in the present paper was collected by C. T. Sun in 1956 from the uppermost part of Fen-t'ou series in Fen-t'ou, Nanking, Kiangsu Province. The specimen was found in yellowish-green shale intercalated in the yellowish-green sandstone, where it is associated with invertebrate fauna. The summary goes on to give the conclusions that were reached from the study of the new Cyathaspida. The summary also lists the class, order, suborder, family, and genus of this specimen. One page is given where it shows a plate of this specimen.

Author's Affiliation: Museum of Geology, Ministry of Geology, Peiping.

C-O-N-F-I-D-E-N-T-I-A-L

CHOU Chih-yen (0719/1807/3508)

"Description of Two Taeniopteris Species From Upper Shihhotze Series of Fengfeng, Southern Hopei"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10, No 3, Aug 62, pp 410-411

Excerpts of English Summary: The material was collected by C. W. Ku and W. T. Chang in 1953 from the upper Shihhotze series of Feng-feng, southern Hopei. The summary goes on to give an explanation of these two species. One page of plates with English translations is given.

Author's Affiliation: Institute of Geology and Paleontology, Chinese Academy of Sciences.

SZU Hsing-chien (2448/5887/0256)

"A Petrified Wood From Inner Mongolia"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10, No 4, Nov 62, pp 415-422

Text of English Abstract: A new species of fossil wood, *Dadoxylon Chiaii*, is described from the Tsing-shui Ho region, Inner Mongolia. The wood possesses distinct growth rings. Pitting on the radial wall of the tracheids [is] usually biseriate. Pits wound is contiguous, rarely separate, usually alternate, and sometimes subopposite. Medullary rays [are] numerous, crowded, [and are] essentially uniseriate, 2-43 cells in height (average 18 cells high). Pits in the field [number] 1-3, oval or circular, devoid of a border.

The age of the red bed, from which the specimens were derived, is unknown. A few geologists hold that it may belong to Cretaceous, but it is not impossible that it may also belong to late Paleozoic. The wood bears a close resemblance to the late Paleozoic species of Southern Hemisphere.

The English version of this paper will be published in Scientia Sinica.

C-O-N-F-I-D-E-N-T-I-A-L

(continuation of Ku-sheng-wu Hsueh-pao, Vol 10, No 4, pp 415-422)

Author's Affiliation: Institute of Geology and Paleontology, Chinese Academy of Sciences.

SHENG Chin-chang (4141/6855/4545)

"Some Fusulinids of the Chihhsia Stage, Northern Hopei"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10, No 4, Nov 62, pp 426-431

Excerpts of English Summary: This short paper is published to demonstrate a small fusulinid fauna of the Chihhsia Stage recently found by Y. M. Lee and T. Y. Chu from the Sanmianching formation, a new formation name instituted by Chu, in the Sanmianching of Kang-pao Hsien, northern Hopeh. The stratigraphical sequence of the Sanmianching formation investigated by Chu is given briefly in this summary.

The fusulinid fauna consists of three species; these species are given in this summary. Though the material is very meager, the few species offered evidence of considerable weight. It is decidedly the Chihhsia stage in appearance and affinities. The discovery of the Chihhsia fusulinids in this region is of great significance both from the stratigraphical and paleogeographical points of view. The present material, however, is too small to warrant a more extensive discussion of this question.

C-O-N-F-I-D-E-N-T-I-A-L

(continuation of Ku-sheng-wu Hsueh-pao, Vol 10, No 4, pp 426-431)

Author's Affiliation: Institute of Geology and Paleontology, Chinese Academy of Sciences.

CHANG Lin-hsin (1728/6689/0207)

"Fusulanids From the Hochow Limestone, Hohsien, Anhwei"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10, No 4, Nov 62, pp 434-439

Excerpts of English Summary: The fusulanids described in this paper were collected in 1960 by Miss Y. Ho and others from the Lower Carboniferous Hochow limestone near the town of Xiangquan, Hohsien, Anhwei Province.

The Hochow limestone in this region is composed of yellowish-grey limestone with a total thickness of 14 meters. It is generally overlain by the Middle Carboniferous Huanglung limestone and is underlain by the Visean Kaolishan formation. In this paper, species are described. One page of plates with English translations accompany this article.

Author's Affiliation: Institute of Geology and Paleontology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

PING Ch'i-hsiu (0002/0796/4423)

"On Some Fusulinids From Chinghai Province"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 4, Nov 62, pp 444-450

Excerpts of English Summary: The fusulinids treated in the present paper were collected in 1956 by Mr. P. W. Chao from the southwestern part of the Chinghai Province. They are all confined to the massive limestone and came from localities labeled as V₃, V_{3b}, and K₅ respectively. The conclusions are that the sediments formed during the late Carboniferous and the early Permian epoch exist in this region. However, it is interesting to explain the geographic distribution of fusulinids and these two epochs.

Author's Affiliation: Institute of Geology, Chinese Academy of Sciences.

TING P'ei-chen (0002/1014/2830)

"Some Upper Permian Brachiopods From Tibet"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 4, Nov 62, pp 451-458

Excerpts of English Summary: The few brachiopods treated here were collected in 1952 by Prof Lee Pu from Permian deposits in Kubei and Tsundu districts, north of the noted Mount Jolmolungma, Tibet. According to Prof Lee Pu, the Permian deposits there are well exposed, striking about 270° and dipping north with an angle of 20°. These may be divided into four divisions which are listed in the summary. The summary goes on to give a description of the species. Four pages of plates with English translations are given.

Author's Affiliation: Institute of Geology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

CHAN Li-p'ei (6124/4539/1014)
LI Li (2621/5461)

"Early Permian Brachiopods From the Maokau Formation in the Eastern
Ch'in-lin Sector"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 4, Nov 62, pp 472-483

Excerpts of Russian Summary: This paper is a study on brachiopod fauna,
specimens of which were collected from Mao-kau formations of the Per-
mian age in the Ch'in-an-hsi-kau and Mil-yan-chuan areas in Shensi
Province. The data describe 15 species, belonging to a total of genera.
Of these, one is a new genus and six are a new species.

Authors' Affiliation: Research Academy of Geology, Ministry of Geology.

LIN Pao-yu (2651/1405/3768)

"New Genus of Cistodendropra Gen. Nov. and Its Classification"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10,
No 4, Nov 62, pp 501-504

Excerpts of Russian Summary: This paper is a study of two genera of
the Anthozoa Class found in the Vizian formation in the Lower Carboni-
ferous Period; the specimens occur in Pa-li-kung and Po-li districts,
of Sinkiang Province.

Author's Affiliation: Research Academy of Geology, Ministry of
Geology.

C-O-N-F-I-D-E-N-T-I-A-L

CHANG Jih-pung (1728/2480/2639)

"Some Species of Nautiloida From the Middle Ordovician in Huanhsian Region in Kansu Province"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10, No 4, N v 62, pp 514-517

Excerpts of Russian Abstract: This paper describes specimens collected mainly during the Shen-peï Geological Expedition in 1954, in Huan-hsian region, in Kansu Province. All these specimens come from the upper section of the Ai-hsia-shan division of the Middle Ordovician. The author described six species, included in two genera. These include three new species and one new variety.

Author's Affiliation: Department of Soils, Chinese Academy of Sciences.

YIN Chi-hsiang (1438/7162/4382)

"On the Occurrence of Nerinea in Northern Tibet"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10, No 4, Nov 62, pp 525-529

Excerpts of English Summary: The specimens described in the present paper were collected by Comrade Jiang Ying-xing, during the summer of 1961 from allocality (91°47"E, 31°43"N) 3 kilometers north of the road-keeping Pavillion No 126, along the Qinghai-xizang Highway, and about 30 kilometers south of Liangdahe in the Ando district, Northern Tibet. Fossils are identified in this summary. Two pages of plates with English translation accompany this article.

Author's Affiliation: Institute of Geology, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

PIAN Chiang (3382/3068)

"On the Occurrence of Fish Remains From Upper Devonian Huangchiapeng Formation of Changyang District, Southwest Hupei"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Paleontologica Sinica), Vol 10, No 4, Nov 62, pp 537-540

Excerpts of English Abstract: The present paper deals with a nearly complete specimen of Antero-ventero-lateral plate and spinal of Macropetalichtuhydae (?), which was described by Prof H. C. Sze as a new genus and species Changyangphyton Hupeiense Sze of plantae incertae sides in his monograph "Upper Devonian Plants From China" (Sze, 1952). The three specimens as described in this paper are preserved in the grey sandy shale, but none of the specimens gives any indication of attachment to head shield or other plate of trunk armour. The summary goes on to describe the specimen. Two pages of plates accompany this article.

Author's Affiliation: Museum of Geology, Ministry of Geology, Peiping.

Technical Sciences

TSAI Shao-huai (5591/4801/2037)

"Local Bearing Strength of Concrete and Reinforced Concrete"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 1-10

Abstract: The author first points out the disadvantages and inaccuracies of formulas in current usage (i.e., J. Bauschinger's and V. A. Chervonobaba's). Then basing on the hooped reinforcement theory, he uses the ultimate equilibrant method to derive a new formula for calculating the local bearing strength and cracking strength of concrete and reinforced concrete. His calculations are checked against Chinese and foreign experimental data to show their accuracy.

References: The most recent among 19 listed references is dated November 1961.

C-O-N-F-I-D-E-N-T-I-A-L

WU Ch'eng-ts'ai (0702/2052/2624)
YAO Ta-yun (1202/1129/0061)

"The Compressive Strength and Bauschinger Effect of Cold-Worked Steel Reinforcing Bars"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 11-18

Abstract: The article presents experimental data indicating the presence of the Bauschinger effect in steel reinforcements which have been subjected to cold-working. The data also show a 15-17% reduction in compressive strength of screw thread reinforcements after cold drying.

References: The most recent of six references is dated 1961.

Author's Affiliation: Both of the Research Institutes of Architecture and Construction, Ministry of Building.

KAOG Chi (7559/6855/0366)

"Computing Loss of Prestresses Due to Repeated Loading"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 19-21

Abstract: The author shows the derivation of two formulas which can be used to calculate loss of prestressing force in concrete due to repeated loading. The Soviet "Code for the Design of Prestressed Reinforced Concrete Structures (CH-10-57)" is discussed in the light of these formulas.

References: The most recent of three references is dated 1962.

Author's Affiliation: Chekiang University.

C-O-N-F-I-D-E-N-T-I-A-L

HSU Wen-huan (1776/2429/3562)

"Linear Propagation Method for Solving a Continuous Beam on an Elastic Support"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 22-27

Abstract: This article presents the applications of the linear propagation method in the calculation of forces. The linear propagation method is used to simplify calculations by the five (bending) moment equation, and a universal method for solving a system of pentanomial equations is proposed. It is shown that by this method no more than two propagation coefficients are needed to compute each intermediate support using the decimal system. The use of this method to calculate multistory, closed rigid frames is briefly discussed.

Author's Affiliation: T'ang-shan Railway College.

FAN Chin-sheng (5400/2284/3932)

"Calculation of the Static Forces of a Two-Layer Hanging Rounded Roof Structure for the Control of Deformation"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 28-33, 52

Abstract: The author presents a simplified method for computing the elastic and static forces of a hanging rounded roof structure in order to control its deformation.

Author's Affiliation: Sinkiang College of Mining and Metallurgy.

C-O-N-F-I-D-E-N-T-I-A-L

HO T'ien-hu (6787/1131/6233)
CH'ENG Chi-ta (4453/1323/6671)

"Some Criteria for Determining the Form of Instability in Building Structure Foundations Under Vertical and Horizontal Loads"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 34-40

Excerpts From Chinese Abstract: In Part 1 of this paper, the author proposes some criteria for determining loss of stability in ordinary building structures. The criteria are based on the theory of ultimate equilibrium. A system of formulas and tables to simplify computation in engineering practice is provided. In Part 2, he proposes criteria for determining loss of stability due to infiltration of river water around the foundation, giving due consideration to the slant of the base of foundation and water levels in upper and lower courses of stream.

CHANG Hsi-sheng (1728/0823/2573)

"Stratigraphic Pressure on Underground Space Structures"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 41-43

Abstract: Starting with a discussion of the theory of stratigraphic pressures, the author investigates the spatial effects of the strata to prove what the size and shape of the top of a cylindrical underground structure should be when there is a naturally balanced shell. The formation of naturally balanced shells and conditions for uniqueness are discussed. The method for computing stratigraphic pressures is shown.

Author's Affiliation: T'ai-yuan Engineering College.

C-O-N-F-I-D-E-N-T-I-A-L

KUO Tsu-yuan (6665/4371/3293)

"Hydrographic Computations for Municipal Drainage Works"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 44-48

Abstract: This article discusses special characteristics of hydrographic computations for municipal drainage works, the factors which govern the frequency of new designs, and five formulas used to compute the intensity of rainstorms. Methods used in the statistical analysis of automatic recordings of rainfall data, as well as the author's suggestions on how to combine short-term data recorded automatically with long-term data recorded by hand, are described. Also presented are the methods for computing coefficient of run-off, inlet time, and maximum run-off.

References: The most recent of eight listed references is dated 1962.

Author's Affiliation: Institute of Municipal Engineering, Ministry of Building.

CHANG Shih-to (1728/1102/6995)
YUAN Kuo-kan (5913/0948/1626)

"Discussion on 'The Effect of Prestressed Steel in the Compressive Zone on the Ultimate Strength of a Reinforced Concrete Member'"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 49-50

Abstract: This article expands on several points presented in a paper by YU Fu-keng (0358/1381/5087), which paper was published in the No 1, 1962, issue of source.

Authors' Affiliation: Tung-chi University.

C-O-N-F-I-D-E-N-T-I-A-L

CHIANG P'u (1203/2883)

"Discussion on 'On the Problem of Supplement and Stability of Foundations'"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 51-52

Abstract: The author criticizes the method of computation presented by CH' IEN Chia-huan (6929/1367/2970) in an article which was published in the No 1, 1962, issue of source.

Author's Affiliation: East China Hydraulic Engineering College.

CH' IEN Chia-huan (6929/1367/2970)

"Replies to Discussion on 'On the Problems of Supplement and Stability of Foundations'"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, p 53

Abstract: Not given.

Author's Affiliation: East China Hydraulic Engineering College.

C-O-N-F-I-D-E-N-T-I-A-L

PAO Chih-sun (7637/6347/1327)
LO Kuo-ch'iang (5012/0948/1730)
LO Han-ch'uan (5012/3352/3123)

"Discussion on 'A Direct Method for Calculation of Reinforced Concrete Member Subject to Oblique Eccentric Loading'"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 54-55

Abstract: The authors point out the inadequacies of the discussions and computations presented in an article by LIN Hsuan-chung (2651/1357/0022) which was published in the No 2, 1962, issue of source.

LIN Hsuan-chung (2651/1357/0022)

"Replies to Discussion on 'A Direct Method for Calculation of Reinforced Concrete Members Subject to Oblique Eccentric Loading'"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, p 56

Abstract: The author defends his previous paper which was criticized by other writers.

Author's Affiliation: Fukien Provincial Bureau of Construction.

C-O-N-F-I-D-E-N-T-I-A-L

YU Pang-jui (0358/6721/3843)

"Review of Foreign Building Codes for Foundation Designs"

Peiping, T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering), Vol 9, No 6, Nov 63, pp 57-62

Abstract: The article presents an analysis of design theories, bearing strength of foundations, settlement computations, and allowable settlements as set forth in Building Codes in the US, the USSR, Germany, and Poland.

Author's Affiliation: Wuhan Research Institute of Metallurgical Construction, Ministry of Metallurgical Industry.

CHANG Lin (1728/3829)

"Layout of the Administration Quarter for a Heavy Machinery Plant"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 5, May 63, pp 1-3

Abstract: This paper considers several characteristics of the administration area of a heavy equipment plant and analyzes several possible layouts.

C-O-N-F-I-D-E-N-T-I-A-L

HUNG Te-shun (7895/1795/7311)
LI Tsung-hao (2621/1350/3185)

"Design of the Administration Quarter for Small and Medium-Sized Industrial Enterprises"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 5, May 63,
pp 4-7

Abstract: This paper considers several of the important design items of the administrative area such as the entrance, the administrative offices, the dining hall, the central laboratory, the day nursery, and the bicycle shed, and their arrangement in the area. Sample layouts from several unidentified plants are shown.

CHU Ko-jui (6175/5514/3843)
FENG Chao (7458/6389)
FANG Chin-sheng (2075/6855/3932)

"The Building Design for Manufacturing Plate Glass in a Large Glass Works"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 5, May 63,
pp 8-11

Abstract: This article discusses the layout of an unidentified large-scale glass plant and the designing of several of its important parts, such as the raw materials shop, the coal gas station, the mapping shop, and the combined cutting and packing shop. The article is accompanied by several drawings and photographs of the plant.

C-O-N-F-I-D-E-N-T-I-A-L

"Design of a Synthetic Detergent Workshop"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 5, May 63,
pp 12-14

Abstract: This article describes the layout of main and subsidiary production shops, storehouses, and administrative offices at an unidentified synthetic detergent plant. It also discusses a design for enlarging and converting the plant from its original purpose of soap manufacture.

Authors' Affiliation: The authors of this article are members of the Shanghai Light Industry Design Academy, Ministry of Light Industry.

CH'IU Wu-hua (6726/5294/5478)
K'UNG Kuo-chi (1313/0948/1015)

"On the Problem of Natural Lighting for Single-Story Machinery Plants"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 5, May 63,
pp 15-17

Abstract: This article examines the various designs for single-story plant buildings for taking advantage of natural sunlight and the pattern of light intensity in each of them. There is also a short discussion of lighting standards.

C-O-N-F-I-D-E-N-T-I-A-L

LI Lin-sheng (2621/7792/3932)
T'ANG Cheng-chung (0781/2973/0022)

"On the Design of the Doors and Windows for Industrial Buildings"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 5, May 63,
pp 18-21

Abstract: This article describes several standard designs for entrance gates, doors, and windows in factory buildings. The article is accompanied by several charts and carpentry detail drawings.

SUN P'ei-chi (1327/1014/1015), FEI Ching-wei (6316/2529/5966), and CH'EN Chung-lin (7115/1813/7792) participated in the investigation, trial construction, and experimental work.

TUNG Cho-ch'ao (5516/0587/6389)

"Architecture in Indonesia"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 5, May 63,
pp 22-26

Abstract: This article describes the characteristics of several traditional and modern styles of construction in Indonesia. The article is accompanied by several photographs and drawings.

C-O-N-F-I-D-E-N-T-I-A-L

LIN Chun-huang (2651/0193/3552)

"Architectural Treatment of Industrial Buildings"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 5, May 63,
pp 28-30

Abstract: This article discusses the importance of, and methods of providing, a pleasing external appearance for industrial buildings and functional structures. The article is accompanied by several photographs and drawings of unidentified plants.

LI Shu-hsun (2621/2885/8113)
SHEN Jung-hsien (3088/2837/6897)
KO Ping-ken (5514/3521/2704)

"Some Problems of Rural Housing Design and Experimental Construction"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 6, Jun 63,
pp 1-5

Abstract: This article discusses some of the principal requirements for dwellings in rural areas, methods of construction, and construction costs in various areas. The article is accompanied by several drawings and charts.

C-O-N-F-I-D-E-N-T-I-A-L

YEH Chung-chi (5509/0112/3875)

"On the Design of Some Prominent Civic Buildings in Chungking"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 6, Jun 63,
pp 6-10

Abstract: This article discusses the architecture and construction of three public buildings in Chungking; the Chungking harbor passenger terminal, the Shan-ch'eng motion-picture theater, and the Chung-shan-san Road apartment house. The article is accompanied by photographs and drawings of the buildings.

T'ANG P'u (0781/3877)
CHANG Chia-jung (1728/0857/2827)
TENG Yen (6772/8746)

"The Acoustics Problem of Chin-chiang Auditorium in Chengtu"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 6, Jun 63,
pp 11-13

Abstract: This article describes the acoustical characteristics of the auditorium and how they were developed.

KUAN Ming-yu (4619/7686/1342) did the drawings which accompany this article and LI Hsing-fa (2621/5281/4099) took the photographs.

C-O-N-F-I-D-E-N-T-I-A-L

P'AN Ku-hsi (3382/6253/6007)

"Viewing Stations and Prescribed Lines of Approach in the Soochow Gardens"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 6, Jun 63, pp 14-18

Abstract: This article discusses the location of viewing stations and the layout of scenic pathways in several parks in Soochow. This article is a revision, by the author, of the third section of his presentation to a conference called by the Ministry of Education in November 1962.

CH'I K'ang (7871/1660)
HUANG Wei-k'ang (7806/0251/1660)

"Visual Aspects of Building Groups"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 6, Jun 63, pp 19-23

Abstract: This article evaluates the visual effects of grouping and spacing of various types of structures. The article is accompanied by several drawings and photographs.

SHEN Kuo-yao (3088/0948/1031) and HSIA Tsu-hua (1115/4371/5478) participated in discussions with the authors during the writing of this article.

C-O-N-F-I-D-E-N-T-I-A-L

CHOU Ken-liang (0719/5327/5228)
T'U T'ien-feng (3205/3240/7685)

"New Housing Projects for Tientsin"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 6, Jun 63,
pp 24-25

Abstract: This article describes one of several entries in a contest for workers apartment dwellings in the Tientsin area. The article is accompanied by several plan drawings and a perspective drawing of the apartment buildings.

LIU Chi-hua (0491/3444/5478)
T'AN Chih-min (6223/1807/3046)

"Some Problems of Kitchen Design in Urban Housing"

Peiping, Chien-chu Hsueh-pao (Journal of Architecture), No 6, Jun 63,
pp 29-30

Abstract: This article analyzes some of the problems of designing a small apartment kitchen and fitting in the required equipment and cabinets. The article is accompanied by several charts and drawings.

C-O-N-F-I-D-E-N-T-I-A-L

Chemistry and Physics

WANG Mei-hsing (3769/3780/7154)
JEN Mei-li (0117/5019/5461)

"Rapid Microdetermination of Nitrogen in Organic Compounds"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5,
Oct 63, pp 303-306

Text of English Abstract: A rapid micromethod for the determination of nitrogen in organic compounds, such as pyridine, pyrimidine, purine, thiazole, alkaloids, and amino acids, is described. A mixture of thermal decomposed product of silver permanganate and black crystalline form of manganese dioxide is used as oxidizing agent, and during the course of decomposition pure electrolytic oxygen is introduced into the carbon dioxide gas stream. Metallic copper is used as reducing agent. The error of this method is within $\pm 0.2\%$. Each determination takes 10 to 15 minutes.

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 303-306)

This paper was received for publication on 6 October 1962; a revised version was received on 30 January 1963.

Authors' Affiliation: Both of the Institute of Materia Medica, Chinese Academy of Sciences; WANG currently is with the Chemistry Teaching and Research Section, Chung-shan Medical College, Canton.

C-O-N-F-I-D-E-N-T-I-A-L

CHANG Jen-pin (1728/0088/2430)
CHANG Yu-chih (1728/4245/0037)

"A Modification of the Combustion by Covering the Sample With Oxidizing Agent in the Microdetermination of Carbon and Hydrogen"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 307-311

Text of English Abstract: In the present communication, a modification of the combustion method for the microdetermination of carbon and hydrogen is described, in which the sample was covered with the thermal decomposition product of AgMnO_4 and the combustion tube was filled with the same reagent. By using this method, most of the organic compounds can be decomposed in approximately 3 minutes. To explain the mechanism of combustion, the modified method was compared with Korbl's and Korshun's combustion method by means of thermal conductivity. It was shown that under ample supply of oxygen, the melted sample came in direct contact with the oxidizing agent, resulting in violent oxidation, so that the rate of combustion was increased and the organic substances can be completely oxidized within a short time. The effect of combustion temperature and the rate of oxygen supply, as well as the role of oxidizing

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 307-311)

agent, are discussed.

This paper was received for publication on 5 June 1962.

Authors' Affiliation: Both of the Institute of Materia Medica, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

MAO Chih-hsiang (3029/1807/5046)

"Studies on Circular Paper Chromatography: I. A Comparison of Eluants Used for the Separation of Cations in Qualitative Analysis"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 308-319

Text of English Abstract: Experiments have shown that 96% ethanol-2N acetic acid (8:2), glacial acetic acid-pyridine-concentrated hydrochloric acid (80:6:20), n-butanol-pyridine-water (10:1:2), tert-butanol-acetone-water-6N nitric acid-acetylacetone (4:4:1,1:0.45:0.45), and tert-butanol-chloroform-8N hydrochloric acid-acetylacetone (4.5:4.5:0.8:0.2) are satisfactory eluants for group I and II, group III, group IVa, group IVb, and group V of cations, respectively, by circular paper chromatographic method with a Chinese brand filter paper (quantitative grade manufactured by the Hsin-hua Paper Factory, Hangchow). The R_{f_e} values of 23 cations when chromatographed singly and admixed are given in tables. The separation is as effective as that obtained with Whatman No 1 filter paper. The R_{f_e} values obtained with both papers mentioned do check each other.

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 308-319)

This paper was received for publication on 14 June 1962.

Author's Affiliation: Chekiang Medical College.

C-O-N-F-I-D-E-N-T-I-A-L

P'ANG Shu-wei (1690/0647/5633)
LIANG Shu-ch'uan (2733/2885/2938)

"On the Separation of Rare Earth Elements by Means of Reverse-phase Paper Chromatography: I. The HDEHP- Na_2SO_4 System"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 320-323

Text of English Abstract: Reverse-phase paper chromatography technique was applied to the separation of rare earth elements. As the stationary phase, chromatographic paper strips (Whatman No 1 and S and S 2045a) were treated with a solution of di(2-ethylhexy) phosphoric acid (HDEHP) in toluene. Acidified sodium sulfate solutions were used as eluants. The R_f values of rare earth elements decrease with decreasing acidity and sodium sulfate concentration of the eluant. For a given acidity of eluant, the more basic the rare earth element, the greater is its R_f value. It seems feasible to separate the terbium group from the cerium group with a 0.5M sodium sulfate solution of ca. pH 1; and after cutting off the original spot (the yttrium group), it can be eluted with a 0.5M sodium sulfate of higher acidity (say 2.0N). The effects of various parameters on the R_f values of rare earths, such as the quanti-

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 320-323)

ties of HDEHP retained by paper, temperature of elution, and effect of the presence of some cations in eluent (R_f values are alike with sulfates of lithium, sodium potassium, ammonium, and magnesium) were examined. Finally, the separations of the following mixtures

No 1 La-Ce-Pr-Nd-Sm-Y
No 2 Sm-Eu-Gd- UO_2^{2+}
No 9 Ce-Eu-Tb-Tm
No 11 La-Pr-N-d-Sm-Eu-Gd

were carried out by the present method with success.

This paper was received for publication on 26 August 1962; it was pre-viewed in K'o-hsueh T'ung-pao, No 11, 1962, page 46.

Authors' Affiliation: Both of the Institute of Chemistry, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

TS'AO I (2580/1837)
WANG Pao-jen (3769/5508/0088)

"Studies on Polyorganosiloxanes: 1. Cocondensation of Trimethylsilanol and Triphenylsilanol"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5,
Oct 63, pp 324-330

Excerpts of English Abstract: There are four possible routes through which trimethylsilanol and triphenylsilanol might react to form $(\text{CH}_3)_3\text{SiOSi}(\text{C}_6\text{H}_5)_3$. The rates of the reactions between hexamethyldisiloxane and triphenylsilanol with 0.1N hydrochloric acid as catalyst and between trimethylsilanol and triphenylsilanol with 0.50N sodium hydroxide and that of the rearrangement of $(\text{CH}_3)_3\text{SiOSi}(\text{C}_6\text{H}_5)_3$ with 0.5N sodium hydroxide were measured. These results do not agree with Eaborn's generalization, which states: "If two organosilicon systems are very different in structure, the yield of unsymmetrical product may be impractically low." The reasons for the difference are discussed.

This paper was received for publication on 10 September 1962; a preliminary report was published in K'o-hsueh T'ung-pao, 1957, page 331.

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 324-330)

Authors' Affiliation: Both of the Institute of Chemistry, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

SUN Te-chung (1327/1795/0022)
CHIANG Ying (5592/5391)

"Precipitation of Niobium With N-Benzoyl N-Phenylhydroxylamine From Homogeneous Solution and the Composition of the Precipitate"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 332-335

Text of English Abstract: The complex of niobium with N-benzoyl N-phenylhydroxylamine was precipitated in coarse crystalline form from homogeneous solution by hydrolysis of the acetic ester of N-benzoyl N-phenylhydroxylamine in an aqueous ethanolic tartrate solution of niobium at 65-70°. Precipitation is complete in 2 hours, during which the pH value is lowered from 8.0 to 5.0. After standing overnight, the complex has the composition $\text{NbO}(\text{C}_{13}\text{H}_{10}\text{O}_2\text{N})_3$. The acetic ester of N-benzoyl N-phenylhydroxylamine was synthesized by mixing a pyridine solution of N-benzoyl N-phenylhydroxylamine and acetic anhydride at 0° and subsequent treatment with water. The ester melts at 57.5-58.5° after recrystallation from ethanol. It is soluble in N sodium hydroxide and a number of organic solvents but insoluble in water and carbon tetrachloride. By heating its ethanolic aqueous solution, it is hy-

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 332-335)

drolized to N-benzoyl N-phenylhydroxylamine and acetic acid.

This paper was received for publication on 25 October 1962.

Authors' Affiliation: Both of the Department of Chemistry, Peking University.

C-O-N-F-I-D-E-N-T-I-A-L

LI Chun (2621/6874)
CHUANG Li-ho (1728/4409/0753)
TUNG Chen-huan (5516/2182/3883)
NI P'ei-chou (0242/3099/3166)
WANG Hsiu (3769/1645)

"Chemistry of 1,2,4-Triazines: II. An Anomalous Tosylation of 3-Methylmercapto-5-Hydroxy-6-Methyl-1,2,4-Triazine"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 336-343

Text of English Abstract: 3-Methylmercapto-5-hydroxy-6-methyl-1,2,4-triazine (II) reacted with p-toluensulfonyl chloride in anhydrous pyridine to give N- $\overline{5}$ -(3-methylmercapto-6-methyl)-1,2,4-triazinyl-pyridinium chloride (VIII); the latter compound gave O- $\overline{5}$ -(3'-methylmercapto-6'-methyl)-1',2',4'-triazinyl-3-methylmercapto-5-hydroxy-6-methyl-1,2,4-triazine (Va) on refluxing with water containing a small amount of pyridine. The structure of O- $\overline{5}$ -(3'-methylmercapto-6'-methyl)-1',2',4'-triazinyl-3-methylmercapto-5-hydroxy-6-methyl-1,2,4-triazine (Va) was elucidated by its hydrolysis to 3,5-dihydroxy-6-methyl-1,2,4-triazine (VI) with aqueous chloroacetic acid or hydro-

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 336-343)

chloric acid and to 3-methylmercapto-5-hydroxy-6-methyl-1,2,4-triazine (II) with aqueous sodium hydroxide. Ammonolysis of O- $\overline{5}$ -(3'-methylmercapto-6'-methyl)-1',2',4'-triazinyl-3-methylmercapto-5-hydroxy-6-methyl-1,2,4-triazine (Va) with diethylamine gave 3-methylmercapto-5-diethylamine-6-methyl-1,2,4-triazine (VII), which formed high melting-point substances on hydrolysis with aqueous solution of hydrochloric acid or sodium carbonate. The infrared spectra of some 1,2,4-triazine derivatives were studied.

This paper was received for publication on 21 October 1962; Part I of this paper had appeared in Hua-hsueh Hsueh-pao, Vol 28, 1962, page 167.

Authors' Affiliation: All of the Department of Pharmacy, Peking Medical College; TUNG is currently with Hopeh Medical College; NI is a research student of the Organic Chemistry Teaching and Research Section, Department of Pharmacy, Peking Medical College.

C-O-N-F-I-D-E-N-T-I-A-L

T'AO Hung-ken (7118/7703/2704)
JEN Shih-hsuan (0117/0013/1357)
WANG Nai-chiang (3076/0035/4842)

"Cadion 2B as a Reagent for Colorimetric Determination of Cadmium"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5,
Oct 63, pp 344-347

Text of English Abstract: The detection of cadmium with the aid of Cadion 2B as proposed by Dwyer has been applied to the colorimetric determination of cadmium. The colored suspension formed is unstable, but it can be stabilized by addition of one percent gelatin solution. The conditions of determination have been investigated with a spectrophotometer (Unicam SP. 500) and are summarized briefly as follows:

(1) The reagent Cadion 2B has a maximum absorption at 590 m μ ; in the presence of an excess of cadmium, the maximum shifts to 510 m μ . The study of the absorption curves in the Chinese text of the reagent with and without cadmium shows that the difference of these two curves reaches a maximum at 605 m μ . To obtain a greater sensitivity, it seems preferable to use this wave length for determination instead of the absorption maximum of the complex. (2) The most suitable range of deter-

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 344-347)

mination is 0-18 μ g of cadmium in 25 ml of solution. (3) The optimum quantity of the reagent (0.008% Cadion 2B in acetone) in a 25 ml solution is 5 ml. The method has been applied to the determination of cadmium in air, either by a visual colorimetric procedure or by a spectrophotometric method. The results of the determination are satisfactory, and the method is rapid, simple, and sensitive.

This paper was received for publication on 19 October 1960; a revised manuscript was received on 9 April 1963.

Authors' Affiliation: All of the Shanghai First Medical College.

C-O-N-F-I-D-E-N-T-I-A-L

HSIEH Hung-ch'uan (6200/3163/3123)
LI P'ing-sheng (2621/1627/3932)

"The Effects of Nucleophilic Agents on Stereospecific Polymerization of Butadiene"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 348-351

Text of English Abstract: The effects of several nucleophilic agents -- triethylamine, pyridine, ethyl ether, and tetrahydrofuran -- on the stereospecific polymerization of butadiene catalyzed by titanium tetraiodide and triisobutyl aluminum have been studied. It has been indicated that triethylamine or pyridine exerts almost no effect on the polymerization, when its quantity (in mole) introduced is less than that of triisobutyl aluminum, but inhibits the polymerization when its quantity is larger than that of the whole catalyst. Tetrahydrofuran readily inhibits the polymerization when its quantity (in mole) applied approaches twice that of titanium tetraiodide. Ethyl ether does not inhibit the polymerization, but changes the microstructure of the polybutadiene obtained from cis-1,4 form to trans-1,4 form, while keeping the content of the 1,2 form constant. The results may be interpreted by different stabilities

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 348-351)

of the complexes formed between nucleophilic agents and the components of the catalyst.

This paper was received for publication on 6 March 1962; a revised manuscript was received on 9 October 1963.

Authors' Affiliation: All of the Institute of Applied Chemistry, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

WANG Hou-chi (3076/0624/1015)
WU Cho-ch'ing (0702/3504/0615)

"Complexometric Photometric Titration of Microgram Amounts of Rare Earths"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 352-356

Text of English Abstract: The method proposed uses arsenazo III as indicator for photometric titration of microgram quantities of rare earths with EDTA. The optimum pH range for the titration is 4.5-6.4. Under this condition, arsenazo III forms a green complex giving a maximum absorbance of 660 m μ . An exact value for extinction at the equivalence point has been calculated with the Ringbom's equation. The influence of various factors on the titration is discussed. For amounts of lanthanum, gadolinium, terbium, ytterbium, and yttrium varying from 3 to 9 μ g, the method gives satisfactory results. The method is also applicable to the determination of total rare earths. Calcium and magnesium do not interfere. With sulphosalicylic acid as masking agent, rare earths can be titrated in the presence of aluminum and chromium. Interferences by iron, copper, and manganese can be avoided by means of

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 352-356)

DDTC-CHCl₃ extraction.

Authors' Affiliation: Both of the Institute of Metallurgy, Chinese Academy of Sciences.

C-O-N-F-I-D-E-N-T-I-A-L

YEN Jin-yin (0917/0088/5593)
HSU Min-liang (1776/3046/5328)

"On the Composition of Selenite Precipitate of Tantalum"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5,
Oct 63, pp 356-359

Text of English Abstract: The selenite of tantalum was precipitated quantitatively from sulfuric-nitric-tartaric-oxalic acid solution by means of selenous acid. After digesting on water bath, the precipitate was filtered and washed with dilute nitric acid containing selenous acid and finally with 95% ethanol. The fresh precipitate is completely soluble in a solution of hydrochloric and oxalic acids or the latter alone. The selenous acid in the solution thus obtained was titrated with standard thiosulfate solution. Based on the experimental results, the molar ratio of $Ta_2O_5:SeO_2$ in the precipitate is found to be 1:1. After drying at 110° , the precipitate has the composition approximating $Ta_2O_5 SeO_2 \cdot 2H_2O$. It is then insoluble in oxalic, with or without hydrochloric acid. It seems possible to use the selenite precipitate as a basis of volumetric determination of tantalum and also as a weighing form in its gravimetric determination.

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 356-359)

This paper was received for publication on 26 October 1962.

Authors' Affiliation: Both of the Department of Chemistry, Peking University.

C-O-N-F-I-D-E-N-T-I-A-L

CHEN Yun-t'ei (7115/2837/1879)
CHI Chu (4764/2691)
HSU K'ung-yu (1776/1313/6877)

"The Dissociation Constants of N-Cyclohexylglycine and N-Beta Naphthylglycine"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 360-363

Text of English Abstract: The apparent acid dissociation constants of N-cyclohexylglycine and N-beta-naphthylglycine have been determined to be $pK_{COOH} = 2.70$, $pK_{R_2NH_2} = 9.83$ for the former and $pK_{COOH} = 2.26$, $pK_{R_2NH_2} = 4.46$ for the latter by pH method at 25° in 30% ethanol solution in the presence of 0.10 M sodium perchlorate. It was found that N-cyclohexylglycine as a base is comparable to that of glycine and N-alkylglycines, as expected, while the basicity of N-Beta-naphthylglycine is quite different from that of its isomer, N-Alpha-naphthylglycine. These results evidently support our previous interpretation on the abnormally high basicity of N-Alpha-naphthylglycine that steric effect due to the 8-hydrogen on the naphthalene ring upon the proton on the amino group was responsible for such an anomaly.

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 360-363)

This paper was received for publication on 26 October 1962; CHI and HSU, two of the authors of this paper, read a portion of it at the Tientsin conference on chemistry on 28 June 1962.

Authors' Affiliation: All of the Department of Chemistry, Nankai University.

C-O-N-F-I-D-E-N-T-I-A-L

CHOU Wei-shan (0719/4850/0810)
CHU Wei-hsiang (2612/1920/4382)
HUANG Ming-lung (7806/7686/7893)

"Reaction of 3-Beta-Acetoxy-5-Beta, 6-Beta-Epoxy-6-Alpha-Methyl-25D Spirostane (III) With Boron Trifluoride Etherate"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 364-366

Text of English Abstract: 3-Beta-acetoxy-5-Beta, 6-Beta-epoxy-6-alpha-methyl-25D-spirostane (III), when treated with boron trifluoride etherate, yielded 5-Alpha-fluoro-6-Beta-hydroxy-6-Alpha-methyl derivative (IV); the structure and configuration of compound IV were proved by correlation with the known compound (V).

This paper was received for publication on 26 October 1962.

Author's Affiliation: All of the Institute of Organic Chemistry, Chinese Academy of Sciences; CHU is a refresher student in the Department of Chemistry, Nanking University.

CHEN Ju-yu (7115/5423/3768)
CHEN Ch'i-chien (7115/0366/2638)
WANG Lu-hsien (3769/1774/0341)

"Derivatives of s-Triazine: 1. 2-Chloro-4-Alkoxy-6-Aryloxy-s-Triazines"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 368-370

Text of English Abstract: By reacting cyanuric acid with an equimolar amount of a lower member of alcohol in the presence of 2,6-dimethylpyridine at a low temperature in acetone, a series of 2,4-dichloro-6-alkoxy-s-triazines was produced. The latter dissolved in acetone was then treated separately with aqueous sodium p-chlorophenolate and pentachlorophenolate, first in the cold and finally at 40-45°, to give 2-chloro-4-alkoxy-6-aryloxy-s-triazines (II) in fairly good yields. Preliminary biological tests revealed that compounds (II) with Ar=p-chlorophenyl showed herbicidal activity and those with Ar=pentachlorophenyl had the effect of stimulating the growth of soy beans.

SUN Chu-ying (1327/5468/5391) assisted with the work.

C-O-N-F-I-D-E-N-T-I-A-L

(continuation of Hua-hsueh Hsueh-pao, Vol 29, No 5, pp 368-370)

This paper was received for publication on 30 October 1962.

Authors' Affiliation: All of the Department of Chemistry, Nankai University.

CHIANG T'chang (5592/1795/1757)
WANG Hui-lin (3769/1920/2651)

"A Note on the Preparation of Fluoroacetic Acid and Fluoroacetyl Chloride"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 5, Oct 63, pp 371-372

Text of English Abstract: Fluoroacetic acid has been prepared in 80-89% yield by acidolysis of ethyl fluoroacetate with formic acid in the presence of sulfuric acid. Reaction of fluoroacetic acid with benzoyl chloride gave the corresponding acid chloride in 52% yield.

This paper was received for publication on 4 November 1962.

Authors' Affiliation: Both of the Department of Chemistry, Peking University.

C-O-N-F-I-D-E-N-T-I-A-L

KU Fu-nien (7357/4395/1628)

"About Tensor Green Functions in Wave Guides"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 10,
Oct 63, pp 617-625

Text of English Abstract: In this paper, we studied the general forms and properties of tensor Green functions in wave guides with the methods of eigenfunctions expansion. For acquiring relations between the eigenfunctions of wave guides and tensor Green function, we first take the Fourier transform of Green function. In isotropic media, the simplest image function can be expressed in dyadic form; and in anisotropic media, in the form of $ABA^te^{-ikx_0}$, where A is the coordinate matrix. With this method, we studied the dyadic Green functions of wave guides in isotropic media in detail.

This paper was received for publication on 16 July 1962.

Author's Affiliation: Kiangsi University.

SU Hang-sheng (0702/2635/3932)

"Superconductivity in Thin Metal Films"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 10,
Oct 63, pp 627-632

Translation of Chinese Abstract: This paper points out that when a superconducting film is thin enough, its critical temperature, energy gaps, and thermodynamic characteristics undergo periodic changes with the thickness of the film, and the extent of the changes increases as the thickness decreases.

The author expresses thanks to YU Lu (0060/8692) for the many beneficial discussions with him during the course of this work.

This paper was received for publication on 5 October 1962.

Author's Affiliation: Physics Department, Peking University.

C-O-N-F-I-D-E-N-T-I-A-L

CHOU Pang-hsin (0719/6721/2450)
YEN Ming-kao (7346/7686/4108)

"The Effect of Phosphorous on the Recrystallization Behavior of Cold-Rolled Copper Strips"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 10, Oct 63, pp 633-648

Text of English Abstract: The effect of small amounts of phosphorous on the recrystallization of cold-rolled (89-95.7%) copper strips was studied. It was found that phosphorous, which was mainly in solid solution with copper, greatly raised the recrystallization temperature, increased the activation energy of recrystallization, and also changed the recrystallization texture by annihilating the formation of cubic texture. Phosphorous, which existed mostly in the oxidized form, however, showed no pronounced effect on the recrystallization behavior of cold-rolled copper strips.

The recrystallization textures of copper strips, under different rolling and annealing conditions, resembled the original deformation textures and/or kept a geometric relationship which may be described as a rotation of $20-45^\circ$ about a common (111) axis.

(continuation of Wu-li Hsueh-pao, Vol 19, No 10, pp 633-648)

Results obtained from metallographic and X-ray diffraction studies indicated that the development of the recrystallization texture may be suggested as a process of "recrystallization in situ" and a process of selective growth.

This paper was received for publication on 13 October 1962; a revised manuscript was received on 10 March 1963.

C-O-N-F-I-D-E-N-T-I-A-L

SU Chao-ping (5685/5128/0393)
KAO Ch'ung-shou (7559/1504/1108)
CHOU Kuang-chao (0719/0342/0664)

"Investigation of the Correlation Between Resonance Effect and Near
Threshold Effect in the $\pi + p \rightarrow \Lambda + \pi + K$ Reaction"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 10, Oct 63,
pp 649-761

Text of English Abstract: In this paper, an experiment for the reaction $\pi + p \rightarrow \Lambda + \pi + K$ is proposed. The total energy in the center of mass system is fixed at 1900MeV. The kinetic energy of the final K-meson is then in the range 0-90MeV. We propose to observe the final state $\Lambda - \pi$ resonance and the cusp at the $\Sigma\pi K$ threshold. From the correlation between the resonance and the cusp and from the angular distribution of the resonance, the spin of Y_1^* and the relative parties among Y_1^* , Λ , and Σ may be determined. Based on the diagonal representation of T -matrix in the channel space, a general phenomenological description of the resonance effect, the near threshold effect, and the final state interaction is developed, which takes into account especially the correlation of the cusp with a nearby resonance. The general theory is

(continuation of Wu-li Hsueh-pao, Vol 19, No 10, pp 649-761)

applied to the present experiment as a special case.

This paper was received for publication on 30 November 1962.

C-O-N-F-I-D-E-N-T-I-A-L

FANG Li-chih (2455/0536/0037)
KU Shih-chieh (7357/0013/2638)

"Inelastic Scattering of Neutrons in Ferromagnetics With Imperfections"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 10, Oct 63,
pp 673-687

Text of English Abstract: In this paper, a theoretical investigation has been made on the scattering of neutrons by the spin-wave in ferromagnetics with imperfections. The differential cross section of inelastic scattering has been calculated for a simple case. It has been found that the experimentation on scattering of thermal neutrons offers a method for the observation of localized modes of the spin-waves. In our calculation, we have shown that the wave-functions of the scattered spin-waves and those of the localized modes form a complete set of orthonormalized wave-functions in the subspace in which the total deviation of spins is equal to unity.

This paper was received for publication on 19 February 1963.

Authors' Affiliation: Both of Chinese Academy of Sciences.

TUAN I-shih (3008/0001/1102)
CHANG Ching-yeh (1728/2417/2814)

"The Law of Conservation of Energy and Momentum in the General Theory of Relativity"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 11, Nov 63,
pp 689-704

Translation of Chinese Abstract: This paper clarifies the necessity of applying polymetric representation to the general theory of relativity and utilizes polymetric mathematical apparatus to carry out a relatively detailed discussion of the laws of conservation in the general theory of relativity. Beginning with general displacement transformations, it obtains general covariant laws of conservation of energy and momentum which can be established on any system of coordinates, thus overcoming the difficulties encountered by Einstein, Landau, and Meller with regard to this theory.

The list of 20 references includes six previous papers by TUAN I-shih, dated 1957-1962.

This paper was received for publication on 31 October 1962.

C-O-N-F-I-D-E-N-T-I-A-L

(continuation of Wu-li Hsueh-pao, Vol 19, No 11, pp 689-704)

Authors' Affiliation: Both of Lanchow University.

WANG Chih-chiang (3769/0037/3068)
HSUEH Ming-ch'iu (5641/7686/3808)

"On the Image Quality of Plane Grating Spectrometer"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 11, Nov 63,
pp 705-715

Text of English Abstract: In this paper, various factors influencing the image quality of plane grating spectrometer are discussed in detail. By means of vector algebra, a general formula is given for the form of the spectral lines in relation to the form of the entrance slit. A formula describing the angular dispersion of the spectral line resulting from a circular slit is also given. Investigation on the optical performance of the Ebert-Fastie grating spectrometer shows that among various residual optical aberrations, due to unsymmetrical disposition of the incident and diffracting beams with respect to the grating surface, coma is the most serious image defect. This can, however, be corrected by changing the focal length of one of its reflecting mirrors and placing it at a definite distance from the other mirror. It is also shown that residual aberrations can be well eliminated by placing an aspherical correcting plate near the grating surface. By the latter

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(continuation of Wu-li Hsueh-pao, Vol 19, No 11, pp 705-715)

means there is the potentiality of greatly improving the performance of the instrument; either the volume of the instrument may be greatly reduced where shorter focal length optical systems can be used or much better light gathering capacity can be achieved without sacrificing its monochromaticity when the spectrometer is used as a monochrometer.

WANG Ta-heng (3769/1129/3801) contributed some ideas to the discussion portion of this paper. LI Wen-hugn (2621/2429/7703), HUANG Ying-sheng (7806/3602/3932), LI P'in-hsin (2621/0756/2450), FENG Hsiu-heng (7458/4423/1854), and others did the necessary calculations for the paper.

This paper was received for publication on 30 April 1962.

HO K'ai-yuan (0149/7030/0337)
WU Pao-ch'in (0702/1405/3830)

"Magnetic Torque Studies of the Anisotropy of a Grain Oriented Nickel-Iron Alloy"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 11, Nov 63, pp 717-725

Text of English Abstract: The magnetic anisotropy of a 50% Ni-50% Fe alloy, after (1) cold reduction and (2) cold reduction and annealing at various temperatures, has been determined from magnetic torque curves, from which the types of the rolling and recrystallization textures in the specimens have been deduced. In the specimens with perfect cube texture, the magnetic anisotropy constant k_1 has been determined; the result is consistent with that of other authors using single crystal specimens. The k_1 value in the cold rolled specimens is, however, larger. The factors which may possibly influence the determined k_1 values are considered; the influences due to the degree of ordering and the elastic energy induced by anisotropic magnetostriction are finally discussed.

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(continuation of Wu-li Hsueh-pao, Vol 19, No 11, pp 717-725)

This paper was received for publication on 5 October 1962; a revised manuscript was received on 11 February 1963.

Authors' Affiliation: Both of the Research Academy of Iron and Steel.

CH'EN Ch'ih (7115/4609)
LI Hua-lin (2621/5478/2651)
TING Chia-yen (0002/1367/6056)

"On the Intensity of Mutually Induced X-ray Fluorescence Between Elements"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 11, Nov 63, pp 727-734

Text of English Abstract: A formula is derived for the intensity of mutually induced X-ray fluorescence between elements and is found to be in agreement with experiment.

WANG Ch'ang-lun (3076/2490/1510) assisted the authors in work on this paper.

This paper was received for publication on 5 November 1962.

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LI Fang-hua (2621/2455/5478)

"Empirical Relationships Between Electron Diffraction Intensity and Structural Amplitude and Their Application to Structural Analysis"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 11, Nov 63, pp 735-740

Translation of Chinese Abstract: This paper discusses the empirical relationships between electron diffraction intensities and structural amplitudes, using polycrystals of gold, silver, and aluminum and single crystals of triconsanol as examples, to prove this relationship experimentally. When the kinematics scattering formula for diffraction intensity becomes invalid, this empirical relationship can be utilized without depending upon any theoretical formula, simultaneously measuring the structural amplitude and temperature factors from the diffraction intensity. The paper describes this method and gives the results of applying this method to single crystals of triconsanol.

This paper was received for publication on 9 January 1963.

Author's Affiliation: Chinese Academy of Sciences.

WANG Chih-chiang (3769/0037/3068)

"Low Contrast Resolving Power and Aberration Tolerance of Optical Systems"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 11, Nov 63, pp 741-752

Text of English Abstract: The assignment of aberration tolerances for optical systems suffering from wave-front aberrations greater than $2/4$ is worth further study. In this paper, it is shown that "low" contrast resolving power of optical systems can be taken as an appropriate criterion for assessing image quality, where the optical transfer function can be evaluated approximately in terms of the sums of Legendre polynomials. Accordingly, the best program of aberration correction and tolerances in the case where certain aberration constants are inevitably present and others are adjustable in optical design can be obtained. The results so obtained as applied to aberrations of small magnitude comparable to $2/4$ conform well to the Strehl Definition-shelligkeit method.

This paper was received for publication on 19 January 1963.

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LI Yin-yuan (2621/5593/6678)
CHU Yen-ch'ing (2612/4291/4334)

"Localized Modes of Spin Waves in the Cubic Ferromagnetics"

Peiping, Wu-li Hsueh-pao (Acta Physica Sinica), Vol 19, No 11, Nov 63,
pp 753-763

Text of English Abstract: In this paper, calculation has been carried out for the localized modes of spin waves around a magnetic impurity atom in a ferromagnetic of the simple cubic structure. There are three symmetry types, i.e., the s-type, the p-type, and the d_r -type mode. The wave functions and the curves of the energy levels against the parameter $J'S'/JS$ of these modes are obtained. Next, the types of localized modes which may possibly exist in ferromagnetics of the bcc or the fcc structure are discussed. It is pointed out that probably the s-type mode is the only one to be expected in actual specimens. With the criterion that the Curie point of the specimen should increase with the concentration of impurity, several alloys are suggested for the experimental observation of the localized modes of spin waves. Finally, a general analysis of the spin quantum number of the spin wave states leads to the conclusion that it is impossible to excite the scattered modes with

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$K_0 = 0$, as well as the localized modes, by the electromagnetic radiation.

This paper was received for publication on 20 May 1963.

Authors' Affiliation: Chinese Academy of Sciences.

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ORGANIZATIONS AND CONFERENCES

1. Shipbuilding Engineering Society Established

The Peiping Shipbuilding Engineering Society was formally established on 29 November 1963. The purpose of this society is to promote scholarly activities among technicians and workers involved in research, design, construction, and use of ships. Besides presenting several technical papers, the conference approved a constitution and elected the first board of directors. (Peiping, Pei-ching Jih-pao, 7 Dec 63, p 2)

2. Chinese Aquatic Products Society Established

The Chinese Aquatic Products Society was formally established recently in Peiping. Since the liberation, particularly since 1958, there has been a great deal of development in this field. At present, there are 17 higher-level and intermediate schools devoted to the study of aquatic products. In addition, there are almost 1,000 technicians working in research units devoted to the study of aquatic products. YANG Fu-ch'ing (2799/2105/7230) was elected Chairman of the Board of Directors of the Society, and CHU Yuan-ting (2612/0337/7844), WU Hsien-wen (0124/3759/2429), and CHU Shu-p'ing (2612/2885/1456) were elected vice-chairmen. (Canton, Chung-kuo Hsin-wen, 2 Jan 64, p 11)

3. China Metallurgical Society Holds Its Annual Conference

From 14 August to 25 August 1963, the China Metallurgical Society held its 1963 annual meeting and the second membership congress in Tsing-tao. LIU Pin (0491/1755), Vice-Chairman of the Board of Directors, China Metallurgical Society, and concurrently Vice-Minister of the Ministry of Metallurgical Industry, gave a report on the great progress made in the metallurgical industry since 1949.

A total of 154 papers were received at the conference. CHANG Wen-ch'i (1728/2429/1142), Vice-Chairman of the Board of Directors of the Society, represented the outgoing board of directors with a report on affairs of the society. The new Board of Directors, composed of 90 members, was elected. The officers elected include CHOU Jen (0719/0088), chairman; LIU Pin (0491/1755), CHIN Shu-liang (7246/2885/2733), YANG Wei (2799/4850), CHANG Wen-ch'i (1728/2429/1142), and LI Hsun (2621/5651), vice-chairmen; and WANG Chih-hsi (3769/0037/3886), secretary. (Peiping, K'o-hsueh T'ung-pao, No 11, Nov 63, p 71)

4. China Geophysical Society Holds 1963 Annual Conference

From 16 September to 21 September 1963, the China Geophysical Society held its 1963 annual science conference in Peiping.

At the beginning of the meeting, the members of the conference heard reports from WU Heng (2976/5899), Vice-Chairman of the State Scientific and Technical Commission, and WENG Wen-po (5040/2429/3134), Vice-Chairman of the Operations Committee of the China Geophysics Society.

Three closely related papers were reported. These were: "Progress in Investigations on Solar Winds, Space Magnetic Fields, and Low Energy Electrified Particles," by CHAO Chiu-chang (6392/0046/4545); "Several Questions Pertaining to Atomic Nucleus Properties in Earth Sciences," by WENG Wen-po (5040/2429/3134); and "Facial Properties Under the Earth's Crust," by TS'ENG Jung-sheng (2582/5816/3932).

A total of 119 papers were received at the conference. A board of directors composed of 31 members was also elected. (Peiping, K'o-hsueh T'ung-pao, No 11, Nov 63, p 70)

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5. First Nationwide Conference on the Structure of Matter

From 28 August to 4 September 1963, the Physics, Mathematics, and Chemistry Department of the Chinese Academy of Sciences held the first nationwide scientific report conference on the structure of matter in Ch'ang-chun.

One hundred and eleven papers concerned with the fields of crystalline structure analysis, electron diffraction, element spectrum, and radio frequency spectrum, as well as quantum chemical structure theories, were read and discussed at this conference. Four papers were reported during the conference; these four included: "Solid Construction of Crystalline Structure and Elements," by T'ANG Yu-ch'i (0781/2589/4388); "Problems of Structural Activity and Quantitative Relationship and Organic Quantitative Chemistry," by CHIANG Ming-t'i (5592/2494/7344); "Paramagnetic Resonance," by TING Yu (0001/3254); and "Questions on Van der Waal's Forces," by SUN Chia-chung (1327/1367/6945).

Also discussed at the conference was the designing for a teaching program of a curriculum in structures of materials for high-level institutions.

One hundred and sixty-two persons from 51 units of high-level institutions and research organizations participated in the conference. (Peiping, K'o-hsueh T'ung-pao, No 10, Oct 63, p 68)

6. Chinese Society of Agricultural Machinery Holds First Annual Conference

The Chinese Society of Agricultural Machinery recently held its first annual conference in Nanking. The conference received 314 papers on subjects including application of agricultural machinery, tractors, motive power for use in agriculture, irrigation and drainage machinery, cultivation machinery, harvesting machinery, and repair and construction of agricultural machinery. Discussions on geographical divisions for the purpose of agricultural mechanization attracted a great deal of attention from those attending the conference. (Canton, Chung-kuo Hsin-wen, 2 Jan 64, p 11)

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7. Architectural Society Holds Annual Conference

The Architectural Society of China held its annual conference in Wu-hsi, Kiangsu Province, during mid-December 1963. The conference received a total of 129 papers. Discussion was directed mainly at problems of urban and rural residential construction, including urban residential planning, and improvement in the quality of designs for both urban and rural housing. (Peiping, Jen-min Jih-pao, 16 Jan 64, p 5)

8. China Plant Protection Society Conference

From 17 December to 26 December 1963, the Chinese Plant Protection Society held its annual conference in Ch'ang-sha, Hunan Province. A total of 321 papers were received at the conference.

Research on the science of plant protection in China in the past several years was the main topic at the conference. (Peiping, Jen-min Jih-pao, 16 Jan 64, p 5)

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9. Chinese Soil Society Conference

The 1963 annual conference of the Chinese Soil Society, as well as the third meeting of the member representatives of this society, was held in Shen-yang on 15-24 August. The conference was attended by 91 official delegates and 32 observers. A total of 277 papers were received, dealing with such subjects as soil physics and chemistry, soil biology, soil geography, and agricultural chemistry. (Peiping, T'u-jiang Hsueh-pao, Vol 11, No 3, Sep 63, p 339)

10. Activities of Fukien Learned Societies

There are more than 27,000 members of 25 learned societies and various professional committees, such as the agricultural society, meteorological society, forestry society, and industrial raw materials society, in Fukien Province. According to statistics of 18 of these societies, there have been 238 conferences held during the past year, and they assembled more than 2,000 papers and compilations of technical data, of which 362 papers were forwarded to national conferences. (Canton, Chung-kuo Hsin-wen, 29 Dec 63, p 12)

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11. Conference on Lichee Cucurlic Control

In late November 1963, the Kwangtung Scientific and Technological Association and the Canton Scientific and Technological Association convened a joint conference to discuss control measures regarding the lichee cucurlic. For next year, it was agreed that Dipterex should be the primary means of control and that smoke and parasitic flies should also be used.

Participating in this conference were CHAO Shan-huan (6392/0810/2970), vice-president of South China College of Agriculture; LEI Tsung-yueh (7191/1350/1471), deputy director of the Canton Institute of Agricultural Sciences; and CHUNG Kuo-kuang (6945/0948/0342), director of the Canton Institute of Chemical Engineering. (Canton, Nan-fang Jih-pao, 10 Dec 63, p 3)

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MANPOWER AND EDUCATION

Development of China's Industrial Technical Manpower

In the 14 years since the liberation, the various higher-level schools in China have trained 370,000 engineers and technicians. Before the liberation, there was a serious shortage of technicians in the petroleum industry, but since its founding in 1953, the Peking Petroleum College alone has trained 6,000 petroleum industry technicians. (Canton, Chung-kuo Hsin-wen, 27 Dec 63, pp 4 and 5)

Peiping University Establishes Three Laboratories

Peiping University recently established three new laboratories for theoretical physics, semiconductor physics, and physical and colloidal chemistry. These three laboratories are the responsibility of Professors WANG Chu-ch'i (3769/4554/3305), HUANG K'un (7806/2492), and HUANG Tzu-ch'ing (7806/1311/0615). Besides the development of research, these laboratories will assist in training instructors for related departments and direct research by graduate students and the writing of graduate papers. (Canton, Chung-kuo Hsin-wen, 27 Dec 63, p 9)

Foreign Students in Peiping

In the past 13 years, Peiping University has accepted more than 1,300 foreign students from 46 countries. After completing Chinese language studies, some entered other higher-level schools for specialized courses; others have already completed their studies. At present there are over 150 foreign students at the university. (Canton, Chung-kuo Hsin-wen, 11 Jan 64, p 7)

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NEW PUBLICATIONS AND BOOK REVIEWS

1. Collected Works on Polymer Chemistry

The Chinese Academy of Sciences convened a polymer conference in Ch'ang-ch'un, Kirin Province, on 21-29 August 1961, which was attended by 120 official delegates and 130 observers from some 40 scientific research organs and high-level schools and production departments. The State Scientific and Technological Commission, the Mathematics, Physics, and Chemistry Department of the Chinese Academy of Sciences, and the Science Press sent delegates. The quality of the 100 papers read at the conference showed vast improvement over those presented at the two previous conferences, which were convened in 1954 and 1959.

In 1963, the Science Press published Chung-kuo K'o-hsueh Yuan, Kao-fen-tzu Hsueh-shu Hui-i Hui-k'an 1961 (Collected Papers of the Polymer Academic Conference of the Chinese Academy of Sciences 1961). This volume contains 84 of the papers presented at the conference. The Table of Contents is as follows:

PART I. REVIEW REPORTS

"Statistical Theory on the Kinetics of Additional Polymerization," by T'ANG Ao-ch'ing (0781/2407/1987) of Kirin University, pp 3-24.

"Reaction Mechanism of Directed Polymers," by OU Yang-chun (2962/7122/0971) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 25-50.

"Characteristics of Solid State Reaction of Polymers," by CH'IEH Pao-kung (6929/0202/0501) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 51-64.

"Mechanical Degradation of Polymers," by HSU Hsi (1776/0296) of Ch'eng-tu Engineering College, pp 65-67.

"Some Reactions of Infrared Spectra in Polymer Research," by CHU Chin-ch'ang (2612/2516/9480) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 68-79.

"Progress and Research on Polymer Crystals," by HSU Tuan-fu (1776/4551/1133) of the Institute of Chemistry, Chinese Academy of Sciences, p 80.

"Directed Polymers," by TENG Li-ju (6772/3430/0320) of the Institute of Chemistry, Chinese Academy of Sciences, pp 81-96.

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"Progress in Research on the Properties of Polymer Solutions: 1. Wei-li's (4850/0448) /Chinese approximation for a foreign name/ Second Coefficient," by CH'IEN Jen-yuan (6929/0086/0337) of the Institute of Chemistry, Chinese Academy of Sciences, pp 97-103.

"Progress in Research on the Properties of Polymer Solutions: 2. Maron's Theory of Solutions," by CH'IEN Jen-yuan (6929/0086/0337) and YU Shih-ch'eng (0151/0013/6134) of the Institute of Chemistry, Chinese Academy of Sciences, pp 104-110.

"Progress in Research on the Properties of Polymer Solutions: 3. Samples of 'Simple Dispersion,'" by YU Shih-ch'eng (0151/0013/6134) of the Institute of Chemistry, Chinese Academy of Sciences, pp 111-113.

"Progress in Research on the Properties of Polymer Solutions: 4. Transformation of Helical Groups," by SHIH Liang-ho (2457/5328/0735) of the Institute of Chemistry, Chinese Academy of Sciences, pp 114-120.

"Relaxation of Chemical Stress in Vulcanized Rubber," by WU Jen-chieh (0702/0086/3381) of the Institute of Chemistry, Chinese Academy of Sciences, pp 121-131.

"Problems of Polymer Fillers," by WU Shih-k'ang (0702/0013/1660) of the Institute of Chemistry, Chinese Academy of Sciences, pp 132-147.

PART II. ARTICLES, ABSTRACTS, AND NOTES

1. Mechanism of Polymers

"Competitive Rates of Polymerization of 2-Methyl-5-Vinyl Pyridine and Butadiene During Copolymerization in an Emulsion," by LI Pin-ts'ai (2621/2430/2088) and WU K'ai-kuo (0702/7030/0948) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 151-156.

"Mechanism of Cross-linking During the Sulfonation of Ting-pi (0002/0070) Rubber /A Copolymer of 2-Methyl-5-Vinyl Pyridine and Butadiene/ With Quaternary Ammonium," by LI Pin-ts'ai (2621/2430/2088), LI Yu-liang (2621/3768/5328), and WU K'ai-kuo (0702/7030/0948) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 157-162.

"Problems of the Molecular Weight Distribution and Kinetics of Active Polymers," by T'ANG Lo-ch'ing (0781/2407/1987) and CH'EN Chia-ts'ung (3088/1367/5115) of Kirin University, pp 163-172.

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"Kinetic Research on the Reaction of Polyethylene and Organic Amine," by SUNG Ming-shih (1345/0682/1395) and T'ANG Ao-ch'ing (0781/2407/1987) of Kirin University, pp 173-189.

"Radiation Polymerization of Butadiene in the Presence of Halides Containing Titanium," by WANG Fo-sung (3769/0154/2646) and LIAO Yu-chen (1675/3768/3791) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 190-194.

"Polymers Induced by Oxidation Reduction Systems," by LU Ch'iang-min (7120/1730/2404) of the Design Academy of the Kirin Chemical Industry Company, pp 195-197, an abstract.

"Polymerization of Acrolein-Cation Polymers Using Potassium Carbonate As a Catalyst," by SHU Hsi (1776/0296), CHIANG Chung-li (1728/1504/4539), WANG Hsi-feng (3076/6932/1496), and HSU Ai-te (1776/1947/1795) of Ch'eng-tu Engineering College, pp 198-199, an abstract.

2. Modification of Polymers

"Research on the Structure of Products of Polyacrylonitrile Heat Treated in Air," by T'ANG Ming-tao (0781/2494/6670) of the Institute of Physics, Chinese Academy of Sciences, pp 200-207.

"Mechanism of Reaction Heat Treated Polyacrylonitrile," by WU Hsueh-chou (0702/1331/0719), CHU Chin-ch'ang (2612/2516/9480), and LIN Tsu-lun (2651/4371/4858) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 208-212, an abstract.

"Modified Treatment of Polyacrylonitrile: 2. Heat Treatment Under Vacuum Ammonia Vapors," by LI Jeng-yuan (2612/0095/0337) and CH' IEN Pao-kung (6929/0202/0501) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 213-225.

"Modified Treatment of Polyacrylonitrile: 3a. Structure of Large Conjugates," by CHIANG Ping-cheng (1203/3521/2398) and CH' IEN Pao-kung (6929/0202/0501) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 226-232.

"Modified Treatment of Polyacrylonitrile: 4a. Conduction Properties of Products," by YANG Wen-hsiang (2799/2429/5980) and CH' IEN Pao-kung (6929/0202/0501) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 241-249.

"Modified Treatment of Polyacrylonitrile: 3b. Magnetolectrical Properties," by CHIANG Ping-cheng (1203/3521/2398) and CH' IEN Pao-kung (6929/0202/0501) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 233-240.

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"Modified Treatment of Polyacrylonitrile: 4b. Thermoelectromotive Force of Products," by YANG Wen-hsiang (2799/2429/5980) and CH'LEN Pao-kung (6929/0202/0501) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 250-254.

"Modified Treatment of Polyacrylonitrile: 5. Sulfur Dehydrogenation of Polyacrylonitrile," by LU Ta-hsun (7120/1129/0534) and HUNG Wei (3163/4850) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 255-265.

"Cracking Mechanism of Polyacrylonitrile," by LIU Hsueh-shu (0491/1331/1859) and YUEH Kuo-ts'ui (1471/0948/4733) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 266-268, a note.

"Electrical Properties of Heat-Treated Products of Polyacrylonitrile," by YANG Shih-k'un (2799/1193/1024), TENG Yun-tsu (6772/7189/4371), WANG Hai-hua (3769/3189/5478), P'AN Cheng-yao (3382/2973/1031), YEH Lan-hsin (5509/5695/2946), WU Shang-ts'ai (0702/1424/2088), and LIN Shang-an (2651/1424/1344) of the Polymer Laboratory of the Department of Chemistry, Ch'ung-shan University, pp 269-271.

"Research on Semiconductor Properties of Heat Exchange Products of Polyacrylonitrile," by YANG Hua-hui (2799/5478/1920), HUANG Mei-ch'un (7806/5019/4783), and LAI Wu-chiang (6351/0124/3068) of Anoy University, pp 272-277.

"Alternating and Direct Current Properties of Heat-Treated Products of Polyacrylonitrile," by CHANG T'ai (4545/7835) and CH'EN Shou-hsi (7115/1108/5032) of the Institute of Physics, Chinese Academy of Sciences, pp 278-279, a note.

"Preliminary Studies on the Preparation and Struction of 'Polynitriles,'" by WU Hsueh-chou (0702/1331/0719), CHU Chin-ch'ang (2612/2516/9480), and HO Ti-chieh (0149/6611/3381) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 280-285.

"Coordination Polymers: 1. The Synthesis, Heat Resistance, and Conduction Properties of Coordination Polymer Derivatives of Bis-(8-Hydroxyl Quinolines)," by TS'ENG Hsien-mou (2582/2009/6180), YU Shu-wen (0151/3219/2429), and HSU Jen-hsien (1776/0088/6343) of the Institute of Petroleum, Chinese Academy of Sciences, pp 286-295.

"Gamma Radiation Effect of Polyacrylonitrile," by LIN Nien-yun (2651/1819/5366) and CHIANG Yao-chung (5592/5069/1813) of the Institute of Atomic Energy, Chinese Academy of Sciences, and the LU Sheng-ch'ing (0712/4939/7230) of the Institute of Physics, Chinese Academy of Sciences, p 296, a note.

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"Research on Radiation Effect on Paraffin Compounds: 1. Preliminary Studies of Radiation Effect of Gamma Rays on Polyethylene," by LIU K'o-ching (0491/0344/7234), HU Kuei-hsien (5170/2710/6343), HSU Shu-chen (6079/3219/6297), HSI Yu-ch'ing (1598/5280/7230), and P'U Chih-ying (3184/1807/5391) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 297-303.

"Research on Radiation Effect on Paraffin Compounds: 2. Preliminary Studies on Radiation Oxidation of Polyethylene," by HSU Shu-chen (6079/3219/6297), HU Kuei-hsien (5170/2710/6343), and LIU K'o-ching (0491/0344/7234) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 304-307.

"Radiation Effect of Polyethylene: 1. X-ray Structural Analysis of Polyethylene and Polypropylene After Gamma-ray Radiation," by HO I (0149/3015) and LIU Tsu-ch'in (0491/4371/2953) of the Peiping Chemical Engineering Academy, pp 308-313.

"Radiation Effect of Polyethylene: 2. Research on the Thermomechanical Properties of Polyethylene Under $C1^{60}$ Gamma-Ray Radiation," by WANG K'o-ch'iang (3769/0344/1730), KUEI Tsu-t'ung (2710/4371/2717), and CHANG Shih-yu (1728/0013/3768) of the Peiping Chemical Engineering Academy, pp 314-320.

"Radiation Effect of Polyethylene: 3. Determination of Solubility of Polyethylene and Polypropylene After Gamma-Ray Radiation," by KUEI Tsu-t'ung (2710/4371/2717) and WANG K'o-ch'iang (3769/0344/1730) of the Peiping Chemical Engineering Academy, pp 321-326.

"Ultraviolet Photo-Sensitized Cross-Linking of Polyethylene: 2. Radiation Mechanism Using Benzophenone As a Photo-Sensitizing Agent," by LIANG Ying-ch'iu (2733/2503/4428), WANG Hsia-yu (3769/7309/3842), and FAN Ch'ui-ch'ang (5400/0987/2490) of the Chemistry Department, Kirin University, and by CHIANG Ping-cheng (1203/3521/2398) and CH' IEN Pao-kung (6929/0202/0501) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 327-335.

"Ultraviolet Photo-Sensitized Cross-Linking of Polyethylene: 3. Kinetic Process Using Automatic Filtering Effect As a Special Feature," by CH' IEN Pao-kung (6929/0202/0501), CHIANG Ping-cheng (1203/3521/2398), and LIAO Yu-chen (1675/3768/3791) of the Institute of Applied Chemistry, Chinese Academy of Sciences, and by LIANG Ying-ch'iu (2733/2503/4428), WANG Hsia-yu (3769/7209/3842), and FAN Ch'ui-ch'ang (5400/0987/2490) of the Chemistry Department, Kirin University, pp 336-344.

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3. The Structure of Polymers

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"Crystalline n-Hexadecyl Methacrylate," by HSU Tuan-fu (1776/4551/1133), LIU Hsueh-t'ang (0491/1331/1016), and CH' IEN Jen-yuan (6929/0086/0337) of the Institute of Chemistry, Chinese Academy of Sciences, pp 383-389.

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4. Solution Properties of Polymers

"Solvent Systems of Polymethyl Methacrylate Compounds: 5. Dependents of Characteristic Viscosity Index on End Point Distance in a Methacetate Ethanol System," by CH' IEN Jen-yuan (6929/0086/0337) and SHIH Liang-ho (2457/5328/0735) of the Institute of Chemistry Chinese Academy of Sciences, p 404, an abstract.

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"Cohesion Energy Density and Precipitation Point of Polymers," by CH'ENG Jung-shih (4453/6954/2514) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 429-431, an abstract.

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5. Physical Properties of Polymers

"Heat Effect in Tensile Process of Polyvinyl Alcohol Butyl Acetal," by YU Fu-sheng (0151/6346/3932) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 443-449.

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"Using Stress-Relax Measuring Apparatus on Rubber," by WU Jen-chieh (0702/0086/3381) of the Institute of Chemistry, Chinese Academy of Sciences, pp 476-477, a note.

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"A Comparison of the Molecular Structure and Properties of Low-Temperature Butadiene Styrene Rubber Produced in China With the Principal Butadiene Styrene Rubbers of Various Countries, No 1," by WU Hsiang-lung (0702/4382/7893) and CH'EN Shih-ch'ao (7115/1102/2600) of the Rubber Industry Research and Design Academy of the Ministry of Chemical Industry and by SHIH Liang-ho (2457/5328/0735) of the Institute of Chemistry, Chinese Academy of Sciences, pp 497-502.

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"Research on the Formation of Vertical Oriented Polyacrylonitrile Fibers," by LI Chih-kung (2621/0037/1562) and LU Chen-sheng (6424/2182/7105) of the Institute of Applied Chemistry, Chinese Academy of Sciences, pp 525-533.

FOREIGN TRAVELS AND CONTACTS

1. China and Mongolia Sign New Protocol

From 13 January to 17 January, 1964, the China-Mongolia Scientific and Technological Cooperative Implementing Organization held the second conference in Ulan Bator. Both sides investigated conditions concerning the carrying out of several types of plans since the last meeting. On 17 January 1964, China and Mongolia signed the protocol for the second Scientific and Technological Cooperative Conference.

The terms of the protocol stipulate that both sides will exchange technical personnel and scientific data in electric power, textile industry, public health, agriculture, animal husbandry, and other fields.

Representing China in the signing of the protocol was CHIANG Ts'an-ming (1728/3605/2494), Chinese Ambassador to Mongolia. Representing Mongolia was Demchig, Chairman of the Mongolian Central Council of Producer Cooperatives. Attending the signing were the Chinese Embassy counselors CHAO Chin (6392/4391), SAI Tzu-lai (6357/5261/0171), and others; for the Mongolians were Tomor, Deputy Chairman of the Committee for Economic Cooperation of the Council of Ministers; Naydansuren, First Deputy Minister of the Food Industry; and Chimiddorj, a department chief of the Ministry of Foreign Affairs. (Peiping, Jen-min Jih-pao, 19 Jan 64, p 5)

2. China, Albania Sign Cooperation Protocol

On 2 January, the governments of Albania and China signed a protocol on public health cooperation in Peiping. The protocol was signed for China by Minister of Health LI Te-ch'uan (2621/1795/0356). (Canton, Chung-kuo Hsin-wen, 4 Jan 64, p 1)

3. Prince Sihanouk Decorates Chinese Technicians

At a formal ceremony on 26 December 1963, Prince Sihanouk of Cambodia presented medals to the Chinese technicians who helped construct the Tso-ko-lei-ping /Chinese transliteration of Cambodian/ Cement Plant in Kampot Province. Of the 121 Chinese technicians who received various kinds of decorations from the Cambodian government, 33 had already completed their work and returned to China. (Canton, Chung-kuo Hsin-wen, 29 Dec 63, p 4)

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4. Chinese Student Reads Report at Soviet Metallurgical Conference

CHUANG K'ao-shuan of the Moscow Institute of Steels and Alloys read his report, "Application of Supersound for the Emulsification of Flotation Agents and Pulp Processing," at the Section on Ore Concentration of Rare and Radioactive Metals at the 17th Scientific-Technical Conference of Students at the Institute, held in Moscow on 16-18 April 1963. More than 700 students and 130 instructors, graduate students, and representatives of plants and scientific-research institutes participated in the conference. The conference was divided into 11 sections. Of the 136 reports presented, 89 were selected by the panel of judges to be read at the conference. (Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 6, 28 Nov 63, p 155)

5. Chinese Scientist Reads Report at Soviet Medical Conference

HAN Shih-tse was one of the participants to read his paper at the Seventh Scientific Session of the Institute of Poliomyelitis and Viral Encephalitis, Academy of Medical Sciences USSR, and the Belorussian Institute of Epidemiology, Microbiology, and Hygiene, devoted to the study of tick-borne encephalitis and other arboviral infections. The conference, held in Minsk in 1963, was attended by 181 participants from 28 cities in the USSR, as well as scientists from Czechoslovakia. HAN's report was one of 124 read at the conference. (Moscow, Vestnik Akademii Meditsinskikh Nauk SSSR, No 1, Jan 64, pp 89-90)

MISCELLANEOUS

Medical Facilities in Ta-hsing-an-ling

China's principal forestry region -- Ta-hsing-an-ling, Inner Mongolia, at the present time, on the average, has one doctor and one group of medical personnel to render health service to every 500 forestry workers.

In this densely wooded area, they have altogether 14 well-equipped hospitals and 90 public health stations. After 1949, more than 90 villages for workers were established, and each village had a public health station. Thirteen forestry bureaus are located in the towns in this region, and every one of them has established a hospital with staff. These hospitals altogether have almost 500 hospital beds. In the principal city of Ya-k'o-shih, there is a comparatively large hospital of Chinese traditional medicine. This hospital now has 214 hospital beds and more than 220 medical personnel.

All of the hospitals have modernized surgical equipment, including delivery beds, X-ray machines, ultrashort wave, electrocardiograms, etc. The hospitals all are able to perform surgical operations on the chest and abdomen, engage in spleen removal, etc. The Chinese Traditional Medicine Hospital in Ya-k'o-shih is able to perform lung removals, heart repair, and other difficult surgical operations.

Four recuperation stations and six retirement institutions have been established in this region. There are more than 2,000 retired workers living out their last years at this institution. (Canton, Chung-kuo Hsin-wen, 15 Jan 64, p 10)

Liberation Army Hospital Cures Otosclerosis

The People's Liberation Army general hospital has successfully cured otosclerosis by means of excision of the stapes floor. In the past year or more, this hospital has treated more than 30 cases of chronic otosclerosis in this manner. On the basis of 6 months or more of observation on 18 of the cases, normal hearing has been restored to 14 of the patients, and 3 others have shown marked improvement. (Canton, Chung-kuo Hsin-wen, 7 Jan 64, pp 4 and 5)

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BIOGRAPHIC INFORMATION

AO Chen-k'uan (2407/2183/1401), South Central Geological College; author of an article, "On a New Species of ? Sphenophyllumchangnse From the Lower Carboniferous of Changsha, Hunan." (Peiping, Ku-sheng-wu Hsueh-pao, Acta Palaeontologica Sinica, Vol 11, No 4, p 610)

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CHANG Chan-hsia (1728/1455/7209); author of an article, "Atomic Absorption Spectroanalysis." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 7, Jul 63, pp 52-54)

CHANG Chien, Leningrad University; coauthor with K. I. Zherebtsova, V. F. Litvin, and Yu. A. Nemilov of article, "Absolute Differential Cross-Section Measurements of Al²⁷ (d,p) Al²⁸ Reaction Products," in Russian; received for publication on 25 March 1963. (Leningrad, Vestnik Leningradskogo Universiteta, No 22, Seriya Fiziki i Khimii, No 4, 2 Dec 63, pp 63-67)

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CHANG Ta-wei (1728/1129/3555), deputy director of Kwangtung Provincial Academy of Agricultural Science. (Canton, Yang-ch'eng Wan-pao, 13 Oct 63, p 1)

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CHANG Yung-lu (1728/3057/4389); author of an article, "Huckel's Role in the Monocyclic Nonbenzenoid Aromatic Systems." (Peiping, Hua-hsueh T'ung-pao [Chemistry Bulletin], No 6, Jun 63, pp 38-46)

CHAO Chiu-chang (6392/0046/45/45), member of a Departmental Committee, Chinese Academy of Sciences; author of an article, "Progress on the Investigation of Solar Winds, Space Magnetic Fields, and Low Energy Electrified Particles." The author used 38 references for this paper. (Peiping, K'o-hsueh T'ung-pao, No 11, 1963, pp 9-18)

CHAO Shan-huan (6392/0810/2970), vice-president of South China Agricultural College. (Kwangtung, Nan-fang Jih-pao, 10 Dec 63, p 3)

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CH'EN Jung (7115/2837); author of an article, "Some Aspects of Chemisorption." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 7, Jul 63, pp 18-24)

CH'EN Jung-chao (7115/3057/0340); author of an article, "Complexometric Titration of Calcium." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 8, Aug 63, pp 33-38)

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CH'I T'ien-Mao, co-author with M. Ye. Sukhareva, L. Ya. Zakstel'skaya, L.A. Berzina, Ye. A. Linyayeva, and N. L. Trivus of article, "The Effect of Respiratory Virus Infections During the Course of Gastrointestinal Diseases in Children," in Russian, first published in Voprosy Okhrany Materinstva i Detstva, No 7, 1963, pages 3-7. (Moscow, Meditsinskiy Referativnyy Zhurnal, Sec 3, No 1, Jan 64, p 15)

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- CH'IN Ssu-p'ing (4440/1835/1627), second secretary of the Party Committee, South China Engineering College. (Canton, Yang-ch'eng Wan-pao, 8 Dec 63, p 1)
- CHOU Wei-shan (0719/4850/0810); author of an article, "Intramolecular Free Radical Substitution in Steroids." (Peiping Hua-hsueh T'ung-pao /Chemistry Bulletin/, No 6, Jun 63, pp 1-18)
- CHU Chao-liang (2612/0340/5328), Institute of Soils, Chinese Academy of Sciences; author of an article, "Changes of Nitrogen Status in Soil." (Peiping, T'u-jiang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, pp 328-338)
- CHU Fu-t'ang (6175/4395/2768), director of Institute of Pediatrics, Chinese Academy of Medical Sciences. (Peiping, Pei-ching Jih-pao, 25 Nov 63, p 2)
- CHU P'ei-jen (2612/1014/0088), Plant Physiology Teaching and Research Section, Nanking Agricultural College; author of an article "Logical Experiments on 'Colony' and 'Colony Physiology.'" The author used 21 references for this paper, of which 20 were Chinese references dating from 1959 to 1963 and one Russian reference dated 1925. (Peiping, K'o-hsueh T'ung-pao, No 11, Nov 63, pp 31-38)
- CHU Tzu-hsi (2612/1311/4762); author of an article, "Several Questions on the Correspondence Principle." (Peiping, K'o-hsueh T'ung-pao, No 11, Nov 63, pp 28-30)
- CHU Wei-ch'i (2612/1983/4388)
HSIEH Ta-yeh (6200/1129/2814)
Both of Oncology Teaching and Research Section, Shanghai First Medical College; coauthors of an article, "Bilateral Mammary Cancer." (Peiping, Chung-hua Wai-k'o Tsa-chih /Chinese Journal of Surgery/, Vol 11, No 9, Sep 63, pp 706-708)

C-O-N-F-I-D-E-N-T-I-A-L

CHUNG Kuo-kuang (6945/0948/0342), director of Canton Municipal Institute of Chemical Engineering. (Canton, Nan-fang Jih-pao, 10 Dec 63, p 3)

FAN Ch'eng-tien (5400/2052/0368), Institute of Antibiotics, Chinese Academy of Medical Sciences, Peiping; author of an article, "Bio-synthesis of Griseofulvin." (Peiping, Yao-hsueh Hsueh-pao Acta Pharmaceutica Sinica, Vol 10, No 8, Aug 63, pp 514-518)

FANG Tu (2455/6757)

YANG Lu-chun (2799/7216/2504)

Both in Central Nervous System, Tientsin Medical University co-authors of an article, "Amoebic Abscess." (Peiping, Chung-hua Wai-k'o Tsa-chih Chinese Journal of Surgery, Vol 11, No 9, Sep 63, pp 723-724)

FENG Kuang-hsi (7458/0342/3556); author of an article, "Preparation of Fatty Acids by the Radiation-Oxidation of Paraffins." (Peiping, Hua-hsueh T'ung-pao, Chemistry Bulletin No 6, Jun 63, pp 47-50)

HO Mao-chih (0149/5399/5347)

CHANG Shih-lin (1728/4258/7792)

Both of Department of Pharmacy, Peking Medical College; coauthors of an article, "The Application of Rheology in Pharmacy." (Peiping, Yao-hsueh Hsueh-pao Acta Pharmaceutica Sinica, Vol 10, No 7, Jul 63, pp 442-449)

HO Pai-lin (6320/2672/2651)

CHANG Hsin (1728/2500)

CHIN Ping (7246/0393)

All associates in Anesthesiology, People's Liberation Army General Hospital; coauthors of an article, "The Use of Muscle Relaxants in Pediatric Anesthetiation." (Peiping, Chung-hua Wai-k'o Tsa-chih Chinese Journal of Surgery, Vol 11, No 9, Sep 63, pp 752-754)

HSIA Pang-ying (1115/6721/7336), Institute of Zoology, Chinese Academy of Sciences; author of an article, "Analysis of Free Amino Acids in Royal Jelly." (Peiping, K'ung-ch'ung Hsueh-pao Acta Entomologica Sinica, Vol 12, No 4, Sep 63, pp 519-521)

HSIA Ting (1115/7844) Probably the same as HSIA Nai (1115/7845), Director of the Institute of Archaeology, Chinese Academy of Sciences. Born 1910 in Wen-chou, Chekiang Province; educated at

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Tsinghua University and the University of London; in 1935, he worked on archaeological excavations in Egypt and Palestine and, after returning to China, directed excavations at Tun-huang, Yao Hsien, and Ch'ang-sha; has worked as a professor at Chekiang University and Peiping University; in 1950, he was appointed deputy director of the Institute of Archaeology; his principal writings include a report on the Yao Hsien excavations (1956), a report on the Ch'ang-sha excavations (1957), K'ao-ku-hsueh Chi-ch'u / Foundations of Archaeology (1958), K'ao-ku-hsueh Lun-wen Chi / Collection of Papers on Archaeology (1962), and Hsin Chung-kuo ti K'ao-ku-hsueh Shang ti Ch'eng-kuo / Archaeological Accomplishments of New China (1961). (Tokyo, Ajia Keizai Jumbo, No 556, 1 Nov 63, p 22)

HSIEH Kuang-hua (6200/0342/5478); author of an article, "Application of Thermogravimetric Technique and Differential Thermal Analysis in the Study of Reaction Kinetics." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 6, Jun 63, pp 27-30)

HSIUNG Yeh-ch'i (3574/5509/1142), Institute of Forestry and Soils, Chinese Academy of Sciences; author of an article, "Podsol Formation or Gley Formation? -- A Discussion With CHANG Wan-ju (1728/5502/0320) on the Problem of Soil Formation in Fir Tree Forests in the Southwestern Forest Regions of China." (Peiping, T'u-jiang Hsueh-pao (Acta Pedologica Sinica), Vol 11, No 3, Sep 63, pp 325-327)

HSU Ch'ing-wen (6079/3237/2429); author of an article, "Direct Hydration of Olefins." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 6, Jun 63, pp 19-26)

HSU Lung-tao, Physics Institute imeni P. N. Lebedev, Academy of Sciences USSR; coauthor with G. F. Zharkov of two articles, "Hollow Superconducting Cylinder With Current in a Magnetic Field" and "Magnetic Moment of a Hollow Thin-Walled Superconducting Sphere," in Russian; received for publication on 4 May 1963 and 15 May 1963, respectively. (Sverdlovsk, Akademiya Nauk SSSR, Fizika Metallov i Metallovedeniye, Vol 16, No 6, Dec 63, pp 820-826 and 926)

HSU Tuan-fu (1776/4551/1133)

CH' IEN Jen-yuan (6929/0086/0337)

Both of Institute of Chemistry, Chinese Academy of Sciences; co-authors of an article, "Recrystallization of Polyamides." The authors used 16 references for this paper. (Peiping, K'o-hsueh T'ung-pao, No 11, Nov 63, pp 48-50)

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HSU Tuan-fu (1776/4551/1133)

CH' IEN Jen-yuan (6929/0086/0337)

Both of Institute of Chemistry, Chinese Academy of Sciences; co-authors of an article, "Recrystallization of Polyamides." The authors used 16 references for this paper. (Peiping, K'o-hsueh T'ung-pao, No 11, Nov 63, pp 48-50)

HUANG Chih-hsi (7806/5268/0823); author of an article, "The Use of Terpenes in the Synthesis of Perfumes." (Peiping, Hua-hsueh T'ung-pao [Chemistry Bulletin], No 7, Jul 63, pp 9-17)

HUANG Chih-yun (7806/1847/0461), associate in Neurosurgery, Second Hospital of Chekiang Medical University; author of an article, "Brain Abscess," which was prepared under the guidance of Prof CHU Yen (2612/8746). (Peiping, Chung-hua Wai-k'o Tsa-chih [Chinese Journal of Surgery], Vol 11, No 9, Sep 63, pp 719-722)

HUANG Huan-ch'iu (7806/3562/4428), president, Chi-nan University. (Canton, Yang-ch'eng Wan-pao, 8 Dec 63, p 1)

JUI Yao-chun (5360/5069/0193); author of an article, "New Data on Volcanic Activity of the Quaternary Period in the Hupeh-Honan Region." (Peiping, K'o-hsueh T'ung-pao, No 11, Nov 63, p 57)

K' O Lin (2688/7792), president of Chung-shan Medical College. (Canton, Nan-fang Jih-pao, 10 Dec 63, p 3)

KU Chen-chao (7357/7201/3390), Deputy Chief of the Meteorological Laboratory, Institute of Geophysics, Chinese Academy of Sciences; professor at China University of Science and Technology; member of the board of directors, Meteorological Society of China. (Tokyo, Ajia Keizai Jumbo, No 556, 1 Nov 63, p 22)

KU T' i-jen (7357/1912/0086); author of an article, "Field Emission Microscope and Field Ionization Microscope." (Peiping, Hua-hsueh T'ung-pao [Chemistry Bulletin], No 8, Aug 63, pp 39-44)

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KUNG Shu-mo (7895/2885/2875); author of an article, "The Dual Problem of Distances of Anagalactic Star Systems — a Great Controversy in Modern Astronomy." (Peiping, K'o-hsueh T'ung-pao, No 11, Nov 63, pp 20-23)

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Dislocations (with report of 16 cases)." (Peiping, Chung-hua Wai-
k'o Tsa-chih /Chinese Journal of Surgery/, Vol 11, No 10, Oct 63,
pp 821-823)

LEI Tsung-yueh (7191/1350/1471), deputy director of Canton Municipal
Institute of Agricultural Research. (Canton, Nan-fang Jih-pao,
10 Dec 63, p 3)

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Coauthors of an article, "Appreciation of Obukhova's Technique
in Unilateral Cleft Lip Repair." (Peiping, Chung-hua Wai-k'o
Tsa-chih /Chinese Journal of Surgery/, Vol 11, No 10, Oct, 63,
pp 824-826)

LI Chia-chu (2621/1367/7467)

FU P'ing-ch'iu (0265/1627/4428)

Coauthors of an article, "Relationship Between Calcarerous Crystal
Deformation and Its Thermoluminescence." (Peiping, K'o-hsueh
T'ung-pao, No 11, Nov 63, pp 58-60)

LI Hsing-fang (2621/2622/5364)

WANG Chih-tseng (3769/1807/1073)

WANG Chu-wu (3769/7263/2976)

CH'IN Jui-yu (4440/3843/6877)

All associates in Anesthesiology, Kuang-tz'u Hospital of Shanghai
Second Medical College; coauthors of an article, "Use of Halothane

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for Controlled Hypotension," which describes two methods of administering the drug as presented in the literature and mentions the authors' experiences with two cases. (Peiping, Chung-hua Wai-k'o Tsa-chih [Chinese Journal of Surgery], Vol 11, No 10, Oct 63, pp 787-788)

LI Hsun (2621/5651), member of a Departmental Committee, Chinese Academy of Sciences; author of an article, "Several Trends of Work in Metallurgical Research." (Peiping, K'o-hsueh T'ung-pao, No 11, Nov 63, pp 1-8)

LIN Yen-chen (2651/6056/4631)

YU Pao-ming (6735/1405/6900)

Both associates in Surgery, Kuang-tz'u Hospital of Shanghai Second Medical College; coauthors of an article, "Recent Advances in Pathogenesis of Shock," which is a review of 66 current English-language references. (Peiping, Chung-hua Wai-k'o Tsa-chih [Chinese Journal of Surgery], Vol 11, No 9, Nov 63, pp 755-761)

LIU Han-ming (0491/3352/2494)

LING Kuei-hung (0407/6311/5725)

Coauthors of an article, "Synthesis of Methanol From Carbon Dioxide and Hydrogen." (Peiping, Hua-hsueh T'ung-pao [Chemistry Bulletin], No 6, Jun 63, pp 51-54)

LIU P'ei-t'ang (0491/1014/2768)

LIU Hsueh-k'uan (0491/1331/1401)

Both associates in Osteology, First People's Hospital of Ch'i-ning Special District, Shantung Province; coauthors of an article, "Rupture of Lumbar Disc Fibrous Ring With Clinical Manifestations of Cauda Equina Syndromes (with Report of Three Cases)" (Peiping, Chung-hua Wai-k'o Tsa-chih [Chinese Journal of Surgery], Vol 11, No 9, Sep 63, pp 736-738)

LIU Ping-sen (0491/3521/2773), associate in Surgery, First Hospital of Chang-chia-k'ou Special School of Medicine; author of an article, "Report of Two Cases of Familial Mesenteric Giant Fibroma." (Peiping, Chung-hua Wai-k'o Tsa-chih [Chinese Journal of Surgery], Vol 11, No 10, Oct 63, p 782)

C-O-N-F-I-D-E-N-T-I-A-L

LIU Ta-chuang (0491/1129/1104)

WANG Fu-an (3769/4395/1344)

MA Chen-nan (7456/7201/0589)

Coauthors of an article, "Nomographic Method in the Determination of Specific Surface of Porous Substances by Absorption in Flow Systems." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 6, Jun 63, pp 59-60)

LIU Wen-po (0491/2429/0130); author of an article, "Routes for Searching Semiconducting Materials." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 7, Jul 63, pp 45-51)

LO K'ai-li (2867/7030/4409)

YANG Te-hsing (2799/1795/7451)

WANG Ch'ung-k'un (3769/3890/3824)

All of Department of Pharmacology, Yunnan Institute of Medical Plants, Kunming; coauthors of an article, "The Pharmacology of Craibiodendron Stellatum: Antiphlogistic Effect and Action on Adrenal Function." (Peiping, Yao-hsueh Hsueh-pao Acta Pharmaceutica Sinica, Vol 10, No 8, Aug 63, pp 507-509)

LU K'o-chia (7120/0344/1367)

P'IO Hsi-san (2613/4406/0005)

Coauthors of an article, "Paper Chromatographic Separation of Aromatic Guanidine Derivatives." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 8, Aug 63, p 62)

LU Ming-lien (7120/2494/1670)

LIU Ta-ch'un (0491/1129/2797)

CH'IN Chih-ling (4440/5347/3781)

All of Analytical Chemistry Teaching and Research Section, Department of Pharmacy, Shanghai First Medical College; coauthors of an article, "Determination of Ca^{++} , Ba^{++} , Mg^{++} , Al^{+++} , Cr^{+++} , Zn^{++} , Fe^{+++} , Pb^{++} , Bi^{+++} , Hg^{++} , Cu^{++} by EDTA Titration Using Cu-PAN System." (Peiping, Yao-hsueh Hsueh-pao Acta Pharmaceutica Sinica, Vol 10, No 7, Jul 63, pp 436-441)

LUNG Shih-hsiung (7893/0013/7160), president of Kwangtung Teachers College. (Canton, Yang-ch'eng Wan-pao, 8 Dec 63, p 1)

C-O-N-F-I-D-E-N-T-I-A-L

MA Ch'ang-kuei, engineer at the Institute of Electromechanics, Moscow; author of article, "Three-Phase Relay of the Direction of Current and Power on the Hall Effect With Stabilization of Polarizing Voltages," in Russian; received for publication on 14 January 1963. (Minsk, Izvestiya Vysshikh Uchebnykh Zavedeniy, Energetika, No 11, Nov 63, pp 7-12)

MAI Jui-kuang (7796/3843/0342)

CH'EN Ch'iu-jan (7115/8002/3544)

Both of the Anesthesiology Group, Municipal Hospital of Chung-shan Medical College Fort Bayard Branch; coauthors of an article, "Method for Making a Homemade Pediatric Tracheotomy Tube for Use With Anesthesia." (Peiping, Chung-hua Wai-k'o Tsa-chih Chinese Journal of Surgery, Vol 11, No 10, Oct 63, p 788)

NING Ch'ien-fu (1380/0051/1133)

CH'EN Ming-kuan (7115/2494/3828)

Both associates in Surgery, Chungking Third People's Hospital; coauthors of an article, "Report of Experiences in Operative Treatment of Duodenal Ulcers With Massive Bleeding." (Peiping, Chung-hua Wai-k'o Tsa-chih Chinese Journal of Surgery, Vol 11, No 9, Sep 63, p 715)

PAI Kuang-pi (4101/0342/1732); author of an article, "Chromatographic Separation of Beryllium." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 8, Aug 63, pp 51-55)

PANG Chung-cheng, coauthor with Ye. M. Dobrynin of the new book "Voprosy Dinamicheskoy Tochnosti Priborov Avtomaticheskogo Kontrolya Razmerov Problems on Dynamic Precision of Instruments With Automatic Gage Control," in Russian; 248 pages; published by the State Scientific-Technical Publishing House of Machine Building Literature, Moscow, 1963. (Moscow, Vestnik Mashinostroyeniya, No 12, Dec 63, p 87)

SHAO Ling-fang (0605/0109/2455)

HUANG Kua-chun (7806/0948/0193)

LO Hsiao-hui (2867/2400/5057)

All of Suburban Hospital, Chinese Academy of Medical Sciences; coauthors of an article, "Nonspecific Esophagobronchial Fistula." (Peiping, Chung-hua Wai-k'o Tsa-chih Chinese Journal of Surgery, Vol 11, No 10, Oct 63, pp 827-830)

C-O-N-F-I-D-E-N-T-I-A-L

SHE Szu-ming (0152/1835/2494); author of an article, "High Purity Silicon From Silanes." (Peiping, Hua-hsueh T'ung-pao [Chemistry Bulletin], No 8, Aug 63, pp 45-50)

SHEN Yuan-chung (3088/6678/0112)

CH'EN Hsia-feng (7115/1115/0023)

HUANG T'ang (7806/0781)

All associates in Thoracic Surgery, Second Hospital of Wuhan Medical College; coauthors of an article, "Review of Stage Delineation and Treatment of Cardiospasm." (Peiping, Chung-hua Wai-k'o Tsa-chih [Chinese Journal of Surgery], Vol 11, No 9, Sep 63, pp 742-744)

SUN I-hui (1327/5030/6540)

WANG Ch'ung-chiu (3769/6850/0046)

CHANG Ling (1728/3781)

All associates in Surgery, Chia-hsing Second Hospital; coauthors of an article, "Report of a Case of a Wandering Spleen in the Testis." (Peiping, Chung-hua Wai-k'o Tsa-chih [Chinese Journal of Surgery], Vol 11, No 9, Sep 63, p 732)

SUN Ta-chin (1327/1129/6855)

CHANG Hsiao-hsien (1728/1420/0341)

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Coauthors of an article, "Anesthesia for Thymectomy in the Treatment of Myasthenia Gravis." (Peiping, Chung-hua Wai-k'o Tsa-chih [Chinese Journal of Surgery], Vol 11, No 10, Oct 63, pp 789-791)

SUNG Fu-lin (1345/4395/7792)

JEN Kuo-chih (0117/0948/2535)

Both associates in Surgery, First People's Hospital, Ninghsia Uighur Autonomous Ch'u; coauthors of an article, "Anesthesiology for Operative Treatment in Hyatidosis." (Peiping, Chung-hua Wai-k'o Tsa-chih [Chinese Journal of Surgery], Vol 11, No 9, Sep 63, p 729)

T'AN Hui-ying (6223/1920/5391)

SUN Ch'ih-chou (1327/7459/1352)

LU Nai-ch'eng (0712/6621/6134)

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KAO Chung-shan (7559/0022/1472)

LIAO Ta-ch'eng (1675/1129/2052)

All associates in Anesthesiology, Peiping Sino-Soviet Friendship Hospital; coauthors of an article, "Peridural Anesthesia With Plombage," which analyzes 202 instances within the authors' experience. (Peiping, Chung-hua Wai-k'o Tsa-chih /Chinese Journal of Surgery/, Vol 11, No 10, Oct 63, pp 799-801)

TENG Nai-feng (6772/6621/1409)

WANG Lun-hui (3769/4358/6540)

CHANG I-hui (1728/3015/6540)

All associates in Anesthesiology, Third Clinical College, Kirin Medical University; coauthors of an article, "Preliminary Study of Light Anesthesia With Ether." (Peiping, Chung-hua Wai-k'o Tsa-chih /Chinese Journal of Surgery/, Vol 11, No 10, Oct 63, pp 802-804)

TS'AO Lu-sheng (2580/7773/4563)

YU Ch'ing (0060/1987)

Coauthors of an article, "Survey of the Distribution of Clostridium welchii in Operating Rooms and Delivery Rooms," which reports a survey of hospitals in an unspecified city. (Peiping, Chung-hua Wai-k'o Tsa-chih /Chinese Journal of Surgery/, Vol 11, No 10, Oct 63, pp 840-841)

TS'ENG Ch'i-ming (2582/2790/2494); author of an article, "Alternating Current Polarography." (Peiping, Hua-hsueh T'ung-pao /Chemistry Bulletin/, No 7, Jul 63, pp 35-44)

TU Kung-huan (2629/0501/3562), Physics Department, Nanking University; author of an article, "On the Theory of Sound Absorption in Chemical Mediums." (Peiping, Wu-li Hsueh-pao /Acta Physica Sinica/, Vol 19, No 11, Nov 63, pp 767-769)

TUAN Suan-miao, coauthor with S. Ya. Gaydamovich of article, "Peculiarities of the Hemagglutinating Properties of the Japanese Encephalitis Virus Reproducing in a Chick Fibroblast Culture," in Russian; first published in Voprosy Virusologii, No 4, 1963, pages 400-403. (Moscow, Meditsinskiy Referativnyy Zhurnal, Sec 3, No 1, Jan 64, p 14)

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- TUNG Fang-ch'un (5516/2455/2504), associate in Osteology, Third Hospital of Peiping Medical College; author of an article, "The Use of Terminal Denervation for Treatment of Persistent Pain in the Heel." (Peiping, Chung-hua Wai-k'o Tsa-chih Chinese Journal of Surgery, Vol 11, No 9, Sep 63, pp 730-732)
- T'UNG Pin (0104/2430), Employees' Hospital of Ch'ing-t'ung-hsia, Ninghsia Province; author of an article, "Report of a Case of a Large Superior Mesenteric Angioma Complicating Total Intractable Jejuno-ileal Obstruction." (Peiping, Chung-hua Wai-k'o Tsa-chih Chinese Journal of Surgery, Vol 11, No 10, Oct 63, p 820)
- WANG Chen-kang (3769/2182/4854), Pharmacology Teaching and Research Section, China Medical University, Peiping; author of an article, "The Present Status of Molecular Pharmacology." (Peiping, Yao-hsueh Hsueh-pao Acta Pharmaceutica Sinica, Vol 10, No 7, Jul 63, pp 450-454)
- WANG Feng-lin (3769/7364/7792)
HO Chen-ch'un (0149/2192/2504)
Both in Surgery, Hsien-shui-ku Hospital, Tientsin; coauthors of an article, "Report of a Case of Anaphylactic Shock Due to Intravenous Administration of Aureomycin." (Peiping, Chung-hua Wai-k'o Tsa-chih Chinese Journal of Surgery, Vol 11, No 9, Sep 63, p 722)
- WANG Hsien-k'ai (3769/2009/2818), Department of Pharmacy, Szechuan Medical College; author of an article, "A New Countercurrent Distribution Apparatus." (Peiping, Yao-hsueh Hsueh-pao Acta Pharmaceutica Sinica, Vol 10, No 8, Aug 63, pp 510-513)
- WANG Nai-yen
CH'EN Ling-yen
Both affiliated with the Joint Institute of Nuclear Research; coauthors with I. Vizi, V. N. Yefimov, E. N. Karzhavina, Kim Hi Son, A. B. Popov, L. B. Pikel'ner, M. I. Pshitula, T. Stadnikov, E. I. Sharapov, I. I. Shelontsev, N. Yu. Shirikova, and Yu. S. Yagvitskiy of article, "Investigation of Neutron Resonances in Rh¹⁰³" in Russian; received for publication on 1 June 1963. (Moscow, Akademiya Nauk SSSR, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 45, No 6, Dec 63, pp 1743-1753)

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WANG Shou-wu (3769/1343/2976), Ph.D., 1949, Boston University; Deputy Director of the Institute of Semiconductors, Chinese Academy of Sciences. (Tokyo, Ajia Keizai Junpo, No 556, 1 Nov 63, p 22)

WANG Ssu-chin, graduate student at the Moscow Geological-Prospecting Institute imeni S. Ordzhonikidze; author of article, "Quantitative Estimate of Crumpling Rock for Engineering-Geological Purposes," in Russian. (Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Geologiya i Razvedka, No 1, Jan 64, pp 99-108)

WANG Te-pao (3769/1795/1405); author of an article, "Chemical Mechanism of Heredity." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin No 8, Aug 63, pp 1-9)

WANG Wen-yun (3769/2429/7301); author of an article, "Nuclear Magnetic Resonance in Polymer Studies." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 7, Jul 63, pp 25-34)

WU Chao-lin, coauthor with A. V. Kozlova of article, "Distribution of the Dose Field in Distance Gamma-Therapy of Malignant Nasopharyngeal Tumors," in Russian; first published in Meditinskaya Radiologiya No 8, 1963, pages 3-10. (Moscow, Meditsinskiy Referativnyy Zhurnal, Section VI, No 1, Jan 64, p 23)

WU Shih-k'ang (0702/0013/1660)

CHANG Yu-chen (1728/3768/2182)

Coauthors of an article, "Thermomechanical Studies on Thermosetting Resins: II. Thermomechanical Curves of Epoxy Resins Hardened by Phthalic Anhydride." (Peiping, Hua-hsueh T'ung-pao Chemistry Bulletin, No 8, Aug 63, pp 56-58)

WU Tsu-yao (0702/4371/1031)

T'AN Fu-sheng (6223/1381/3932)

Both in Osteology, Surgery Teaching and Research Section, Chungking Medical College; coauthors of an article, "Studies on the Causes of Spontaneous Dislocations of the Cervical Spine." (Peiping, Chung-hua Wai-k'o Tsa-chih Chinese Journal of Surgery, Vol 11, No 9, Sep 63, pp 716-718)

YANG Tsan-hsi (2799/6363/3538); author of an article, "Some Problems on the Measurement of Apparent Integrated Intensity in Infrared Spectra." (Peiping, Hua-hsueh T'ung-pao, Chemistry Bulletin, No 6, Jun 63, pp 55-58)

C-O-N-F-I-D-E-N-T-I-A-L

YAO Ping-li (1202/4426/4409), Surgery Teaching and Research Section, Sinkiang Medical College; author of an article, "Diaphragmatic Hernia." (Peiping, Chung-hua Wai-k'o Tsa-chih /Chinese Journal of Surgery/, Vol 11, No 10, Oct 63, p 842)

YEH Ju-chiu, Leningrad University; coauthor with I.A. Tserkovnitskaya of article, "Amperometric Titration of Thorium With Two Platinum Electrodes," in Russian; received for publication on 26 October 1962. (Leningrad, Vestnik Leningradskogo Universiteta, No 22, Seriya Fiziki i Khimii, No 4, 2 Dec 63, pp 168-171)

YEN Ts'eng-shou (6768/2582/4849); author of an article, "Present Status and Recent Progress in Silicone Oil." (Peiping, Hua-hsueh T'ung-pao /Chemistry Bulletin/, No 6, Jun 63, pp 31-37)

YIN Hung-chan (3009/1347/4545); author of an article, "Mechanism of Photosynthesis." (Peiping, Hua-hsueh T'ung-pao /Chemistry Bulletin/, No 7, Jul 63, pp 1-8)

YU Hsiang-jung (6735/0686/2837)

TUAN Hui (3008/1920)

Coauthors of an article, "A Rapid Method for Microdetermination of Iodine in Organic Compounds - Mercurimetry." (Peiping, Hua-hsueh T'ung-pao /Chemistry Bulletin/, No 7, Jul 63, pp 55-58)

YU Nan (0060/2809)

LI Yung-ch'un (2621/3057/2504)

AN Jo-k'un (1344/5387/1507), all of Tientsin First Municipal Tuberculosis Hospital

CHANG T'ien-hui (1728/1131/1920)

CHENG Wen-hui (6774/2429/1798), both of Tientsin Second Central Hospital

CHAO Ho-yen (6392/2429/6056), Tientsin Medical College Hospital

Coauthors of an article, "Spontaneous Rupture of Esophagus (Report of 13 Cases)." (Peiping, Chung-hua Wai-k'o Tsa-chih /Chinese Journal of Surgery/, Vol 11, No 10, Oct 63, pp 817-820)

YU T'ien-lin (0358/1131/7792)

LIU Te-fu (0491/1795/4395)

CHANG Hui-jun (1728/1920/0088)

CHANG Hua-lin (1728/5478/7792)

All associates in Urology, Lan-chou Army General Hospital; coauthors of an article, "Observations on Bladder Function Following Sigmoidocystoplasty." (Peiping, Chung-hua Wai-k'o Tsa-chih /Chinese Journal of Surgery/, Vol 11, No 9, Sep 63, pp 739-741)

C-O-N-F-I-D-E-N-T-I-A-L

CHANG Keng-sheng (1728/2577/3932), author of an article, "Further Steps in the Development of Hydrogeological Work in the Mining Areas." (Peiping, Chung-kuo Ti-chih [Chinese Geology], No 2, Feb 63, pp 12-15).

CHAO I (6392/0001), Special School of Medicine, Nan-ning, Kwangsi Province; author of an article, "Report on Experimental Observations of the Antimalarial Action of Common Speedwell." The experiments reported-ly were conducted, while the author was with the Pharmacology Teaching and Research Section of the Second Military Medical University and under the Supervision of Prof T'AN Shih-chieh (6223/0013/2638). Samples of the drug plant were provided by Prof LI Ch'eng-hu (2621/2110/4375) of the same university. (Peiping, Chung-i Tsa-chih [Chinese Traditional Medical Journal], No 8, Aug 63, pp 21-11)

CH'UI Shih-ch'eng (6726/0013/2052), Yu-shan Hospital, K'un-shan Hsien, Kiangsu Province; author of an article, "Report on the Treatment of 60 Cases of Photoerythema Due to Astragalus sinicus Linn." (Peiping, Chung-i Tsa-chih [Chinese Traditional Medical Journal], No 6, Jun 63, pp 23-24)

HSING K'uei-te (6580/1145/1795); author of an article, "Several Problems Encountered During the Hydrogeological Investigation of the Karst-type Mineral Deposits." (Peiping, Chung-kuo Ti-chih [Chinese Geology], No 2, Feb 63, pp 16-20)

HSU Kuei-sen (6079/6311/2773); author of an article, "A Few Ways of Considering the Research Problems of Seepage in Water Reservoir Dams." (Peiping, Chung-kuo T'i-chih [Chinese Geology], No 6, Jun 63, pp 26-32)

HU Ch'ang-lin (5170/7022/7792), author of an article, "Methods of Making Hydrogeological Calculations From Data on Water Table Conditions." (Peiping, Chung-kuo Ti-chih [Chinese Geology], No 2, Feb 63, pp 21-33)

HUA Mou (5478/6180), author of an article, "Several Problems Involving the Control of Planned Targets of Geological Teams." (Peiping, Chung-kuo T'i-chih [Chinese Geology], No 6, Jun 63, pp 9-11)

C-O-N-F-I-D-E-N-T-I-A-L

- KAO Shih-hsien (7559/1102/6341), Chinese Traditional Pharmacy Teaching and Research Section, Ch'ang-ch'un Chinese Traditional Medical College; author of an article, "The Drug Plants, *Arbus precatorius* L. and *Phaseolus mungo* L. var. *Subtrilobata*." (Peiping, Chung-i Tsa-chih Chinese Traditional Medical Journal, No 6, Jun 63, p 28)
- KUNG Chen (7895/7201), author of an article, "Comparative Study of Intrusion of Accessory Minerals in Rocks in Kwangtung Province." (Peiping, Chung-kuo T'i-chih Chinese Geology, No 6, Jun 63, pp 12-18)
- KUO Wen-k'uei (6753/2429/7608); author of an article, "On Direction of Ore Prospecting and Procedures for Developing China's Copper Sand-Shale Mines." (Peiping, Chung-kuo Ti-chih Chinese Geology, No 2, Feb 63, pp 2-11)
- LI Chang-ta (2621/4545/1129)
HUANG Yu-te (7806/2589/1795)
CHOU Hsueh-yu (0719/1331/4416)
Coauthors of an article, "Special Minerogenetic Characteristics of Anshan-Type Iron-Rich Ore Deposits in Northeast China." (Peiping, Chung-kuo T'i-chih Chinese Geology, No 6, Jun 63, pp 1-8)
- LI Chi-hsiao (2621/4949/1321)
YIN Hui-chu (1438/1920/3796)
WANG Hui-chun (3769/1920/0689)
All associates in Otorhinolaryngology, Shanghai First Municipal People's Hospital; coauthors of an article, "Report of Experiences in the Treatment of Acute Inflammation of the Throat Under the Guidance of Dr CHANG Tsan-ch'en (1728/6363/5256)." (Peiping, Chung-i Tsa-chih Chinese Traditional Medical Journal, No 8, Aug 63, pp 9-11)
- LI Hsiao-nan (2612/1420/0589), author of an article, "Clinical Experiences in Gynecology." (Peiping, Chung-i Tsa-chih Chinese Traditional Medical Journal, No 6, Jun 63, pp 14-16)
- LI Ta-hsiang (2621/6671/4382)
JEN Shih-ying (0117/0013/5391)
Both of Chinese Traditional Medicine Teaching and Research Section, Tsingtao Medical College Hospital; coauthors of an article, "Diagnosis

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and Treatment of 12 Cases of Rheumatic Fever." (Peiping, Chung-i Tsa-chih Chinese Traditional Medical Journal, No 8, Aug 63, pp 14-18)

LI T'ing-tung (2621/1694/2767); author of an article, "Basic Requirements and Topics of Geotectonic Study in Medium-Scale Regional Geological Survey Work." (Peiping, Chung-kuo T'i-chih Chinese Geology, No 6, Jun 63, pp 19-25)

LIANG Mu-chen (2733/1970/6297), associate in Radiology, Kirin Medical University; author of an article, "Observations on the Influence of Controlled Breathing and Exercise on the Kinetism of the Stomach." (Peiping, Chung-i Tsa-chih Chinese Traditional Medical Journal, No 6, Jun 63, pp 11-13)

LING Yao-hsing (0407/5069/2502), Shanghai Chinese Traditional Medical College; author of an article, "Memoirs on the National Conference for the Review of Second Revised Editions of Textbooks for Chinese Traditional Medical Colleges." (Peiping, Chung-i Tsa-chih Chinese Traditional Medical Journal, No 8, Aug 63, pp 40-41)

LO Chih-huan (5012/5268/2719), associate in Pediatrics, Honan Province People's Hospital

PAN Yen-k'un (3382/3508/0981), associate in Chinese Traditional Medicine, Honan Provincial People's Hospital
Coauthors of an article, "Report of a Case of Typhoid Fever Complicated During Convalescence by Toxic Encephalitis." (Peiping, Chung-i Tsa-chih Chinese Traditional Medical Journal, No 6, Jun 63, pp 17-18)

LU Ping-k'uei (0712/3512/1145), Chief of Office of Chinese Traditional Medicine, Ministry of Health; author of an article, "Experiences and Achievements in Organizing and Improving Chinese Traditional Medical Textbooks: Summary of National Conference for the Review of Second Revised Editions of Textbooks for Chinese Traditional Medical Colleges." (Peiping, Chung-i Tsa-chih Chinese Traditional Medical Journal, No 8, Aug 63, pp 1-4)

C-O-N-F-I-D-E-N-T-I-A-L

- SUNG Chao-yu (1345/0340/0645), Associate in Dermatology and Venereology, Old People's Hospital of Feng-feng City; author of an article, "Preliminary Observations on the Use of Beehive Ointment in the Treatment of Tuberculosis of the Skin." (Peiping, Chung-i Tsa-chih /Chinese Traditional Medical Journal/, No 6, Jun 63, pp 25, 33)
- SUNG Shao-hsien (1345/4801/0341)
KU Chi-k'an (7357/0796/1030)
CHUANG Hsi-ming (1641/3556/2494)
LAI Chan-chung (0171/0594/0022)
All of the An-shan Iron and Steel Works East Hospital; coauthors of an article, "Report on the Treatment of a Case of Thrombotic Phlebitis." (Peiping, Chung-i Tsa-chih /Chinese Traditional Medical Journal/, No 6, Jun 63, p 13)
- TING Ming-chun (0002/2494/0689), Nan-t'ung Chinese Traditional Medical Hospital; author of an article, "Case Analyses of Type-B Encephalitis." (Peiping, Chung-i Tsa-chih /Chinese Traditional Medical Journal/, No 8, Aug 63, pp 12-13)
- TUNG Ch'uan-sheng (5516/3123/5116)
WANG Shan-chen (3769/0810/3791)
PAO An-cheng (7637/1344/6927)
All of the Physiology Teaching and Research Section, Chungking Medical College.
- WU Ch'un-lan (0702/4783/5695), Chiang-p'ei Sanatorium, Chungking
CHOU Chi-hsiung (0719/4949/7164), Huang-shan Sanatorium, Chungking
All five coauthors of an article, "Studies on the Physiological Mechanism of Ch'i-kung Therapy /a system of controlled breathing and exercise/." (Peiping, Chung-i Tsa-chih /Chinese Traditional Medical Journal/, No 6, Jun 63, pp 1, 4, 8)
- WANG Chien-yeh (3769/1696/0673)
LIN Shu-heng (2651/2579/3801)
Both of Huai-hai Machinery Plant Employees Hospital; coauthors of an article, "Observations on the Effectiveness of Treatment in 32 Cases of Severe Prolapse of the Anus." (Peiping, Chung-i Tsa-chih /Chinese Traditional Medical Journal/, No 6, Jun 63, p 16)

C-O-N-F-I-D-E-N-T-I-A-L

WANG K'o-hsiang (3769/0668/4382), Associate in Acupuncture-Moxibustion, Agency Outpatients Department of the Ch'eng-tu Bureau of Railways; author of an article, "Report of Experience in Administering First-Aid Acupuncture Treatment for Penicillin Anaphylactic Shock." (Peiping, Chung-i Tsa-chih [Chinese Traditional Medical Journal, No 6, Jun 63, p 34)

WU Chieh-ch'eng (0702/0094/6134)
OHOU Kuo-hsiung (0719/0948/7160)
Both of Chinese Traditional Medicine Teaching and Research Section, Szechwan Medical College; coauthors of an article, "Analysis of 51 Cases of Carbuncle." (Peiping, Chung-i Tsa-chih [Chinese Traditional Medical Journal], No 6, Jun 63, pp 19-22)

WU Yun-hsiang (0702/0061/5046), T'ung-p'ing Commune First Outpatients Department, Swatow; author of an article, "Summary of Experiences in the Treatment of Two Cases of Meningitis." (Peiping, Chung-i Tsa-chih [Chinese Traditional Medical Journal], No 6, Jun 63, p 18)

YU Chi-jen (0358/3444/0086), Soochow Chinese Traditional Medical Hospital; author of an article, "My Appreciation of the Treatment of Cardiorrenal Asthenia." (Peiping, Chung-i Tsa-chih [Chinese Traditional Medical Journal], No 8, Aug 63, pp 16-17)

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Central Intelligence Agency



Washington, D. C. 20505

7 September 2004

Ms. Roberta Schoen
Deputy Director for Operations
Defense Technical Information Center
7725 John J. Kingman Road
Suite 0944
Ft. Belvoir, VA 22060

Dear Ms. Schoen:

In February of this year, DTIC provided the CIA Declassification Center with a referral list of CIA documents held in the DTIC library. This referral was a follow on to the list of National Intelligence Surveys provided earlier in the year.

We have completed a declassification review of the "Non-NIS" referral list and include the results of that review as Enclosure 1. Of the 220 documents identified in our declassification database, only three are classified. These three are in the Release in Part category and may be released to the public once specified portions of the documents are removed. Sanitization instructions for these documents are included with Enclosure 1.

In addition to the documents addressed in Enclosure 1, 14 other documents were unable to be identified. DTIC then provided the CDC with hard copies of these documents in April 2004 for declassification review. The results of this review are provided as Enclosure 2.

We at CIA greatly appreciate your cooperation in this matter. Should you have any questions concerning this letter and for coordination of any further developments, please contact Donald Black of this office at (703) 613-1415.

Sincerely,

A handwritten signature in black ink that reads "Sergio N. Alcivar".

Sergio N. Alcivar
Chief, CIA Declassification Center,
Declassification Review and Referral
Branch

Enclosures:

1. Declassification Review of CIA Documents at DTIC (with sanitization instructions for 3 documents)
2. Declassification Status of CIA Documents (hard copy) Referred by DTIC (with review processing sheets for each document)

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Processing of OGA-Held CIA Documents

The following CIA documents located at DTIC were reviewed by CIA and declassification guidance has been provided.

OGA Doc ID	Job Num	Box	Fldr	Doc	Doc ID	Document Title	Pub Date	Pages	Decision	Proc Date
AD0343932	78-03117A	213	1	18	5117	Scientific Information Report Chinese Science (34)	10/22/1963	89	Approved For Release	3/29/2004
AD0344702	78-03117A	214	1	21	5149	Scientific Information Report Chinese Science (35)	11/4/1963	133	Approved For Release	3/29/2004
AD0344965	78-03117A	215	1	4	5163	Scientific Information Report Chinese Science (36)	11/7/1963	133	Approved For Release	3/29/2004
AD0345229	78-03117A	215	1	23	5182	Scientific Information Report Chinese Science (37)	11/18/1963	179	Approved For Release	3/29/2004
AD0345750	78-03117A	216	1	20	5209	Scientific Information Report Chinese Science (38)	12/11/1963	174	Approved For Release	3/29/2004
AD0344419	78-03117A	217	1	20	5241	Scientific Information Report Chinese Science (39)	12/27/1963	75	Approved For Release	3/29/2004
AD0346493	78-03117A	218	1	21	5277	Scientific Information Report Chinese Science (40)	1/10/1964	115	Approved For Release	3/29/2004
AD0346725	78-03117A	219	1	27	5320	Scientific Information Report Chinese Science (41)	1/27/1964	78	Approved For Release	3/29/2004
AD0347051	78-03117A	220	1	25	5359	Scientific Information Report Chinese Science (42)	2/6/1964	78	Approved For Release	3/29/2004
AD0347849	78-03117A	221	1	39	5407	Scientific Information Report Chinese Science (43)	3/2/1964	174	Approved For Release	3/29/2004
AD0347929	78-03117A	222	1	25	5438	Scientific Information Report Chinese Science (44)	3/5/1964	104	Approved For Release	3/29/2004
AD0348352	78-03117A	223	1	20	5479	Scientific Information Report Chinese Science (45)	3/20/1964	117	Approved For Release	3/29/2004
AD0349491	78-03117A	225	1	18	5560	Scientific Information Report Chinese Science (46)	4/24/1964	118	Approved For Release	3/29/2004
AD0349657	78-03117A	225	1	34	5581	Scientific Information Report Chinese Science (47)	5/4/1964	98	Approved For Release	3/29/2004
AD0332751	78-03117A	183	1	29	3940	Scientific Information Report Electronics And Engineering (22)	10/19/1962	68	Approved For Release	3/29/2004
AD0333146	78-03117A	186	1	20	4041	Scientific Information Report Electronics And Engineering (23)	11/23/1962	73	Approved For Release	3/29/2004
AD0334103	78-03117A	188	1	37	4136	Scientific Information Report Electronics And Engineering (24)	12/20/1962	62	Approved For Release	3/29/2004
AD0334236	78-03117A	190	1	40	4217	Scientific Information Report Electronics And Engineering (25)	1/22/1963	48	Approved For Release	3/29/2004
AD0334769	78-03117A	193	1	39	4339	Scientific Information Report Electronics And Engineering (26)	2/28/1963	68	Approved For Release	3/29/2004
AD0335480	78-03117A	196	1	17	4436	Scientific Information Report Electronics And Engineering (27)	3/21/1963	95	Approved For Release	3/29/2004
AD0336306	78-03117A	199	1	2	4538	Scientific Information Report Electronics And Engineering (28)	4/25/1963	69	Approved For Release	3/29/2004
AD0332433	78-03117A	183	1	35	3946	Scientific Information Report Organization And Administration Of Soviet Science (5)	10/22/1962	60	Approved For Release	3/29/2004