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SCIENTIFIC INFORMATION REPORT

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(42)

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SCIENTIFIC INFORMATION REPORT

Chinese Science (42)

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 Acta Sinica series, consisting of 38 separate publications. A complete list of them is included (see Table of Contents). 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

YAO Ts'eng-hsu (1202/2582/1645)
CHU Ch-mei (2612/1323/5019)

"Studies on the Oncogenic Effect of the Cell-free Filtrate Prepared From a Transplantable Mouse Lymphosarcoma: I. The Polivalent Oncogenic Effect of the Cell-free Filtrate"

Peiping, Shih-yen Sheng-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 175-183

Excerpts of English Abstract: The present report deals with the finding of an oncegenic agent in the cell-free filtrate of a spontaneous transplantable mouse lymphosarcoma originally found by Mamorhha (1955). Graffits method (1956) was adopted to make this cell-free filtrate (LCFF). Its oncogenic effects had been studied with new-born animals of three species of rodents: mice of a Swiss subline, rats of a local pure strain, and golden hamsters.

(continuation of Shih-yen Sheng-wu Hsueh-pao, Vol 7, No 3, pp 175-183)

From these results and other unpublished data, we consider it very likely that the tumor-inducing agent present in our LCFF has a virus nature. It differs from Stewart and Eddy's agent and Graff's agent (BB/T_2) in one important aspect, i.e., it can manifest its polivalent oncogenic effect without the previous passage of the agent through tissue culture.

HUNG Lung-sheng (3163/7893/3932) took the photographs of the research. This work was the result of an initial survey of the oncogenic action of cell-free filtrates from many transplantable animal tumors, originally suggested by Dr J. Gimmy (Institute of Medicine and Biology, Berlin-Buch, Germany).

This paper was received for publication on 20 January 1961.

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

KU Kuo-yen (7357/0948/1750)
LU Chia-hung (0712/1367/7703)
HU Chao-ch'ing (5170/7340/1987)

"Studies on the Effect of Sarcolysine on the Transplantable Tumors of Mice"

Peiping, Shih-yen Sheng-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 185-196

Excerpts of English Abstract: It has been reported previously that the carcinostatic effect of sarcolysine could be greatly enhanced by dissolving it in the dilute hydrochloric acid (0.005 N) solution. Such enhancement in slowing down malignant growth was mainly due to the fact that sarcolysine in acid solution was more stable than it was in physiological saline. Measurement of chloride ions liberated from sarcolysine in physiological saline at 50°C gave a value more than ten times as much as that in acid solution at 20 C, and experimental results showed that the more chloride ions liberated from sarcolysine, the less would be the inhibitory effect of the drug.

(continuation of Shih-yen Sheng-wu Hsueh-pao, Vol 7, No 3, pp 185-196)

1. The carcinostatic effect of sarcolysine was greatly enhanced by dissolving it in the dilute hydiochloric acid solution; the stability of the compound in acid solution was responsible for each enhancement.

2. The inhibitory action was most pronounced by intravenous injection as compared with that by the oral administration.

3. Sarcolysine had little or no effect on the cell energy metabolism.

4. Sarcolysine acted chiefly on the desoxyrinbonuleic acid synthesis and possibly on the protein composition.

The authors express thanks to WANG Ch'iu-ta (3769/3808/6671) and P'ENG Su-fen (1756/4790/5358) for participating in the technical work.

This paper was received for publication on 25 January 1961.

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

TSAI I-ch'uan (5591/1355/2938)
KAO Shang-yin (7559/1424/5593)

"Study of the One-Step Growth Curve of Dysentery Phage Without Using Antiserum"

Peiping, Shih-yen Sheng-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 199-201

Text of English Abstract: The one-step growth curve of dysentery phage was studied by using rivanol instead of antiserum. It was found that while the burst size is different by using rivanol as compared with using antiserum, the length of the latent period is quite insistent in both cases.

The authors express thanks to YU Lan-fen (0151/5695/5358) for participating in the technical work.

This paper was received for publication on 25 January 1961.

Authors' Affiliation: Both of Wuhan Laboratory of Microbiology, Chinese Academy of Sciences.

HSIEH T'ien-en (6200/1131/1869)

"The Titration of Influenza Virus"

Peiping, Shih-yen Sheng-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 203-206

Text of English Abstract: The titration of influenza virus was studied by the tissue culture method and the method of red cell haemagglutination. The result indicates that the tissue culture method gives comparatively lower titre, but the use of this method is recommended for its accuracy.

The author expresses thanks to CH'ENG Ch'ao-pin (4453/2600/1755), HSU Ching-lin (6079/7234/2651), and HUANG Hsueh-ming (7806/1331/2494) for participating in the technical work.

This paper was received for publication on 25 January 1961.

Author's Affiliation: Wuhan Laboratory of Microbiology, Chinese Academy of Sciences.

WANG T'ien-to (3769/1131/6995)
LEI Hung-shu (7191/1347/0209)

"On the Change of Shoot Number in Plant Communities of Rice and Wheat"

Peiping, Shih-yen Sheng-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 207-224

Excerpts of English Abstract: The change of total number of shoots during the growing season of field plots of rice and wheat was studied by taking the community as a whole, with due regard to the behavior of individual plants.

There is a close correlation between the number of seedlings on unit land area and the total number of shoots (heads and panicles as well) at the time of harvest. But the differences between plots of different initial sowing or planting densities tend to diminish. In some experiments with rice where the initial planting densities differed by more than tenfold, the numbers of shoots finally attained differed by only twofold. This fact reflects the result of self-regulation of the community during its development.

(continuation of Shih-yen Sheng-wu Hsueh-pao, Vol 7, No 3, pp 207-224)

The authors express thanks to Prof YIN Hung-chang (3009/1347/4545) for his guidance and to HSI Ting-pao (1153/7844/0202) for participating in the calculations.

This paper was received for publication on 15 March 1961.

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

LEI Hung-shu (7191/1347/0209)
WANG T'ien-to (3769/1131/6995)

"The Effects of Planting Density and Nitrogen Fertilizer on the Total Shoot Number of Rice Communities"

Peiping, Shih-yen Sheng-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 226-239

Excerpts of English Abstract: The effects of different rates of planting density and of nitrogen fertilizer on the progressive change of total number of shoots (main culms and tillers) in rice communities throughout the growing season were studied.

Problems concerning the relationship between the initial rate of tiller formation per seedling and the area occupied by it, the effects of light and nitrogen fertilizer on the development of community characteristics, e.g., leaf area index and total dry matter accumulation, at different stages, and the self-regulatory ability of crop communities versus the control of their development by man are discussed in some detail.

(continuation of Shih-yen Sheng-wu Hsueh-pao, Vol 7, No 3, pp 226-239)

The authors express thanks to Prof YIN Hung-chang (3009/1347/4545) for his guidance and the HSI Ting-pao (1153/7844/0202) and HUANG Jui-hsin (7806/3843/1800) of the Institute of Plant Physiology, Chinese Academy of Sciences, and the YEH I-chen (5509/1355/6297) of the Shansi Provincial College of Agricultural Science for participating in the work.

This paper was received for publication on 20 May 1961.

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

HSUEH Sha-p'u (5641/4357/2528)
P'ANG I (1690/2034)

"Growth of the Implanted Mouse Fibrosarcoma and Its Effects on the Differentiation of Nervous Tissue of the Chick Embryo"

Peiping, Shih-yen-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 241-250

Excerpts of English Abstract: Mouse fibrosarcoma tissue, induced by methylcholanthsene and transfered more than 30 passages, was implanted into the area between the neural tube and the limb bud or between the neural tube an the somites of 1.5- to 3-day incubated Leghorn chick embryos. In some cases they were transplanted to the region where the dorsal part of the neural tube and the neural crest had been removed by excision or by local cauterization. The growth pattern of the tumor and its influence on the differentiation of the nervous tissue was studied at 2-16 days total incubation.

This paper was received for publication on 21 March 1961.

Authors' Affiliation: Both of Department of Experimental Morphology, Institute of Experimental Medicine, Chinese Academy of Medical Sciences; P'ANG, presently at Histology and Embryo Teaching and Research Section, Dairen Medical College, Port Arthur-Dairen Municipality.

T'UNG Ti-chou (4547/4574/0719)
WU Shang-ch'in (0702/1424/2014)
YEH Yu-fen (5509/3022/5358)

"Differentiation of the Prospective Ectodermal and Entodermal Cells After Transplantation to New Surroundings in Amphioxus"

Peiping, Shih-yen Sheng-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 253-259

Excerpts of English Abstract: The experiments reported here were designed to study the differentiation capacity of the prospective ectodermal and entodermal cells after they have been grafted to other presumptive areas. The grafts were stained with Nile blue sulfate, and their locations in later development were recorded for the purpose of cytological check. More than 300 cases were presented, 239 of which were studied microscopically.

This paper was received for publication on 2 April 1961.

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

T'UNG Ti-chou (4547/4574/0719)
WU Shang-ch'in (0702/1424/2014)
YEH Yu-fen (5509/3022/5358)

"Experimental Studies on the Neural Induction in Amphioxus"

Peiping, Shih-yen Sheng-wu Hsueh-pao (Acta Biologiae Experimentalis Sinica), Vol 7, No 3, Jun 61, pp 263-269

Excerpts of English Abstract: The neural induction in Amphioxus was studied by grafting various blastomeres of tissues to the blastocoel of a blastula or a young gastrula.

The results lead to the conclusion that the chordal tissue possesses the power of the neural induction, while the mesodermal and entodermal tissues did not manifest any degree of such capacity in the present experiments.

This paper was received for publication on 2 April 1961.

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

CHOU Tsu-te (0719/4371/1795)
MEI Fang (2734/2397)
WU P'ei-fang (0702/1014/2455)

"Tumor Chemotherapy: VIII. The Synthesis of Chelating Agents Related to Nitrilotriacetic Acid and Their Antimonial Derivatives"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 9, No 1, Jan 62, pp 1-5

Excerpts of English Abstract: The antimonial chelates of ethylenediaminetetra-acetic acid (II, EDTA), propylenediaminetetraacetic acid (III, PDTA), and nitrilotriacetic acid (IV, NTA) were reported (1,2) to exhibitinhibitory activities on tumors, but the antimonial chelates of cyclohexane-1,2-diaminetetra-acetic acid (1) and B-hydroxyethylaminediaceic acid (V) were found to be nonef-fective on the tumor growth in vivo. The relative stabilities of the amino polycarboxylic acid chelates of antimony were observed by Chue [1,4] to be: I > II > III > IV > V. In this connection, it was interesting to note that the antitumor activity seemed to be associated only with moderately stable chelates with antimony such as formed from PDTA-Sb and NTA-Sb.

Since the introduction of nonchelating substituents in the chelating ligand might alter the basicity of the electron donor atom [5] or might prevent the most favorable metalligand orientation [6,7], it would be advisable to prepare the amino polycarboxylic acids (VI a-f), presumably having lower stability constant, related to nitriolotriacetic acid.

(continuation of Yao-shueh Hsueh-pao, Vol 9, No 1, pp 1-5)

The authors found that the use of resin was more convenient than the conventional method of acidification with inorganic acid.

The authors express thanks to CHU Ying-ch'i (2612/2019/7784) for this valuable opinions and to KAO I-sheng (7559/1837/3932) and Prof CHI Ju-yun (1518/3067/6663) for their constructive criticism; original analyses were made by the analysis laboratory, Institute of Materia Medica, Chinese Academy of Sciences.

This paper was received for publication on 7 July 1961. A previous installment appeared in K'o-hsueh T'ung-pao, Vol 11, No 43, 1961.

Authors' Affiliation: All of Institute of Materia Medica, Chinese Academy of Sciences; WU, Shanghai Biochemical Drug Manufacturing Plant.

JEN Yun-feng (0117/7189/1496)

"Tumor Chemotherapy: IX. Nitrogen Mustards of Phosphoramide, Phosphoramide Ester and Thioester"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 9, No 1, Jan 62, pp 7-12

Text of English Abstract: Tri. -(1-aziridinyl)-phosphine oxide (I, TEPA) and 2-/bis-(2-chloroethyl)-amino/-tetrahydro-1,3,2-oxazaphospholidine-2-oxide (III, B-518) possess inhibitory action against a variety of animal tumors and have been used clinically. Recently, bis-(1-azinidinyl)-phosphiny carbamic acid ethyl ester (II, AB-100) was found to possess significant activity with low toxicity on experimental animal tumors. To examine the relationship between chemical structure and pharmacological activity, bis-(1-aziridinyl)-/bis-(1-aziridinyl)-/2-chloroethyl)-amino/-phosphine oxide (IV), nitrogen mustards of cyclic phosphoramide ester, and thioester (V & VI) were then prepared.

Compounds IV, V, and VI were prepared by treating N,N-bis-(2-chloroethyl)-phosphoramide dichloride in anhydrous dioxame or benzene with the corresponding amino-or merc to-compounds in the presence of a base such as triethylamine.

Compound IV (designated as AT-222) exhibited road entitumor effects on sarcoma 180, spindle cell sarcoma, and lymphatic leukemia in mice, as well as on Jensen sarcoma and fibrosarcoma in rat, and has been recommended for clinical trials.

(continuation of Yao-hsueh Hsueh-pao, Vol 9, No 1, pp 7-12)

This work was completed under the guidance of Prof KAO i-sheng (7559/1837/3932). Animal experiments in combating cancer were done by HSU Pin (5171/1755), CHOU Chin-hsu (0719/6855/3563), and LIANG Hui-chen (2733/1920/3791) of the Institute of Materia Medica, Chinese Academy of Sciences; micrometric analyses were done by KAO Chin-feng (7559-6855-7685), HU Chan-ti (5170/0594/6611), and JEN Yu-li (0117/5505/5461); P'AN Ch'un-ying (3382/4783/5391) and CHANG Hui-chih (1728/1979/5347) participated in the technical work.

This paper was received for publication on 3 October 1961. A part of this paper was reported at the first national scientific and technical oncology conference sponsored by the Ministry of Health in Tientsin in November 1959.

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

TENG Jung-hsien (6772/5554/0103)

"Tumor Chemotherapy: XI. Synthesis of Some a-Ketoaldehydes and Quinoxalines"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 9, No 1, Jan 62, pp 13-17

Text of English Abstract: Recent reports on antiviral compounds with a, B-dicarbonyl structure led us to prepare a number of aromatic a-ketoaldehydes (IV) and their corresponding quinoxaline derivatives (V) for screening in experimental tumors.

All of the compounds showed no inhibitory action against sarcoma 180 or Ehrlich carcinoma.

This paper was received for publication on 7 September 1961.

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

TENG Jung-hsien (6772/5554/0103)

"Tumor Chemotherapy: XII. Synthesis of Nitrogen Mustard Related to Antiarthritics"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 9, No 1, Jan 62, pp 18-22

Text of English Abstract: A number of nitrogen mustards related to antiarthritics -- antipyrin, butazolidine, and others -- have been prepared in continuation of the work reported in part II of this series of research. It was hoped that these compounds could be useful in the sense that they contained characteristic nitrogen mustard group, on the one hand, and analgetic part, on the other.

4-Aminoantipyrin (I), on treatment with ethylene oxide, formed 4-bis-(B-hydroxyethyl) aminoantipyrin (II). The latter compound was then chlorinated with phosphorous oxychloride to give antipyrin mustard (III).

Two 1, 2-diphenyl-3-5-diketopyrazolidines (IV and V) were treated with halogen giving the corresponding halogeno derivatives (VI and VII). Condensation of the latter with bis-(B-chloroethyl) amnie gave the expected nitrogen mustards (VIII and IX).

(continuation of Yao-hsueh Hsueh-pao, Vol 9, No 1, pp 18-22)

Both IV and VIII gave the corresponding nitrogen mustards XI and XIV. On treatment with p-bis-(1-chloroethyl) aminobenzaldehyde, (XI), upon catalytic hydrogenation, gave XII.

Preliminary pharmacologic test revealed that these compounds do not show any significant inhibitory activity against tumor cells in vivo.

This work was completed under the guidance of Prof KAO I-fheng (7559/1837/3932); TAI Chin-yuan (2071/6855/1254) participated in some of the technical work; WANG Chiu-? (3769/3773/?), WU ?-hua (2629/?/5478), JEN Yu-li (0117/5505/5461), and CHANG Hui-chih (1728/1979/5347) made micrometric analyses.

This paper was received for publication on 7 September 1961.

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

WU Te-cheng (0702/1795/2398)
CHOU Chin-hsu (0719/6855/3563)
HSU Pin (5171/1755)

"Studies on Antitumor Drugs: VIII. The Influence of Several Compounds Upon the Toxicity and Therapeutic Effect of Sb-71"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 9, No 1, Jan 62, pp 23-28

Text of English Abstract: The antitumor activity and toxicity of Sb-71 (Sb ammonia triacetic acid) were reported in our previous papers [1,2]. In the present study, we have investigated the antidotal action of several suphhydryl compounds against Sb-71 and their influence upon the inhibiting action of Sb-71 on Ehrlich ascites tumor in mice. The results were as follows:

1. Subcutaneous injection of sodium dimercaptosuccinate, BAL-glucoside, BAL, and cysteine at the dose levels of 500, 1,167, 30, and 1,000 mg/kg, respectively, exhibited a significant protective action upon mice intoxicated by Sb-71, decreasing the mortality of mice.

(continuation of Yao-hsueh-pao, Vol 9, No 1, pp 23-28)

2. The administration of sodium dinnercaptosuccinate (1,500 mg/kg), BAL-glucoside (2,000 Mg/kg), BAL (40 mg/kg), and cysteine (1,000 mg/kg) increased the LD_{50} of Sb-71 from 40 mg/kg to 232, 76, 68, and 87 mg/kg, respectively.

3. Sodium dimercaptosuccinate, BAL-glucoside, and BAL could also antagonize the carcinostatic action of Sb-71, but its therapeutic effect could recur when the dose level was increased with the exception of BAL. Cysteine at the dosage of 500 mg/kg also showed the antidotal action, but did not diminish the therapeutic effect of Sb-71.

The possible mechanisms of the antidotal action of these sulphhydryl compounds in the present work were dismissed.

The authors express thanks to HUA Tse (5363/3419), WANG Chen-ch'iu (3769/2182/3808), and JEN Fan-yu (0117/5400/0645) for participating in some of the technical work.

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

CHOU Chin-hsu (0719/6855/3563)
WU Te-cheng (0702/1795/2398)
HSU Pin (5171/1755)

"Studies on Antitumor Drugs: IX. Effects of Sb-71 on Mitosis in Ehrlich Carcinoma Cells"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 9, No 1, Jan 62, pp 29-33

Excerpts of English Abstract: From the results obtained, it seems that the inhibiting action of Sb-71 upon Ehrlich carcinoma is mainly due to its direct effect interfering with the mitotic process of carcinoma cells.

The authors express thanks to LIANG Hui-chen (2733/1920/3791) and JEN Fan-yu (0117/5400/0645) for participating in some of the technical work.

This paper was received for publication on 13 June 1960.

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

SUNG Chen-yu (1345/2182/3768)
IU Shih-ch'i (0712/1709/3825)

"The Effect of Tartar Erotic and Ammonium Antimonyl Gluconate on the I^{131} Up-take by the Rat Thyroid"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 9, No 1, Jan 62, pp 35-37

Text of English Abstract: After intraperitoneal injection of tartar emetic at the dosage of 15 mg/kg or ammonium antimonyl gluconate at the dosage of 60 mg/kg to rats once a day for fourteen days, a dose of I^{131} of 0.24 microcurie was administered intraperitoneally. The animals were sacrificed 24 hours after the I^{131} administration, and the radioactivity in the thyroid was measured. The I^{131} up-take by the thyroid of the tartar emetic treated or of the ammonium antimonyl gluconate treated rats was not significantly different from that of the control animals. It is concluded that continuous administration of these antimonyl compounds to rats for two weeks does not affect the thyroid function.

This paper was received for publication on 3 June 1960.

Authors' Affiliation: Both of Institute of Materia Medica, Chinese Academy of Medical Sciences; LU, presently at Teaching and Research Section, Peking Second Medical College.

WANG Shih-chung (3076/2514/0022)

"Studies on Alginic Acid: I. The Preparation of Alginic Acid and Its Sodium and Ammonium Salts"

Peiping, Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica), Vol 9, No 1, Jan 62, pp 48-51

Excerpts of English Abstract: 1. The process of Stanford, Le Gloahec-Herter, and Green was investigated, and improvements were made to obtain a suitable process for extracting the alginic acid from the seaweed of domestically produced Sargassum.

2. The effect of drying temperature on the viscosity of the salt of alginic acid was investigated.

3. Ammonium alginate produced by this process is somewhat colored and has a viscosity of 20-140 centipoises, but that obtained from fresh kelp of Sargassum has a viscosity of 16,000 centipoises.

4. The quality of sodium alginate prepared by this process conforms well with the requirements of the "National Formulary."

(continuation of Yao-hsueh Hsueh-pao, Vol 9, No 1, pp 48-51)

The algae used was classified by the South China Institute of Botany, Chinese Academy of Sciences. WANG asked V. A. Yevtushenko to send him his findings on alginic acid.

This paper was received for publication on 9 November 1959.

Author's Affiliation: Chemistry Teaching and Research Section, Canton College of Traditional Chinese Medicine.

Earth Sciences

MU Szu-chih (4476/1835/0037)
CH'IAO Hsin-tung (0829/2450/2639)

"New Materials of Abrograptidae"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica), Vol 10, No 1, Feb 62, pp 1-4

Excerpts of English Summary: Recently, while investigating the ordovicion graptolites of Chekiang, the writers found a number of specimens of the family abrograptidae among the collections of graptolites deposited in this institute. Four species belonging to four genera are recognized as follows: (1) Dinemagraptus sinicus sp. nov.; (2) Abrograptus formosus mu; (3) Parabrogratus tribrachiatus gen. et sp. nov.; and (4) Jiangshanites formosus gen. et sp. nov.

These graptolite specimens were collected mainly by Prof Y. H. Lu, Miss Y. T. Hou, Mr J. T. Chang, Mr T. Y. Liu, and one of the writers (Mu) from the Middle Ordovician Hulo Shale of the Kiangshan District, Western Chekiang, in 1954 and partly by M. Y. Geh and others from the Hulo Shale of Longyou, Chekiang, in 1958.

(continuation of Ku-sheng-wu Hsueh-pao, Vol 10, No 1, pp 1-4)

The remainder of this summary is a description of species, including the families, genus, comparisons, horizons, and localities.

Authors' Affiliations: MU of the Institute of Geology and Paleontology, Chinese Academy of Sciences; CH'IAO of the Bureau of Geology, Sinkiang-Uighur Autonomous Region.

LI Chi-chin (2621/4480/6855)
CH'EN Hsu (7115/2485)

"Cambrian and Ordovician Graptolites From Sandu, Southern Kweichow"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica), Vol 10, No 1, Feb 62, pp 12-27

Excerpts of English Summary: In the spring of 1959, Y. Y. Chien, W. N. Lee, S. S. Chang, and one of the writers (Li) collected a number of graptolite specimens from the Cambrian and Ordovician Beds in the Sandu District, Southern Kweichow. Twenty-six species and varieties are recognized; four of them are new. They were derived from the following different horizons: III. Tonggao Shale (Orenigian), II. Guotang Formation (Tremadocan), and I. Sandu Shale (Upper Cambrian).

The graptolite faunas of the Sandu Shale (Upper Cambrian) and the Guotang Formation (Tremadocian) are more related to those of North China. The graptolite fauna of the Tonggao Shale (Arenigian) bears some resemblance to that of the Lower Biotymograptus Shale of Scianitanva. The Guotang Formation and the Tonggao Shale may be correlated with the (word unintelligible) Shale and the Lower Part of the Lower Bidymograptus Shale of Sweden and Norway, respectively.

(continuation of Ku-Sheng-wu Hsueh-pao, Vol 10, No 1, pp 12-27)

The remainder of the summary is a description of new forms, including the family and genus.

Accompanying this summary are three pages of plates accompanied by Chinese translations.

Authors' Affiliation: Both of Institute of Geology and Paleontology, Chinese Academy of Sciences.

CHANG Wen-t'ang (1728/2429/1016)

"On the Genus Eoredlichia"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica), Vol 10, No 1, Feb 62, pp 36-41

Excerpts of English Summary: In 1950, the writer designated Redlichia intermedia Lu as the genotype of the genus Eoredlichia. In a paper published in 1953, the writer pointed out that the Wutinguipu is a synonym of Eoredlichia and that the former may be regarded as a subgenus of redlichia. A close comparison of the genotype of Wutingaspis (W. Tingi Kopayashi, 1944) for the type specimens of Eoredlichia (R. intermedia Lu, 1940) reveals certain differences which may be of generic rank.

Eoredlichia resembles closely Pararedlichia, a characteristic genus of the earlier Lower Cambrian trilopite in Morocco, in the shape of palpre-bral lope and eye ridge.

The family Redlichiidae Boulsen, 1927, the subfamily Pararedlichiinae Hupe, 1953, and the genus eoredlichia Chang, 1950, are given. With them is a complete diagnosic, the genotype, and the distribution. Accompanying this summary is one page of plates.

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

HSU I-wen (6079/0308/2429)

"Caelocrinus -- A New Type of Sea Lily From the Middle Silurian Formation in Szechwan Province"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica), Vol 10, No 1, Feb 62, pp 45-49

Excerpts of Russian Summary: During expeditionary operations in 1961, surveying Silurian sections located in the District Kuanyuan near the village of Chung-tse-tu in the northern part of Szechwan Province, Prof CHAO Chin-k'o and Comrade CH'EN Hsu of the Institute of Geology and Paleontology, Chinese Academy of Sciences, found a well-preserved specimen of the fossil calyx of a sea lily. Careful study of this calyx revealed that it is a new genus of the family Palaeocrinidae. This paper describes the new genus which was given the name Caelocrinus.

The author of this paper is deeply grateful to Prof MU En-chih for his aid and consultation and for proof-reading the manuscript. Thanks are also extended to Prof CHAO Chin-k'o and Comrade CH'EN Hsu for the kind loan of their collection. Artist HSU Pao-jui drew all the illustrations. The photographs were processed by colleagues from the Photography Department of the Institute.

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

HOU Hung-fei (0186/7703/3049)

"On Certain Middle Devonian Brachiopods in Hami, Sinkiang"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica), Vol 10, No 1, Feb 62, pp 55-63

Excerpts of Russian Summary: Although the Devonian System is widespread throughout Sinkiang Province, there has been almost no study of Devonian fauna in this region. Works describing branchiopod fauna have been non-existent. Recent geological survey operations in important areas of Sinkiang have uncovered a great amount of fauna. This paper describes specimen which were collected by the third party of the geological survey expedition in Sinkiang in the eastern part of the District Hami (95 degrees 55 minutes, 41 degrees 49 minutes). Ten species of brachiopods, five of which are new, are described in this paper.

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

OU-yang Shu (2962/7122/5289)

"The Microspore Assemblage From the Lungtan Series of Changhsing, Chekiang"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica), Vol 10, No 1, Feb 62, pp 76-112

Excerpts of English Summary: The Gigantopteris-bearing Lungtan Series in South China, which is approximately equivalent to the Upper Shihhotze Series in North China, has been considered by Halle, Gothan, and Sze to be Middle Permian or even probably Lower Permian in age. They believe that the Gigantopeteris-bearing formation of Eastern Asian can be correlated to the Middle and Upper Rotlitgonde of Europe. Many geologists, especially T. K. Huang, hold that this coal series belongs to Upper Permian. H. H. Li recently supported the latter assumption. In Changhsing District, Northern Chekiang, the total thickness of the Lungtan series exceeds 500 M. Here the strata can be divided into three parts, in descending order: No 3. Siltstone and sandy argillaccous-shale interbedded with few thin-layered limestones which yield many marine fossils. No 2. White-gray oolitic shale and dark gray shale with several coal seams: many well preserved plant fossils of Gigantopteris flora have been found. No 1. Dark-gray sandy clay or shale with fine grained sandstones and silt stones; fragments of marine fossils and plants have been found. There were 9-20 samples on which the investigation is based collected from the upper and middle part of two boring-profiles (this is shown in a figure accompanying this article) by the writer in 1959, all of which are preserved in shales and siltstones. These borings are situated on Meishan Basin of Changhsing. Fifteen samples have proved to be rich in microfossils.

No definite opinion can be expressed on the geological age of the Lungtan series based on the spore complex. The evidence, however, is not in contradiction to an early Upper Permian age as regarded by many geologists.

(continuation of Ku-sheng-wu Hsueh-pao, Vol 10, No 1, pp 76-112)

The system of classification of the microspores followed here is that of Potonic and Kremp (1954, 1955, and 1956). Seventy species (or forms) referred to 26 genera are described in this paper. Twelve species are described as new; certain specimens cannot be identified with any other known forms, but are too imperfectly preserved for the creation of new species. A new genus, Patallisporites, is created for some cingulate spores. The summary describes new species.

Eleven pages of plates accompany this summary; the explanations of these plates are in English.

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

CHANG Wen-t'ang (1728/2429/1016)

"A Classification of the Lower and Middle Cambrian Trilobites From North and Northeastern China, With Description of New Families and New Genera"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica) Vol 11, No 4, Nov 63, pp 447-474

Excerpts of English Summary: In the present paper, a classification of the Lower and Middle Cambrian trilobites from North and Northeastern China is discussed and revised; seven new families, four new subfamilies, and twenty-two new genera are described. All of them are included in the Chinese edition "Trilobites of China," which will be published a few months later. In the meantime, it has been thought desirable to publish a short description of these new families and new genera in English for foreign colleagues who are interested in the Cambrian trilobites.

The new families and new genera are described in the English summary, one by one.

Also accompanying this article are pages of plates which have explanations in English.

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

WU Wang-shih (0702/2598/1193)

"On the Genus Wentzelella"

Peiping, Ku-sheng-wu-pao (Acta Palaeonthologica Sinica), Vol 11, No 4, Nov 1963, pp 492-500

Excerpts of English Summary: This entire article is concerned with Wentzelella, which is one of the most characteristic genera of the early Permian in South China, Japan, India, Iran, Iraq, Italy, Germany, New Zealand, and elsewhere. A description of the new genera and species is given in this article.

Also in this article plates are shown, and an explanation of plates in English is given.

The author expresses thanks to Prof TS'ENG Ting-kan (2582/7844/0051) for help and guidance; to Prof LU Yen-hao (4151/5888/6275) who read the paper carefully; and to Prof SZU Hsing-chien (2448/5887/0256) who corrected this paper.

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

FAN Chia-sung (5400/0857/2646)

"On Lower Liassic Lamellibranchiata From Kuangtung"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica), Vol 11, No 4, Nov 63, pp 508-534

Excerpts of English Summary: The Lower Liassic Lamellibranchiata described in this paper were collected by Prof T. H. Yin, P. Z. Ding, S. X. Chang, X. T. Yang, C. Liu, and the writer, in 1961, from Kaiping, Enping, Gaoping, Shaoguan, Lechang, and Huiyang of Kuangtung Province. Some specimens were provided by Prof W. Y. Chang and a field party of the Kuangtung Geological Bureau, from Heyuan and Lechang, respectively.

The Low Lias of the region chiefly consists of sand stones and shales. The succession and coalition of the Lower Lias of Kuangtung will be treated in another paper.

The writer desires to express his sincere thanks to Prof T. H. Yin for his constant instruction and encouragement throughout this study and his critical reading of the manuscript.

The paper describes the new Specier, the classes, families and the species.

Three pages of plates are shown in this magazine, and the explanations are given in English. The plates shown in these pictures are kept in the Institute of Geology, Chinese Academy of Sciences.

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

LI Chi-chin (2621/4480/6855)

"Some Middle Ordovician Graptolites From Kweichow"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica) Vol 11, No 4, Nov 63, pp 554-570

Excerpts of English Summary: The graptolites described below were collected by Comrade C. Y. Wei, in 1959, from the Middle Ordovician rocks of the Shiping District, Eastern Kweichow Province, and by Profs Y. Wang and S. F. Sheng, many years ago, from the Middle Ordovician rocks of the Zunyi and Meitan districts, Northern Kweichow. Fifteen species and varieties are than listed.

The paper goes on with a description of the species, the orders, the families, and the genera.

One page of plates accompanies this paper.

A total of 44 references was used, including 12 Chinese references dating from 1934 to 1962.

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

LIN Pao-yu (2651/1405/3768)

"Some Carboniferous and Permian Tabulata in the Southern Part of China"

Peiping, Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica) Vol 11, No 4, Nov 63, pp 579-590

Excerpts of Russian Summary: A description of fauna is given in this summary. The orders, families, subfamilies, and genera also explained.

Five pages of plates are shown at the end of this summary, and the explanations are given in Russian and Chinese.

Out of the total number of references used, 17 are Chinese; of the 17, eleven date in the 1930s, and the remainder are late 1950s and early 1960s.

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

Technical Sciences

HSU Hsiao-ho (1776/1420/5440)

"Analysis of Wave Theory During Shock Penetration"

Peiping, Chin-shu Hsueh-pao (Acta Metallurgica Sinica), Vol 6, No 1, Jul 63, pp 1-12

Translation of Russian Abstract: Shock penetration is the major action in percussion drilling. This paper analyzes the process of "piston-rod-rock" action by using the theory of longitudinal wave transmission along the rod and the directly proportional relationship of the depth of the intrusion to the load at the drill tip. The depth of the penetration was determined with respect to time, that is:

$$U = \frac{2mV_y}{K} \cdot \frac{1}{\gamma - 1} (e^{-\beta t_1} - e^{-\alpha t_1}),$$

U = Depth of penetration

t_1 = Time

m = Inertia of the waves of the rod

(continuation of Chin-shu Hsueh-pao, Vol 6, No 1, pp 1-12)

V_y = Percussion velocity of the piston

K = Coefficient of the penetration

$$\alpha = m/M, \ \beta = K/m, \ \gamma = \alpha/\beta$$

The maximum depth of the penetration is obtained through:

$$t_1 = \ln \gamma/(\alpha - \beta) \, t_m$$

that is,

$$U_m = \frac{2mV_y}{K} \cdot \frac{1}{\gamma - 1} (\gamma^{\frac{1}{\gamma-1}} - \gamma^{\frac{\gamma}{\gamma-1}}).$$

Proceeding from these results, examination of the effect of the various factors on the drilling velocity revealed that they correspond, to a significant degree, to known empirical formulas.

Consequently, the essence of their physics is derived.

References: A total of 13 references were used, including seven Chinese, four Russian, and two English, dated 1952-1961.

This paper was received for publication on 31 August 1962.

Author's Affiliation: Northeast Engineering College.

HU Wei-pai (5170/3634/2672)
LU Tsu-hsi (4151/4371/4406)

"A Statistical Investigation of Factors Influencing Flotation of Wolframite"

Peiping, Chin-shu Hsueh-pao (Acta Metallurgica Sinica), Vol 6, No 1, Jul 63, pp 14-21

Text of English Abstract: An attempt was made to apply the method of statistical analysis to research in the flotation of wolframite.

The statistically designed experiment studied the effects of six factors, i.e., (a) grain size, (b) mode of the generation of air bubbles, (c) pH value of the pulp, (d) acid treatment, (e) quantity of the froth used, and (f) temperature of the pulp.

The analysis of variance showed that, in the case of wolframite flotation, when sodium oleate was used as a collector, the grain size, pH value, and the temperature of the pulp are the significant variables.

The analysis of the interactions between the variables led to this synthetic technological conditions.

(continuation of Chin-shu Hsueh-pao, Vol 6, No 1, pp 14-21)
References: Of the ten references used, four were Russian; two Chinese, by HU Wei-pai, coauthor of this article; one French (also one in German by same author); and one German; date span 1954-1962.

This paper was received for publication on 15 October 1962.

Author's Affiliation: All of the South Central College of Mining and Metallurgy.

WANG Tseng-t'u (3769/1073/0956)

"On the Clinical Speeds of the Tumbling Mills"

Peiping, Chin-shu Hsueh-pao (Acta Metallurgica Sinica), Vol 6, No 1, Jul 63, pp 23-27

Text of English Abstract: A new series of grinding in tubling mills is suggested. According to this theory, the critical speed of ball mill is represented by:

$$n = \frac{42.4}{\sqrt{fD}} \sqrt{\frac{1-k^2}{1-k^3}}$$

in which n -- critical speed in rpm;
f -- coefficient of friction between balls and the internal surface of the mill;
D -- internal diameter of the mill in meter;
k -- R_2/R_1; R_1 the internal radius of the mill, and R_2 the distances between the surface of ball load and the mill axis.

This equation gives a better agreement between theoretical data and experimental results than the well-known Davis' equation.

(continuation of Chin-shu Hsueh-pao, Vol 6, No 1, pp 23-27)
References: The author gives 13 references, of which three were Russian and 10 English (including four by the same author); date span 1904-1960.

This paper was received for publication on 6 November 1962.

Author's Affiliation: Northeast Engineering College

CHAO Peng-nien (6392/1756/1628)
TSOU Yuan-hsi (6760/0337/8764)

"Physical Chemistry of Reduction of Vanadium Oxide From Liquid Blast-Furnace Type Slags"

Peiping, Chin-shu Hsueh-pao (Acta Metallurgica Sinica), Vol 6, No 1, Jul 63, pp 28-38

Text of English Abstract: In this paper, experimental data on a kinetic s study of the reduction of vanadium oxide from liquid blast-furnace type slags into carbon-saturated iron and on the silicon-vanadium equilibrium are reported.

The mechanism of reduction of vanadium oxide from the slag phase into the metal phase is discussed, and the various factors affecting the recovery of vanadium in blast-furnace smelting of vanadium-bearing iron ores are explained in the light of the present results.

By a comparison of our experimental results with industrial data, it has been shown that the silicon-vanadium equilibrium is not reached in the blast-furnace hearth. Consequently, measures have been suggested for increasing the recovery of vanadium and lowering the silicon-vanadium ratio in the pig iron obtained in blast-furnace smelting of vanadium-bearing iron ores.

(continuation of Chin-shu Hsueh-pao, Vol 6, No 1, pp 28-38)
References: Of the 23 references used, eight were in Russian, ten English, and five Chinese (including one by author, TSOU Yuan-hsi); date span 1939-1959.

This paper was received for publication on 17 August 1962.

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

WANG Wei-yuan (3769/3262/3293)
TSOU Yuan-hsi (6760/0337/8764)

"Activity of MnO in Liquid Blast-Furnace Type Slags and Its Rate of Reduction"

Peiping, Chin-shu Hsueh-pao (Acta Metallurgica Sinica), Vol 6, No 1, Jul 63, pp 40-49

Text of English Abstract: The equilibrium represented by the reaction

$$MnO\ (\text{in slag}) + C = \underline{Mn} + CO$$

has been investigated with a view to evaluating the activity of MnO in liquid blast-furnace type slags. In two series of experiments, carbon-saturated iron and silver were used, respectively, as the solvent metal. It has been shown that the use of silver instead of the conventional iron as the metal phase has certain important advantages. Besides, some preliminary work has been done on the rate of reduction of MnO from liquid blast-furnace type slag.

The effect of various slag components on the activity of MnO has been explained from the point of view of the ionic structure of slags. The mechanism of reduction are discussed on the basis of convectional diffusion. The practical application of the experimental data in the blast furnace operation is briefly discussed.

(continuation of Chin-shu Hsueh-pao, Vol 6, No 1, pp 40-49)
The authors express thanks to CHOU Ching-lung (0719/2529/7893) for participating in practical experiments on this subject and to Miss WANG Tsu-hui (3769/4371/6540) for her analysis work.

References: A total of 40 references were used, including three Russians, seven Chinese (including three by coauthor of this paper, TSOU Yuan-hsi), and 20 English (including two by Chinese author, Y. H. Chou [TSOU Yuan-hsi], coauthor of this article, who made reference to his Doctorate Thesis, Department of Metallurgy, Carnegie Institute of Technology, 1947). The date span of references is 1932-1963.

This paper was received for publication on 17 August 1963.

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

K'UNG Ch'ing-p'ing (1313/1987/1627)
LIU Shao-ku (0491/1421/6253)
LIN Pao-chun (2651/0202/6511)

"The Effect of Phase Transformation During Creep on the Extrapolation of Creep Test:

Peiping, Chin-shu Hsueh-pao (Acta Metallurgica Sinica), Vol 6, No 1, Jul 63, pp 51-57

Text of English Abstract: To study whether the extrapolation method of creep tests by an elevation of temperature through activation energy described in a previous paper is applicable when phase transformations occur during creep, creep tests were made on four different alloys (three heat-resisting steels and one aluminium alloy) at different temperatures with constant stress. Before the creep tests, specimens were so treated that appropriate phase transformations were expected to occur under the temperatures of tests. The experimental results showed that, in the temperature range investigated, there existed a constant "activation energy of creep" for two alloys, but not for the other two. When phase transformations mentioned above were made negligible, a constant activation energy of creep was always obtained in the same temperature range for all alloys.

(continuation of Chin-shu Hsueh-pao, Vol 6, No 1, pp 51-57)

This indicates that the so-called "activation energy of creep" depends not only upon composition of material, but also upon the microstructure.

A preliminary analysis shows that, when phase transformation occurred during creep, the applicability of this extrapolation method depends upon the type of phase transformation taken place.

References: Date span of the 11 references is 1954-1960; of these references, three were Chinese, five Russian, two English, and one Finnish.

This paper was received for publication on 31 July 1962.

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

LIU Min-chih (0491/3046/3112)
PAI Fu-shan (4101/4395/1472)

"Some Practical Experiments in Dispersion-Strengthening of Austenitic Heat-Resisting Steel"

Peiping, Chin-shu Hsueh-pao (Acta Metallurgica Sinica), Vol 6, No 1, Jul 63, pp 59-63

Text of English Abstract: The dispersion-strengthening phenomenon in an austenitic heat-resisting steel (EI 257) has been studied.

The specimens are composed of powder EI 257, blended with Al_2O_3, MgO, ThO_2, ZrO_2, and Nb_3O_5. The changes in hardness , at room or high temperatures, of these specimens with various compositions show that the dispersion, strengthening effect in the steel is quite remarkable.

The experiments gave the following results:

(1) When a heat-resisting steel (EI 257) is dispersion-strengthened with oxide powder, its heat-resisting temperature for comparable hot hardness may be increased from 650 degrees C to 900 degrees C.

(continuation, Chin-shu Hsueh-pao, Vol 6, No1, pp 59-63

(2) Al_2O_3 is the best among the five oxides, and eight-ten volume percent Al_2O_3 is the best of all.

(3) Dispersed oxide raises the recrystallization temperature.

The author expresses thanks to HSIEH Tai-ho (6200/3141/0735) for participating in the practical experiments on this subject and to SHIH Ch'ang-hsu (1597/2490/4872) for supplying the EI 257 steel for this experiment.

References: Date span of the 18 references is 1947-1960; the one Chinese reference is by coauthor, LIU Min-chih, of this paper.

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

WANG Kan (3769/1626)
HU Su-hui (5170/4790/6540)
CH'EN Ch'ao-jung (7115/2600/2837)

"Extrusion Strengthening of Mg-Th Alloys With Manganese"

Peiping, Chin-shu Hsueh-pao (Acta Metallurgica Sinica), Vol 6, No 1, Jul 63, pp 65-72

Translation of Russian Abstract: Investigation was conducted to discover the cause of increased recrystallization temperature and strengthening of alloys in the Mg-Th system with the addition of managanese after heat extrusion. The recrystallization temperature increase of Mg-Th-Mn alloys may be related to manganese enrichment at the subgrain boundaries in the cast state, which do not occur in Mg-Th binary alloys. This heterogeneity is broken during the process of diffusion annealing which promotes the recrystallization effect. The formation of the substructure may be due to a very small coefficient of manganese diffusion in the phase diagram. As for the cause of the increased strength, this evidently is explained by the conservation of the extrusion texture resulting from the increased recrystallization temperature, which leads to anisotropy of the mechanical properties of the crystals in alloys of the given system.

(continued)

The author expresses thanks to HSIEH Tai-ho (6200/3141/0735) for assisting in conducting practical experiments and to SHIH Ch'ang-hsu (1597/2490/4872) for supplying the Soviet EI -- 257 powdered steel for this experiment.

References: Of the 16 references used, seven were in Russian and the remaining nine were in English, of which one was by two Japanese authors, published by the Physical Society, Innion, 1954.

This paper was received for publication on 1 August 1962.

Author's Affiliation: All of the Institute of Metallurgy, Chinese Academy of Sciences.

HU Yu-ho (5170/3768/0735)
YANG Ch'un-jung (2799/2504/2837)

"Determinination of Two Classes of Distortion in Cold-Drawn Wires After Low-Temperature Annealing"

Peiping, Chin-shu Hsueh-pao (Acta Metallurgica Sinica), Vol 6, No 1, Jul 63, pp 74-81

Text of English Abstract: The decreases in lattice strain $\Delta a/a$ in cold-drawn steel wires after annealing between 150°C and 450°C have been determined by measuring the broadening of the X-ray diffraction on photographic plates.

The decrease in $\Delta a/a$ is accompanies by an increase in the fatigue strength of small wire ropes with little effect on their tensile properties. The distribution of $\Delta a/a$ in the wires was also examined.

The authors express thanks to LI Hsun (2621/5651), director of Institute of Metals, Chinese Academy of Sciences, for his correction; to FANG Ts'an-shih (2455/3605/4258) and LI Su-yu (2621/4790/3768), both of the Central Experimental Laboratory of the Anshan Iron and Steel Plants, for their share in this work; and the third plant of the Tientsin Steel Mill for testing the steel wires.

(continued)

References: Of the 21 references, 15 were Russian, one Chinese, and 5 English (including one coauthored by Andrew K. H. Lee [LI Hsun] and P. E. Brookes, Journal Iron and Steel Institute, 1950; date span is 1938-1961.

This paper was presented at the Academic Conference on Metallurgical Physics in Shenyang, Manchuria, in October 1961 and was received for publication on 25 August 1962.

Authors' Affiliation: Both of the Anshan Iron and Steel Corporation.

Chemistry

PING Hsin-t'eng (0002/2450/7506)
WU Chun'ho (0702/6874/0735)

"The Preparation of Ethers of 4-Hydroxybutanone-(2)"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 28, No 1, Feb 62, pp 1-4

Text of English Abstract: Anion exchange resin in the hydroxy form was successfully used as a catalyst in the reaction of methyl vinyl ketone and alcohols to furnish ethers of No 4-hydroxybutanone- (2). Some aliphatic, aromatic, cyclic, and hetrocyclic alcohols were used. The method was shown to provide a simple preparative route to such ketoethers. Seven eithers of 4-hydroxybutanone-(2) were prepared and their physical constants determined. Some of the products had been used previously as intermediates in the synthesis of Vitamin A ethers.

This paper was received for publication on 9 April 1960. Part of this paper was read at the December 1959 Paper Report Conference of the Shanghai Chemistry and Chemical Engineering Society.

Author's affiliation: Both of Chemistry Department, Futan University.

HSIANG Ch'uan-hsing (7449/0356/1840)
HUANG Te-tung (7806/1795/2639)

"Absorption of Surface-Active Substances at the Dropping Mercury Electrode in Alkaline Solutions"

Peiping, Hua-hsueh Hsueh-pao, (Acta Chimica Sinica), Vol 28, No 1, Feb 62, pp 5-11

Text of English Abstract: The absorption of various types of organic surface-active substances in nutro and in alkaline solutions is investigated by measuring the differential capacity at a dropping mercury electrode. It is pointed out that the change of absorptional behavior of these substances in alkaline solutions can be interpreted in the light of the basic theory of electrical double layer.

It has been found that in strongly alkaline solutions, surface-active agents of the molecular type (Peregal) and the cation type (tetrabutylammonium salt) are absorbed on the electrode surface within a wide range of potential. Desorption of peregal occurs only when the electrode is polarized to a potential more negative than-1.8v (vs.0.1NC.E) and its solubility in 1ON potassium hydroxide is comparatively large. So it seems to be a promising "addition agent" for controlling electrode processes in concentrated solution of alkali.

(continuation of Hua-hsueh Hsueh-pao, Vol 28, No 1, pp 5-11)

The author acknowledges that AO Kuo-ying (2407/6938/5391), HSIEH Shih-yuan (0673/0013/3104), and CH'I Chao-hsin (2058/0340/2946) participated in instrument installation and measurement analysis.

This paper was received for publication on 11 July 1960.

Authors' affiliation: Both of Chemistry Department Wuhan University.

LIANG Hsu-sh'uan (2733/2885/2938)
HUNG Shui-chieh (3163/3055/4105)

"On the Separation and Determination of Scandium and Thorium by Means of m-Nitrobenzoic Acid"

Peiping, Hua-hsueh Hsueh-pao, (Acta Chimica Sinica), Vol 28, No 1, Feb 62, pp 12-18

Excerpts of English Abstract: This communication reports the use of m-nitrobenzoic acid, which has been known as a thorium precipitant, as a reagent for scandium determination and as a means for its separation from thorium. This can be realized by regulating the acidity of test solutions, as thorium precipitates at pH1.7, and scandium at pH2.8-3.0.

The optimum conditions for using m-nitrobenzoic acid as precipitant for scandium have been studied.

The effect of ammonium ion is neglible, while alkali metals cause slightly positive errors. However, their effects can be remedied by double precipitation. With double precipitation of scandium m-nitrobenzoate, the presence of up to 200 times of light lanthanoms or ten times of yttrium does not interfere with the scandium determination.

(continuation of Hua-hsueh Hsueh-pao, Vol 28, No 1, Feb 62, pp 12-18)

The author expresses thanks to LIEU I-yu (2621/0044/7183), who participated in part of the experimental work; and to HUANG P'ei-yuan (7806/0160/0337) and CH'EN Hui-o (7115/1979/1230), of the Organic Elements Microanalysis Section, Institute of Chemistry, Chinese Academy of Sciences, for their work in the analysis.

This paper was received for publication on 16 August 1960.

Authors' Affiliation; Both of Institute of Chemistry, Chinese Academy of Sciences.

WANG Yu (3076/3731)
HUANG Ching-chien (7806/2417/1017)

"Studies on Vitamin D IV. -- The Synthesis of Compounds of II-Substituted Cis-Cyclohexylidene Acetic Acid Type (111) -- II-Hydroxymethyl--Cis-Cyclohexylidene Acetic Acid and Mannich-Braun Compound"

Peiping, Hua-hsueh Hsueh-pao, (Acta Chimica), Vol 28, No 1, Feb 62, pp 31-42

Excerpts of English Abstract: The present deals with the preparation of II-Hydroxymethyl-Cis-Cyclohexylidene acetic acid (III) and its lactone (II) and also with the conformation of the modified structural formula Vc for the Mannich-Braun Compound. The mechanism of the formation of (Vc) has been briefly discussed.

This paper was received for publication on 15 February 1960; this paper was part of HUANG's graduate thesis; the important parts of this paper was read at the February 1959 paper report conference of the Shanghai Chemistry and Chemical Engineering Society.

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

CH'IEN Jen-yuan (6929/0086/0337)
SHIH Liang-ho (2457/5328/0735)

"Polymethylmethacrylate in Mixed Solvents V. -- The Relationship Between Intrinsic Viscosity and End-to-End Distance in Methylacete-ethanol"

Peiping, Hua-hsueh Hsueh-pao, (Acta Chimica Sinica), Vol 28, No 1, Feb 62, pp 44-50

Excerpts of English Abstract: A polymethylmethacrylate fraction of molecular weight 2.63 times 10^6 has been studied by viscosity and by light scattering in an iso-refractive solvent-nonsolvent system, methylacetate-ethanol. The molecular weight distribution of the sample was determined by the method of sedimentation velocity in ultracentrifuge at the vicinity of 0-temperature in acetone-ethanol.

The authors acknowledge that YEN Shen-hsiu (7346/1957/0208) and CHOU Feng-i (0719/7364/0308) participated in the experimental work.

This paper was received for publication on 1 March 1961.

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

FU Feng-yung (0265/0023/3057)
YU Te-ch'uan (0060/1795/3123)
SUNG Wei-liang (1345/4850/5328)
TI Yun-feng (5049/0061/7685)
SUN Nan-chun (1327/0589/0689)

"The Chemical Study of Hydroginkgolinic Acid -- A New Constituent of Ginkgo Biloba L."

Peiping, Hua-hsueh Hsueh-pao, (Acta Chimica Sinica), Vol 28, No 1, Feb 62, pp 52-56

Text of English Abstract: A new acidic constituent, hydroginkgolinic acid ($C^{21}H^{34}O^{3}$, m.p. 74-76 degrees), was isolated from Ginkgobiloba L. It was proved to be 6-hydroxyl-2-tetradecyl-benzoic acid.

This paper was received for publication on 14 April 1961.

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

WANG Pao-jen (3069/5508/0088)
CHENG Yu-chu (6774/0645/5468)
HUANG Chih-t'ang (7806/1807/6974)
NIEH Hsu-tsung (5119/4872/1350)
LIN I (2651/0001)

"Studies on Polymers of the Silcarbosiloxane Type -- I. Synthesis and Hydrolytic Polycondensation of Methyl Ethoxydisilylmethanes"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 28, No 1, Feb 62, pp 57-66

Text of English Abstract: Hexachlorodisilylmethane, obtained by direct synthesis from methylene chloride and silicon, was alcoholysed to get Hexaethoxydisilylmethane; the latter was, in turn, converted by Grignardization to five monomeric methyl ethoxydisilymethanes, containing from one to five methyl groups. It was found that the even-numbered, symmetrically substituted monomers gave better yields.

These monomers were hydrolysed in the presence of diluted hydrochloric acid and ether. Only the pentofuctional monemer gave an insoluble and infusible cross-linked polymer; the tri-functional monomer gave in part a linear polymer; and all the other monomers gave ringed, fused, ringed or caged oligormers. The co-hydrolysis of a mixture of di- and tetra-functional monomers gave also a fused-ring oligomer. The structures of these products were elucidated and discussed.

(continuation of Hua-hsueh Hsueh-pao, Vol 28, No 1, pp 57-66)

From the results, it is evident that the strong tendencies of disiomethosiloxane to ring closure reduces the functionality of the poly-functional monomers with the result of oligomer formation.

This paper was received for publication on 20 July 1961; the important parts of this paper were read at the International Polymer Conference, held in Prague, Czechoslovakia, in September 1957.

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

HUANG Wei-yuan (7806/4850/0997)
HSU Chin-wen (1776/6930/2429)

"The Absolute Configuration of r-Sitosterol at C24"

Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 28, No 1, Feb 62, pp 68-70

Text of English Abstract: The absolute configuration at C^{24} of r-Sitosterol is now established by chemical method to be 24 B. The result is in contradiction to that deduced from molecular rotation comparison metod, but in complete agreement with that published recently and independently by Japanese workers.

This paper was received for publication on 5 August 1960; the research plans on this paper were discussed at the 1956 meeting of the technology committee of the Institute of Organic Chemistry; the first part of this paper was reported at the March 1957 report conference of this institute.

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

ORGANIZATIONS AND CONFERENCES

1. Institute of Computer Technology Builds Digital Computers

Since 1958, the Institute of Computer Technology of the Chinese Academy of Sciences and other scientific, industrial, and educational organizations have constructed several electronic digital computers which have already been employed in many phases of the national production and construction work. Since the winter of 1960, China has been issuing short-range weather forecasts on large areas, based primarily on results obtained with electronic digital computers. Computers have also been used in solving complex problems concerning the most rational use of tractors in agricultural work and in solving problems of distribution and transportation of nitrogen fertilizer. Since 1959, the computer in the Institute of Computer Technology has carried out some very extensive calculations on more than ten large dams. If these calculations were done manually, they would take a matter of years, but the electronic computer generally requires only several hours. (Peiping, Jen-min Jih-pao, 2 Dec 63, p 1)

2. Institute of Electrical Engineering

The Sixth Laboratory of the Institute of Electrical Engineering is a laboratory using new theoretical and technical approaches to the research of electricity. In 1958, when the laboratory was established, it had only a few general instruments, but the laboratory used these instruments to build themselves up quickly.

In 1959, when the Sixth Laboratory of the Institute of Electrical Engineering joined with the Institute of Machine Tools, First Ministry of Machine building, and other units in conducting research on electric pulse processing, a electric pulse processing lathe was test produced and designed to meet the special conditions in China. The electrical work on this lathe was done by the Sixth Laboratory, Institute of Electrical Engineering, while the mechanical portion of this lathe was test produced at the Peking Machine Tool Plant. At the same time, when the Peking Machine Tool Plant saw that this lathe was useful for processing patterns, shortening work time, lessening the hand fittings, and lowering production cost, the Peking Machine Tool Plant immediately offered its help in the test production.

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Afther the lathe was completed, the Sixth Laboratory used it to do research on the problem of high-frequency, short-pulse processing and obtained design data on a high-frequency, short-pulse processing lathe. Then, with the help of the Peking Electron Tube Plant, they completed the second high-frequency, short-pulse processing lathe. They are still using the same joint working methods and have test produced a type of wire electode processing lathe.

Now, with the Sixth Laboratory as a basis, the Electrical Processing Physics Laboratory, Electric Power Sources and Automatic Control Laboratory, Technology and Machine Tools Laboratory, and four others have been established. The Technology and Machine Tools Laboratory is already using seven sets of machine tools, and by the end of this year this will be increased by several more sets of equipment; on this basis, they can promote several more types of research. (Peiping, Kuang-ming Jih-pao, 30 Nov 63, p 2)

3. High-Pressure Physics Laboratory at Institute of Physics

Research personnel of the high-pressure physics laboratory, the Institute of Physics, Chinese Academy of Sciences, personally took part in and overcame various hardships and established a laboratory. Their efforts over the past three years or more have established a high-pressure laboratory that is useful and economically feasible.

High-pressure physics research is a relatively new type of scientific work in China. Only in 1958, the high-pressure physics laboratory was preparing to open this type of work; however, at that time they were lacking a laboratory.

Now, the research personnel have themselves designed and test produced a high-pressure instrument with a capacity of 30,000 atmospheres and have solved the major technical problems. The electromagnet high-pressure testing equipment and has already been completed basically, and the two high-pressure pressure instruments also have been installed successfully. (Peiping, Kuang-ming Jih-pao, 30 Nov 63, p 2)

4. Chinese Chemcial Engineering Society Meets

Recently in Harbin, the Chinese Chemical Engineering Society held its 1963 annual conference, which reflected the research of Chinese chemical engineering scientific and technological personnel regarding China's resource and technical conditions, the advancement of chemical fertilizers, synthetic materials, drugs, etc. (Peiping, Kuang-ming Jih-pao, 1 Dec 63, p 1)

5. Peiping Medical Association Holds Annual Meeting

The Peiping Chapter of the Chinese Medical Association opened its annual meeting on 24 November 1963 in Peiping. The meeting received 880 medical papers, of which 16 were selected for presentation during the current sessions.

Six paper were read during the first day. They included the following: a report on food-poisoning due to a variant of Bacillus mirabillis (Kr), by Dr YEN Ch'eng-shu (7346/2110/1859), Peiping Health and Epidemic Control Station; a preliminary report on the phagocytic spectrum and drug resistance of Staphylococcus aureu by Dr FU Chen-k'ai (0265/2973/1956), People's Hospital of Peking Medical College; a report on clinical and serologic reactions of chick embryo living measles vaccine and epidemological results, by CHU Fu-t'ang (6175/4395/2768), director of the Institute of Pediatrics, Chinese Academy of Medical Sciences; a clinical analysis of acute dysentery during the past six years, by Dr HSIEH Kuo-hua (6200/0948/5478), People's Liberation Army Hospital No 302; and a report on the study of streptomycin poisoning, by Dr CH'IN T'ing-ch'uan (4440/1694/2938), Institute of Otorhinolaryngology.

The annual meeting was to continue its sessions on 25 November. T'AN Chuang (6223/1104) is chairman of the Peiping Chapter of the Chinese Medical Association. (Peiping, Pei-ching Jih-pao, 25 Nov 63, p 2)

6. National Conference on Pathology

The Society of Pathology of the Chinese Medical Association recently held its second academic conference in Ch'eng-tu. The conference received 318 papers which together reflected the many research achievements made in recent years in pathology as related to tumors, as well as to liver, cardiovascular, parasitic, endemic, and major occupational diseases. The conference attached great importance to the following papers: "Analysis of Infectious Hepatitis with Fatty Degeneration of Liver," by HU Cheng-hsiang (5170/2973/6116); "Surface Staining of the Esophageal Mucosa," by Prof YANG Chien (2799/4675); "Prelimenary Observations on the Pathogenesis of Sarcomas Induced by Flakes of Foreign Matter," by CHAO Yung-ch'uan (6392/3057/5425), an instructor from Tientsin; and "Mechanism in the Degeneration of Connective Tissue and Morphogenesis," by Shanghai Second Medical College.

Over 40 percent of the papers of research in various aspects of oncology such as geopathology, morphological classification, clinical pathology, precancerosis, diagnosis, etiology, and immunology. Reports on recent surveys of the distribution of tumors among minority nationalities in border regions contributed toward a more complete picture of the geopathology of tumors in China.

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A number of papers revealed that various institutions have conducted recent pathological research on occupational diseases. Szechwuan Medical College, Chekiang Academy of Medical Sciences, and Chekiang Medical University conducted animal experiments in the study of the formation of tubercles in pneumosilicosis. Wuhan Medical College conducted research on pathological changes in acute parathion poisoning. Wuhan Medical College and Chekiang Medical University conducted research on the pathology of schistosomiasis. Chung-shan Medical College investigated the pathomorphism in severe scalds and its pathogenesis.

Some papers reported reported research work conducted by pathologists among minority nationalities under stringent conditions.

The Society of Pathology of the Chinese Medical Association was founded in 1956. At that time China's pathological research was conducted in only a few major cities such as Peiping, Shanghai, Wuhan, Ch'eng-tu, and Canton. Today China has pathologists all over the country, using modern methods of histochemistry, cytochemistry, fluorescent staining, etc. and observing chromasomes. (Peiping, Chin-jih Hsin-wen, 15 Nov 63, p 3)

7. Conference on Neuropsychiatry Held

Recently in Canton, the Chinese Medical Association held the first nationwide scientific conference on neuropsychiatry. Scientific and technological experiments were exchanged on the 3 sections of neuropathy, neurosurgery, and psychiatry. These three new subjects of recent years in our country have had swift advancement.

A totoal of 320 papers were received at the conference. (Peiping, Kuang-ming Jih-pao, 14 Dec 63, p 2)

8. Conference on Parasitology Held in Peiping

The Chinese Zoology Society recently held a conference on parasitology in Peiping. This was the first national conference on parasites of humans and domestic animals. The conference received a total of 244 papers on parasites of humans, domestic animals, fish, and wild animals. (Peiping, Kuang-ming Jih-pao, 7 Jan 64, p 2)

9. Kiangsu Psychology Society Holds Annual Conference

Late in 1963, the Kiangsu Psychology Society held its annual conference in Nanking. The conference discussed 17 papers on various subjects including psychological theory, juvenile psychology, educational psychology, and medical psychology. The conference also discussed ways in which psychology workers could serve the class struggle and education. (Peiping, Kuang-ming Jih-pao, 6 Jan 64, p 2)

10. Geography Society Discussed Service to Agriculture

The Geographical Society of China held a conference recently in Hangchow on support to agriculture, attended by more than 100 workers in geographic sciences from all over the country. The conference received more than 300 papers on important subjects concerning geography's service to agriculture. (Peiping, Kuang-ming Jih-pao, 6 Jan 64, p 2)

11. Conference Discusses Road Construction

The Road Engineering Committee of the Chinese Civil Engineering Society held its 1963 annual conference recently in Nan-ch'ang. The conference discussed mainly the ways in which road construction in rural areas could serve agriculture, agricultural mechanization, and water conservancy projects. The conference also supplied a lot of experience in the maintenance of existing roads. (Peiping, Kuang-ming Jih-pao, 30 Dec 63, p 2)

12. Cartographic and Geodetic Society Holds Conference

The first national annual conference on engineering surveying was called in Wuhan recently by the Chinese Cartographic and Geodetic Society. The conference was attended by more than 100 delegates from all over China. The conference received a total of 227 papers. Participants discussed mainly problems of accuracy in surveying and cartography and the expansion, in China, from topographical surveying and linear surveying and linear surveying to observations of deformation and sinking which would affect the safety of structures or mines. (Peiping, Kuang-ming Jih-pao, 30 Dec 63, p 2)

13. Chinese Society of Geodetics and Cartography

Recently in Wuhan, the Chinese Society of Geodetics and Cartography held their first annual conference on engineering surveying. At the conference, the problem of using engineering surveying as a service to agriculture was discussed.

HSU Hou-k'un (1176/0624/6924) made a report entitled "An investigation Pertaining to Geodetic and Cartographic Work Continuing As a Service to Agriculture." NIEH Hung-te (5119/3163/1795) submitted a paper entitled "A Com prehension of the Special Characteristics of Agricultural Surveying." WANG Tsu-jen (3769/4371/0117) viewed research of the past several years in a paper entitled "A Comprehension of the Fukien Province's Land Reclamation Survey Conducted Within the Mass Oine and Several Advanced Opinions on Surveying Techniques." (Peiping, Kuang-ming Jih-pao, 6 Dec 63, p 1)

14. Conference on Glass Fibers Held in Shanghai

The Chinese Silicates Society recently held the first conference on glass fibers in Shanghai and reviewed research work by Chinese scientists and technicians, as well as the results of actual production in this field. Although glass fibers were introduced to China only in 1958, there are already more than 10 factories which produce them. This conference was attended by more than 130 scientific and technical workers from all over China, who presented a total of 39 papers on basic theory, processing technology, and application Technology to the conference. (Peiping, Kuang-ming Jih-pao, 1 Jan 64, p 2)

15. Peiping Science Hall Opens

The Peiping Science Hall, a building intended for the use of scientists in the capital area for scholarly and recreational activities, formally opened on 1 January 1964. The construction of this building was sponsored by the Chinese Scientific and Technical Association. the building is located in the western outskirts of Peiping and has a structural area of 47,000 square meters. There are more than 30 rooms which can be used for conferences and exhibitions by the various learned societies. (Peiping, Jen-min Jih-pao, 2 Jan 64, p 1)

MANPOWER AND EDUCATION

1. Chung-shan Medical College Celebrates Tenth Anniversary

Chung-shan Medical College celebrated its tenth anniversary on 12 November 1963.

The college was organized in 1953 by merging the Ling-nan University School of Medicine, the Chung-shan University School of Medicine, and the Kuang-hua Medical College. The campus of the present school is four times the combined campuses of the three former schools. During the past decade, Chung-shan Medical College graduated more than 5,100 students, which is three times the total number graduated by the former three schools in 47 years. The present medical college has two modernly equipped hospitals with total capacity for 1,300 impatients. The hospitals are equipped for massive liver resection, thoracic surgery, grafting of four fifths severed limbs, massive burn therapy, glaucoma prevention, and other advanced surgical techniques. Over 2,000 medical papers were published in the past decade, including research report on snake venom, preventive parasitology, and the prevention and treatment of cancer of nose and throat.

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Eleven provessors were honored for having rendered at least 30 years of service. Among them were the following: HSIEH Chih-kuang (6300/1807/0342), LIANG Po-ch'iang (2733/0130/1730), LIN Shu-mo (2651/2885/2875), CH'EN Hsin-t'ao (7115/1800/7118), and CH'EN Yao-chen (7115/5069/4176). (Canton, Yang-ch'eng Wan-pao, 12 Nov 63, p 1)

2. Obituary of TS'AI Fang-yin

TSAI Fang-yin (5591/2455/5593), at 1015 hours on 13 December 1963, in Peiping, died on an undisclosed illness TS'AI was 62 years of age.

TS'AI was a committee member of the National Committee of the People's Political Consulatative Conference. He was also a member of the Technological Sciences Department of the Chinese Academy of Sciences, a member of the Central Scientific Cultural and Educational Work Committee of the Chiu-san Society, standing director of the China Civil Engineering Society, and Deputy Directory of the Engineering Research Institute, Ministry of Building. (Peiping, Jen-min Jih-pao, 17 Dec 63, p 5)

NEW PUBLICATIONS AND BOOK REVIEWS

1. Aviation Periodical Resumes Publication

Hang-k'ung Chih-shih [Aviation Knowlege], a monthly publication on aeronautical and astronautical science, will resume publication in January 1964. This publication will report on recent development in the fields of aeronautics and astronautics, present basic information on these fields of science and technology, and report on the activities of the Chinese air force and civil aviation and other aeronautical activities in China. (Peiping, Kuang-ming Jih-pao, 6 Jan 63, p 2)

2. New Publications on Metallurgy

The following publications were briefly commented upon on the last page of the source cited below:

Su-hsing Te Kung-cheng Li-lun (Theory on Plastic Engineering), by Ye P. Vinokuroviv translated by CH'In K'ai-tsung (4440/7030/1350); [approximation],

Ching-t'i Chueh-hsien Ho Chin-shu Chiang-tu (Vol I and II of two volumes) (Strengthe of Metals and Imperfect Crystals), compiled from 1960 Reports on Study of Solid-state Physics;

Liu-t'ai-hua (Change of Fluid State) by M. Reva and translated by KUO T'ien-min (6753/1131/3046) and HSIEH Wu-shao (6200/5293/7300); and

Chin-shu Tien-fu Shih Chia-kung (Finishing Work on Electrical Etching of Metals), by A. L. Livshits and translated by Research and Teaching Staff of Electrical Engineering Department of Sian Communications University. (Peiping, Chin-shu Hsueh-pao [Acta Metallurgica Sinica], Vol 6, No 1, Jul 63, inside back cover).

3. Metallurgical Book Review

The book, Chin-shu X Hsieh-hsien-hsueh (X-Ray Study of Metals), by HSU Shun-sheng (6079/7311/3932) is a new branch of study of metals by the use of X rays. This book was published in November 1962 by the Shanghai Scientific and Technological Publishing Society and contain 570 pages.

Special notes in this book explain how to prepare metals for X rays and crystallography; the basis for those phenomena and theories in diffraction of crystals; use of new experimental methods in diffraction; and research results conducted by writer in metallurgy and metallurgical physics.

According to the review, this book is rich in new materials, goes into the subject in detail, and is written in simplified form. It can be used by beginners in the study of metallurgical X ray, as well as for teaching materials in technical colleges and for reference materials by scientific researchers and production technologists. (Peiping, Chin-shu Hsueh-pao [Acta Metallurgica Sinica], Vol 6, No 2, Jul 63, pp 87-88)

4. New Book Published on Fish

CHU Yuan-ping (2612/0337/7844), Shanghai Fisheries College, and others have written a book entitled Chung-kuo Shih-shou Yu-lei Fen-lei Hsi-t'ungti Yen-chiu ho Hsin-shu Hsin-chungti Hsu-shu, (Research on the Classification System of the Chinese Fish Sciena and a Description of the New Types of Genus and Species). This book was recently published by the Shanghai Scientific and Technological Publishing House.

This book combines classification data from over 100 years pertaining to the Chinese fish sciena. (Peiping, Kuang-ming Jih-pao, 13 Dec 63, p 2)

FOREIGN TRAVELS AND CONTACTS

1. Sino-Soviet Scientific Cooperation Agreement Signed

On 29 November 1963, the Chinese Academy of Sciences and the Academy of Sciences, USSR signed a scientific cooperation agreement in Peiping. YEN Chi-tzu (0917/3441/1964), Director of the Technical Sciences Department, Chinese Academy of Sciences, and Ye M. Zhukov, of the Historical Sciences Department, Academy of Sciences USSR, represented the two countries in the signing. (Peiping, Kuang-ming Jih-pao, 30 Nov 63, p 3)

2. Sino-Hungarian Scientific and Technological Meeting Held

From 2 December 1963 to 11 December 1963, the Sino-Hungarian Scientific and Technological Cooperative Commission held its 8th meeting in Budapest.

According to agreement regulations, both sides will mutually exchange experiences in technology; chemical industry; information techniques, geology; medical, pharmaceutical, and public health; agricultural industry; light industry; food industry; and other phases.

Representing the Chinese side in the signing of the agreement was CH'EN Hung (3088/7703), a vice-minister of the First Ministry of Machine Building and chairman for the Chinese side. Representing the Hungarians was Laszlo Foldi, First Vice-Chairman of the Ministry of Light Industry and chairman of the Hungarian side. (Peiping, Jen-min Jih-pao, 13 Dec 63, p 3)

3. Bulgarian Doctor Returns Home

On 11 December 1963, ? Kaymiliev?, Rector of the Higher Medical Institute, Varna, Bulgaria, left Peiping by plane to return home. Kaymiliev had been in China in accordance with the Sino-Bulgarian Cultural Cooperative Pact. (Peiping, Jen-min Jih-pao, 12 Dec 63, p 4)

4. Chinese Graduate Student Reports at Geological Conference in Moscow

CHAI Po-jang, graduate student at the Moscow Geological Prospecting Institute, presented a report at the Section on the Petrography of Sedimentary Rocks at the Scientific Conference of the Professorial Teaching Staff and Students of the Institute, held in Moscow on 1-12 April 1963. A report presented at this section by a group of students in the third and fourth courses contained a number of new facts on carbonate rocks of the Upper Cretaceous period, compiled from field studies at the village of Partizanskoye in the Crimea. CHAI presented his conclusions on conditions for the formation of Lower Cretaceous deposits in Fergana. (Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Geologiya i Razvedka, No 12, Dec 63, pp 143-144)

5. Chinese Tuberculosis Prevention Delegation Visits Nepal

A delegation of two of the Chinese Association of Tuberculosis Prevention, headed by CHU Tsung-yao (2621/1350/1031), flew to Nepal on 26 November 1963. The delegation had been invited to attend Nepal's first convention on the prevention of tuberculosis. The delegation was met at the airport by Ma-la-po-shih, [Chinese transliteration of Nepalese name] chairman of the Nepalese Association of Tuberculosis Prevention, and Chinese diplomatic personnel. (Peiping, Chin-jih Hsin-wen, 28 Nov 63, p 4)

6. Public Health Minister From Laos Visits China

On the morning of 28 December 1963, TENG Hsiao-p'ing, acting Premier of the State Council, met the Public Health Minister from Laos, Khamsuk Kaeola, and together they promoted the friendship between the two countries.

Also at the reception were Li Te-ch'uan (2621/1795/0356), Minister of Public Health; CHI T'eng-ch'i (1213/7720/3049), Vice-Minister of Foreign Affairs; TS'AO K'o-ch'iang (2580/0344/ 1730), Deputy Director of the Second Asian Affairs Bureau, Ministry of Foreign Affairs; and Ko Pu-hai (5514/2975/3189), Deputy Director of the Protocol, Ministry of Foreign Affairs.

Also at the reception was Khamkhing Suvanlasi, Laotian Ambassador to China. (Peiping, Kuang-ming Jih-pao, 29 Dec 63, p 1)

MISCELLANEOUS

1. China Builds Mass-Spectrograph

China has constructed two mass spectrographs, each of them composed of 29,000 parts, for the purpose of determining the composition of and analyzing isotopes. These instruments are very useful in research on atomic physics, chemistry, geology, and medicine, as well as in the work of industrial and agricultural departments. In the past, this type of equipment was imported from abroad, but in 1960, the Peking Scientific Instrument Plant of the Chinese Academy of Sciences and the Peking Gaseous Analysis Instrument Plant of the First Ministry of Machine Building began cooperating in the construction of these instruments and completed them only after more than two years of difficult work. (Hong Kong, Ta Kung Pao, 3 Dec 63, p 1)

2. Researchers Stabilize High Yield of Gibberellin in Pilot Production

For more than 6 years, teachers and students of the Microbiology Specialization at Peking Agricultural University have been engaged in a research project on gibberellin, and a stabilized high yield in auxin has been attained in the university's pilot production experiments. Today, a gibberellin production and research base has been firmly established at Peking Agricultural University, and a scientific research group, composed of upper classmen, technicians, and young teachers, is undertaking further research into the many aspects of gibberellin production under the guidance of experienced members of the faculty.

Specific projects during the past 6 years were the selective breeding of gibberella, the search for a suitable fermentation medium, determination of conditions for fermentation, and a development of a gibberellin extraction method. Work in selective breeding was carried out under the guidance of Prof Yu Pa-fu (0358/1129/4811). Different strains of the mold were obtained from the following areas and cultivated in the laboratory: Hunan, Hupeh, Kiangsi, Chekiang, Kiangsu, Shantung, Peiping, and Tientsin. High-yield strains were subjected to ultraviolet irradiation to induce mutations. The result was a mutant without spores of pigment but with a gibberellin-producing capacity equal to that of strains introduced from abroad. The nutritional requirements of this mutant were investigated, and a suitable carbon-nitrogen ratio was determined. After much experimentation, a new fermentation medium was found.

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Its raw materials were readily and economically available, and it proved to be better than those fermentation media that the school found described in the literature. Next, the optimal fermentation conditions such as temperature, aeration, intermixing rate, hydrogen-ion concentration, etc. were determined, and they contributed to the stabilized high yield which was obtained in the pilot-production experiments.

According to foreign literature, the procedure for extracting from the fermentation broth the desired white, crystalline substance is very complicated, requiring the use of a vacuum pump. But researchers at Peking Agricultural University managed to simplify the method of extraction, omitting the use of the vacuum pump without inactivating the gibberellin.

During the past 2 or 3 years, the Microbiology Specialization of the Department of Plant Protection, Peking Agricultural University, has studied many theoretical problems encountered in its pilot production experiments. The results have helped production. For example, when the question of how gibberellin is formed during the process of fermentation was raised, Prof Li Chi-lun (2621/1323/0243) assigned the topic to several upper classmen who had opportunity to study it in their practical work. The study became the subject of their graduation thesis. According to

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their preliminary investigation, the biosynthesis of gibberellin is related to the fat metabolism of the cul tures and proper adjustment of the components of the medium should increase yield, as well as shorten the fermentation cycle.

The pilot production of gibberellin was initiated as a research project of Peking Agricultural University in July 1958, when a student, participating in the Great Forward Leap, succeeded in the isolation of a strain of bibberella from a rice plant, cultured it in the laboratory, and extracked the auxin from its fermentation broth. The party and government considered those preliminary achievements important. Subsequently, the State Scientific and Technological Commission, the Ministry of Agricylture, and the Peiping Municipal Party Committee quickly appropriated special funds and steel construction materials for the erection of a gibberellin pilot production laboratory at that university. (Peiping, Kuang-ming Jih-pao, 31 Dec 63, p 2)

3. Investigation of Fish Diseases Obtains Results

An investigatory team of research personnel from the Institute of Hydrobiology, Chinese Academy of Sciences, concluded work at the proving grounds on investigation of diseases of fish and pathogenic flora in Hupei Province. The work was completed in mid-October 1963. The investigatory team of research personnel was made up of technical cadre organizations from 15 provinces and districts. The work at the proving grounds had started at the beginning of July 1963.

In three special districts of Hupei, they investigated 185 fish ponds of 26 proving grounds in 19 hsien and municipalities and also a portion of the small lakes, reserviors, and rivers in which fish breed. Althogether they investigated 50 different kinds of fishes and collected 9,220 specimens of pathogens and fish diseases, and they discovered various types of pathogens which totaled 89 classes. (Peiping, Kuang-ming Jih-pao, 1 Dec 62, p 2)

4. Papers Describe Research on Cell Biology

At a recent scientific conference of the Kwangsi Teacher's College, Prof CH'EN Po-k'ang (7115/0130/1660) presented two papers, "Nuclear Metamorphosis and Its Outward Movement" and "How Binuclear and Polynuclear Cells Are Formed in the Liver of Small White Mice." In the first of these papers, the author disagrees with genetic theory and states his opinion that DNA is peculiar to chromozones and that a cell nucleos can have only RNA, not DNA. (Peiping, Kuang-ming Jih-pao, 18 Dec 63, p 2)

5. New Fields of Study in Chinese Psychology

Chinese psychology workers, according to the conditions of scientific advancement and to the needs of socialist construction, have opened up various new fields of study and have obtained new results. These new fields of study include: worker psychology, medical psychology, educational psychology, engineering psychology, physical education psychology, literature and art psychology, deaf and dumb psychology, and other phases.

It was just recently in Peiping that the first annual psychology conference was held, and at that conference more than 200 papers were received. Of the 200 papers received, more than 70 percent were related to labor, medical, and educational psychology. (Canton, ChungKuo Hsin-wen, 22 Dec 63, p 7)

6. Veterinary Medicine in Inner Mongolia

People's communes in remote places and grazing lands in the Inner Mongolian Autonomous region this year have established 217 new cattle breeding and veterinary stations. These stations have begun a veterinary work network that encompasses the entire region of the Inner Mongolian Autonomous region.

There are now 1,042 of these stations employing more than 7,900 persons. (Peiping, Jen-min Jih-pao, 8 Dec 63, p 2)

7. Wuhan Scientists Discuss Experimental Research Work

Recently, the Hupeh Provincial Scientific and Technological Committee organized separate meetings of the responsible persons, researchers, professors, and technicians in the following institutions to consider the matter of making experimental research serve the interests of national construction: Wuhan Business Office of the Chinese Academy of Sciences Central-South Branch, Chinese Academy of Sciences Hupeh Branch, Research Institute of Oil-Bearing Crops of the Chinese Academy of Agricultural Sciences, the Hupeh Provincial Agricultural Research Institute, Wuhan University, and Wuhan Municipal Scientific and Technological Committee.

The consensus expressed in all those meetings was that China has made much progress in economic construction and in scientific research but still lags considerably behind advanced nations in those areas. Inasmuch as socialist construction demands rapid elevation of China's level of science and technology, it is expedient that scientists and technicians strengthen their experimental research work. It was pointed out that theories are derived from and tested against actualities. Therefore, the way to promote scientific experimentation is to coordinate it

(continued)
with class struggle and production struggle. The general opinion was expressed that under the "new situation," China's science and technology can be advanced to a new stage if scientists will resolutely follow the mass line and coordinate their experimental results with the actual experiences of the masses. (Hankow, Hu-pei Jih-pao, 19 Sep 63, p 3)

8. Structure of Granite in South China

Scientific experiments by old and young professors of the Geology Section, Nanking University, over the last six years have overthrown the traditional falsehood of the past several decades pertaining to granite formation in South China. The truth is that the current formation in South China was not formed in one period, but was formed in several periods.

This evidence brought up new traces for investigation into various types of metallic products in South China.

Formation of granite is a very important theoretical question in geology and also is an important topic in production practices. Many metallic products such as tungsten, tin, molybdenum, bismuth, and metals have a very close relationship with granite.

In 1957, Prof HSU K'o-ch'in (1776/0344/0530) headed a group of young and old professors who probed deeply into the problem of opening up scientific research movements. In 1957 and 1958, in outhern Kiangsi and Southern Anhwei, they discovered a type of caldonian granite which antedates the Yenshan Period more than 200 million years. (Canton, Chung-kuo Hsin-wen, 21 Dec 63, p 9)

BIOGRAPHIC INFORMATION

AO Chen-k'uan (2407/2182/1401); South Central Mining and Metallurgical College; author of an article "On a New Species of (?) Sphenophyllum Changshaense From the Lower Carboniferous of Changsha, Hunan." (Peiping, Ku-sheng-wu Hsueh-pao [Acta Palaeontologica Sinica], Vol 11, No 4, Nov 63, p 610)

CH'AI Tien-ying, coauthor with V. M. Prokhorov of article, "Diffusion of Cesium-137 in Soil," in Russian; received for publication on 23 February 1963. (Moscow-Leningrad, Akademiya Nauk SSSR, Radiokhimiya, Vol 5, No 5, 16 Oct 63, pp 639-642.)

CHAN Chih-kan, Moscow Geological-Prospecting Institute imeni S. Ordzhonikidze; author of the dissertation for the scientific degree of Candidate of Geological-Mineralogical Sciences, "Carbonaceous Cave in the Lo-ch'eng Region (Kwangsi Province, Southern China)," in Russian. (Moscow, Vechernyaya Moskva, 2 Dec 63, p 4)

CH'EN Hsien-tsu (7115/2009/4371), Yunnan Provincinl Institute of Agricultural Sciences; author of an article, "Research Report on the Conversion of Winter Paddy Fields in South Central Yunnan Into Wet and Dry Two-Season Fields." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 17-22)

CH'EN Hung-k'uei (7115/7703/6652), professor at the Plant Pathology Teaching and Research Section, Chekiang Agricultural College. (Peiping, Kuang-ming Jih-pao, 11 Dec 63, p 2)

CHENG Po-jang, Moscow Geological-Prospecting Institute imeni S. Ordzhonikidze; author of the dissertation for the scientific degree of Candidate of Geological-Mineralogical Sciences, "Petrography and Conditions for the Formation of Lower Cretaceous and Senoman Deposits in Fergana," in Russian. (Moscow, Vechernyaya Moskva, 2 Dec 63, p 4)

CH'IEN Pao-chun (6929/1405/6874), Vice-Minister of the Ministry of Textile Industry. (Peiping, Chin-jih Jih-pao, 4 Nov 63, p 7)

CHIN Tso-tung (6855/0155/2639), professor and Chairman of the Department of Subtropical Plants, Overseas Chinese University. (Shanghai, Ch'iao-hsiang-pao, 19 Aug 63, p 2)

CHIN Yu-t'ai, Chemistry Department, Moscow State University; coauthor with V. V. Sarayeva of article, "Radiation-Induced Oxidation of Two-Phase Hydrocarbon-Water Systems," in Russian, received for publication on 21 April 1962. (Moscow, Akademiya Nauk SSSR, Sibirskoye Otdeleniye, Kinetika i Kataliz, Vol 4 No 6, 11 Dec 63, pp 823-828)

HSIA Te-chi, Aspirant of Technical Sciences, Timiryazevskaya Agricultural Academy; coauthor with L. G. Prishchep of article, "Application of Electric Heating Systems in Sun Hothouses," in Russian; received for publication on 23 June 1963. (Moscow, Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, No 5, 30 Oct 63, pp 210-218)

HSIEH Sen-hsiang (6200/2773/4382), Institute of Soils and Fertilizers, Chinese Academy of Agricultural Sciences; author of an article, "Problems in the Joint Determination of Large and Small Aggregates in Paddy Soil." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 59-60)

HSIUNG I (3574/3015)

CH'EN Chia-fang (7115/1367/0912)
Both of the Institute of Soils, Chinese Academy of Sciences; coauthors of an article, "The Importance of Raising Soil Fertility to the Development of Agricultural Production." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 1-5)

HSU Yu-sheng (6079/1635/3932)
WANG Wen-chun (3769/2429/0193)
CH'EN Shao-san (7115/1421/0005)
All of the Hupeh Provincial Institute of Agricultural Sciences; coauthors of an article, "Research on the Effectiveness of Phosphate Fertilizers in Dissimilar Paddy Soils and the Problem of Phospherous Nutrients in Paddy Rice." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 31-36)

HSUN Chu-hua, author of article, "Elastic Bending of Freely Resting Circular Plates Under the Action of Axisymmetrical Load," in Russian; received for publication on 4 June 1963. (Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika i Mashinostroyeniye, No 6, Nov-Dec 63, pp 159-163)

HU Han-wen (5170/3352/2429), Hsiao-shan Institute of Cotton and Hemp, Chekiang Province; author of an article, "Research in the Use of Nitrogen Chemical Fertilizer on Jute." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 43-46)

HUANG Li-tao, Chair of Physical Chemistry, Moscow State University; coauthor with A. F. Vorob'yev and N. M. Privalova of article, "Determination of Enthalpy in the Formation of Chlorate Ion in Aqueous Solution," in Russian' received for publication on 6 December 1962. (Moscow, Vestnik Moskovskogo Universiteta, Seriya 2, Khimiya, No 6, Nov Dec 63, pp 27-31.)

HUANG Mu-yu, Candidate of Biological Sciences, Timiryazevskaya Agricultural Academy; coauthor with L. V. Mozhayeva and L. A. Tsareva of article, "Effect of Heteroauxin on Bleeding Sap Secretion of Sunflower Seeds," in Russian; received for publication on 6 June 1963. (Moscow, Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, No 5, 30 Oct 63, pp 47-58)

JAO Ch'in-chih (7437/2953/2972), Deputy Director of the Institute of Hydrobiology, Chinese Academy of Sciences. JAO is 63 years of age. (Peiping, Kuang-ming Jih-pao, 25 Aug 63, p 2)

KO Chih-ming, coauthor with I. I. Kornilov and Ye. N. Pylayeva of the following article, to be published soon," Diagram of Phase Equilibrium of the System Ti-Al-(Mo:V = 1:1)," in Russian. (Moscow, Akademiya Nauk SSSR, Zhurnal Neorganicheskoy Khimii, Vol 8, No 12, Dec 63, p 2881)

KUNG Kuang-yen (7895/0342/3508), Honan Provincial Academy of Agricultural Sciences; author of an article, "Manure Spreading in the Blue Sand Soil District of Eastern Honan Province." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 48-50)

KUNG Tzu-t'ung (7895/1311/0681)
CH'EN Chih-ch'eng (7115/1807/6134)
CH'ENG Ju-tao (4453/3067/7394)
JUNG Chieh (2051/2212)
All of the Institute of Soils, Chinese Academy of Sciences; co-authors of an article, "Experiments on the Effectiveness of Silt Fertilization in the Pearl River Delta." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 54 and 55)

LI Ch'ih-fa, coauthor with I. S. Morozov of article, "Interaction of Tantalum, Niobium, Iron, and Aluminum Chlorides With Tin Chlorides," in Russian; received for publication on 8 January 1963. (Moscow, Akademiya Nauk SSSR, Zhurnal Neorganicheskoy Khimii, Vol 8, No 12, Dec 63, pp 2733-2736)

LI Fen-i, Moscow State University; coauthor with V B YEVDOKIMOV of article, "Apparatus for the Absolute Measurement of Magnetic Susceptibilities," in Russian. (Moscow, Akademiya Nauk SSSR, Zhurnal Fiviches Koy Khimii, Vol 37, No 12, Dec 63, pp 2791-2794)

LI Shan-pang (2621/0810/6721), Director of the Third Laboaratory of the Institute of Geophysics, Chinese Academy of Sciences. LI is 60 years of age. (Peiping, Peiping Jih-pao, 1 Nov 63)

LI Yu, Institute of Virusology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR; coauthor with O. P. Peterson of article, "Antiviral Effect of Interferon," in Russian; received for publication on 25 November 1962. (Moscow, Voprosy Virusologii, No 6, Nov-Dec 63, pp 719-723).

LIANG Shu-ch'uan (2733/2885/2930), Institute of Chemistry, Chinese Academy of Sciences; author of an article, "Several Comments on the New International Table of Atomic Weights." (Peiping, Hua-hsueh Hsueh-pao [Acta Chimica Sinica], Vol 28, No 1, Feb 62, pp 71-72)

LIN Te-yu, Moscow Institute of Radio Electronics and Mining Electromechanics; author of article, "Results of Investigation of the Process of the Breakdown of Solid Media During Blasting," in Russian; first published in Nauchnyye Trudy Moskovskogo Instituta Radioelektroniki i Gornoy Elektromekhaniki, Vol 37, 1963, pp 132-135. (Moscow, Letopis' Zhurnal'nykh Statey, No 49, 30 Nov 63, p 98)

LIU Chung-huei, Institute of Metalloceramics and Special Alloys, Academy of Sciences USSR, and Institute of Chemical Physics, Academy of Sciences USSR; coauthor with S. Z. Roginskiy, G. V. Samsonov, and M. I. Yanovskiy of article, "Dehydrogenation of n-Butane Into Butenes and Butadiene 1,3 on Some Carbides of Chrome," in Russian; received for publication on 3 January 1963. (Moscow, Akademiya Nauk SSSR, Neftekhimiya, Vol 3, No 6, Nov-Dec 63, pp 845-849)

LIU Fen-lan, coauthor with N. A. Demina of the new book "Uchebnik Kitayskogo Yazyka Dlya Tret'yego Klassa (Textbook of the Chinese Language for the Third Grade)," 116 pages with illustrations; published in Moscow in 1963 by the State Training and Pedagogical Literature Publishing House. (Moscow, Knizhnaya Letopis', No 1, 20 Dec 63, 1964, p 66)

LIU K'o-hao (0491/0344/6275), State-Operated Liu-chia-chan Plantation; author of an article, "The Reclamation, Utilization, and Enrichment of Red Soil Wasteland." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 28-31)

LIU Shu-chi (0491/2885/1015)
Ch'uan-yao (7806/2938/5069)
Both of the South China Agricultural College; coauthors of an article, "Research on Water Content of the Soil in the Ch'iu-ling Red Soil Orange Orchards of Canton." This research was directed by Prof HSIEH Shen (6200/3947) of the South China Agricultural College. (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 37-39)

LIU Shu-tun, Moscow Geological Prospecting Institute imeni S. Ordzhonikidze; coauthor with Z. G. Muromtseva and A. G. Tarkhov of article, "Experiment of Statistical Processing of Data of Geothermal Observations in Wells in Krivoi Rog," in Russian. (Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Geologiya i Razvedka, No 12, Dec 63, pp 117-122)

MA T'ung-sheng (7456/0681/3932), Nanking Agricultural College; author of an article, "Principles, Instruments, and Techniques of Heat Differential Analysis of Clay Minerals." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 51-53)

MAO Chih-ch'iung, Institute of Chemistry of Silicates, Academy of Sciences USSR; coauthor with N. A. Toropov of article, "Studies on the Formation of Solid Solutions of Tristrontium Silicate with Certain Rare Earth Oxyorthosilicates (La, Nd, Y)," in Russian; received for publication on 21 August 1962. (Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 12, 19 Dec 63, pp 2079-2083)

SHEN Chih-hao (3088/1807/6275)
LU Shu-ying (0712/2579/4964)
CH'EN K'o-tseng (7115/0344/1073)
KO Shih-an (5514/0013/1344)
All of the Wen-chou Special District Institute of Agricultural Science; co-authors of an article, "Initial Experiments on the Nitrogen-Fixing Abilities of Azolla." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 46-48)

SUN Yun-chu (1327/0061/6999); author of an article, "On the Occurrence of Xystridura Fauna From Middle Cambrian of Hainan Island and Its Significance." (Peiping, Ku-sheng-wu Hsueh-pao [Acta Palaeonthologica Sinica], Vol 11, No 4, Nov 63, pp 608-610)

T'ANG T'ien-fu, author of article, "Terrigenous-Mineralogical Provinces of Upper Carboniferous and Lower Permian Deposits in Aktyubinsk Ural Region," in Russian. (Moscow, Letopis' Zhurnal'nykh Statey, No 51, 14 Dec 63, p 62)

T'AO Kuo-tung (7118/0948/2767), Shansi Provincial Institute of Water Conservancy; author of an article, "Causes of Salination and Desalination of Soils in the Three Rivers Irrigation District of Central Shansi Province, and Improvement of Their Utilization." Maps and charts for this article were prepared by KAN Hsueh-shih (3927/1331/6108). (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 6-11

TENG T'ieh-chin (6772/6993/6855), Soil Fertility Office, Department of Agriculture, Kiangsi Province; author, with others, of an article, "Effectiveness of Calcium, Magnesium, and Phosphorous Fertilizers in Increasing Production of Paddy Rice and Experience in Its Use." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 40-43)

TS'AO Sheng-keng (2580/0581/6342), Institute of Soils, Chinese Academy of Sciences; author of an article, "Mineral Toxic Fields-- A Special Paddy Soil of the Southern Mountainous Region." The diagrams for this article were done by CHANG Wei-hsin (1728/4850/2450). (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 23-27)

TSOU Yuan-hsi (6760/0337/8764), institute of Metallurgy, Chinese Academy of Sciences; author of a research note, "Cu_2S - FeS Melts." (Peiping, Chin-shu Hsueh-pao [Acta Metallurgica Sinica], Vol 6, No 2, Jul 63, pp 83-86).

WANG Chih-t'ang (3769/5347/2768)
LIU Tai-ch'ing (0491/0108/1987)
WU Te-yu (0702/1702/1795/3842)
YU Ching (0060/7234)

All of the Tientsin Institute of Paddy Rice; coauthors of an article, "Ideas on the Improvement and Utilization of Low-Lying Saline Land in the Yun-tung Area of Ching-hai Hsien." (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 12-16)

WANG Tieh-hsuan, author of article, "Modification of Summer Grain Wheat Into Winter Crop, Depending on Conditions of Cultivating the Original Seeds," in Russian; first published in Trudy Instituta Genetiki, Akademiya Nauk SSSR, No 30, 1963, pages 79-89. Moscow, Letopis' Zhurnal'nykh Statey, No 50, 10 Dec 63, p 115)

WU Min, Laboratory of Tissue Culture, Institute of Experimental and Clinical Oncology, Academy of Medical Sciences USSR; author of article, "Long-Term Preservation of Deep Frozen Cell Strains in Vitro," in Russian; received for publication on 13 July 1961. (Moscow-Leningrad, Akademiya Nauk SSSR, Tsitologiya, Vol 5, No 6, Nov-Dec 63, pp 629-645)

WU Pang-yuan, Institute of Organoelemental Compounds, Academy of Sciences USSR; coauthor with V. V. Korshak and S. V. Vinogradova of article, "Heterochain Polyesters: 46. Synthesis of Polyamidoarylates From Isophthalyl Chloride, p, p'-Dihydroxypheryl-2,2- Propane and Hexamethylenediamine by Interfacial Polycondensation," in Russian; received for publication on 19 February 1962. (Moscow, Vysokomolekulyarnyye Soyedineniya, Vol 5, No 12, Dec 63, pp 1765-1770)

WU T'ung-chia (0702/0681/3946), Institute of Geology and Palaeontology, Chinese Academy of Sciences; author of an article, "G. Winston Sinclair: Use of the Term 'Variety' in Paleontology." (Peiping, Ku-sheng-wu Hsueh-pao, [Acta Palaeontologica Sinica], Vol 11, No 4, Nov 63, p 612).

WU Wen-lan, coauthor with V. I. Isagulyants of article, "Detergents Based on Polyglycol Esters of Tri-octylphenol," in Russian; first published in Trudy Moskovskogo Instituta Neftekhim: i Gazovoy Promyshlennosti, No 44, 1963, pp 110-113. (Moscow, Letopis' Zhurnal'nykh Statey, No 52, 12 Dec 63, p 80)

YANG Ju-hsi, Institute of Poliomyelitis and Virus Encephalitis, Academy of Medical Science, USSR, Moscow; coauthor with A. A. Adakyan and A. D. Al'tshtein of article, "A Study of Acute and Chronic Infection With Tick-Borne Encephalitis Virus in Tissue Culture: Report II. Accumulation of Virus and Mechanism of Its SPREAD in Tissue Culture," in Russian; received for publication on 11 June 1962. (Moscow, Voprosy Virusologii, No 6, Nov-Dec 63, pp 713-719)

YANG Shih, Central Scientific-Research Physicotechnical Laboratory, Academy of Sciences Armenian SSR; author of article, "Canonical Translation Method for the Investigation of Overhauser's Spin Density Wave State," in Russian; received for publication on 17 June 1963. (Moscow, Doklady Akademii Nauk SSSR, Vol 153, No 4, 1 Dec 63, pp 798-800)

YEH Liang-hsiu, Leningrad Electrical Engineering Institute imeni V. I. Ul'yanov; coauthor with G. N. Violina and G. F. Kholuyanov of article, "Optical Absorption and Electric Properties of n-Type -SiC," in Russian; received for publication on 5 June 1963. (Moscow-Leningrad, Akademiya Nauk SSSR, Fizika Tverdogo Tela, Vol 5, No 12, Dec 63, pp 3406-3412)

YU Ch'i-ch'uan, Institute of Organic Chemistry imeni N. D. Zelinskiy; coauthor with A. A. Tolstopyatova and K. A. Dulitskaya of article, "Catalytic Properties of Neodymium Oxide in the Reactions of Dehydrogenation and Dehydration of Alcohols and Dehydrogenation of Tetralin," in Russian; received for publication on 27 August 1962. (Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 12, 19 Dec 63, pp 2095-2100)

YU Chien-shih (3768/1017/1395), Institute of Paleoanthropology and Vertebrate Palaeontology, Chinese Academy of Sciences; author of article "On the Occurrence of Sinamia Zdanskyi Stensio from South China Platform." (Peiping, Ku-sheng-wu Hsueh-pao, [Acta Palaeontologica Sinica], Vol 11, No 4, Nov 63, p 611)

YUAN Ts'ung-i (5913/1873/4400), Kiangsu Branch of the Chinese Academy of Agricultural Sciences; author of an article, "Laboratory Measurement of Soil Permeability." WANG Yeh-ching (3769/2814/2417) participated in this work. (Peiping, T'u-jang T'ung-pao, No 4, Aug 63, pp 55-59)

LIST OF ACTAS SINICA

The following Actas Sinica (Hsueh-pao) are being published in Peiping:

	Title	Periodicity
1.	Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica)	Quarterly
2.	Chieh-p'ou Hsueh-pao (Acta Anatomica Sinica)	Quarterly
3.	Chih-wu Hsueh-pao (Acta Botanica Sinica)	Quarterly
4.	Chih-wu Feng-lei Hsueh-pao (Acta Phytotaxonomica Sinica)	Quarterly
5.	Chih-wu Ping-li Hsueh-pao (Acta Phytopathologica Sinica)	Quarterly
6.	Chin-shu Hsueh-pao (Acta Metallurgica Sinica)	Quarterly
7.	Ch'u-mu Shou-i Hsueh-pao (Acta Veterinaria et Zootechnica Sinica)	Quarterly
8.	Hai-yang yu Hu-chao (Oceanologia et Limnologia Sinica)	Quarterly
9.	Hsin-li Hsueh-pao (Acta Psychologica Sinica)	Quarterly
10.	Hua-hsueh Hsueh-pao (Acta Chimica Sinica)	Bimonthly
11.	Ku-sheng-wu Hsueh-pao (Acta Palaeontologica Sinica)	Quarterly
12.	K'un-ch'ung Hsueh-pao (Acta Entomologica Sinica)	Bimonthly
13.	Li-hsueh Hsueh-pao (Acta Mechanica Sinica)	Quarterly
14.	Nung-yeh Chi-hsieh Hsueh-pao (Acta Agromechanica Sinica)	Quarterly
15.	Sheng-li Hsueh-pao (Acta Physiologica Sinica)	Quarterly
16.	Sheng-wu Hua-hsueh yu Sheng-wu Wu-li Hsueh-pao (Acta Biochimica et Biophysica Sinica)	Quarterly

17.	Shih-yen Sheng-wu-hsueh Hsueh-pao (Acta Biologiao Experimentalis Sinica)	Semiannual
18.	Shu-hsueh Hsueh-pao (Acta Mathematica Sinica)	Quarterly
19.	Shui-sheng Sheng-wu-hsueh Chi-k'an (Acta Hydrobiologica Sinica)	Semiannual
20.	Ti-chih Hsueh-pao (Acta Geologica Sinica)	Quarterly
21.	Ti-ch'iu Wu-li Hsueh-pao (Acta Geophysica Sinica)	Semiannual
22.	Ti-li Hsueh-pao (Acta Geographica Sinica)	Quarterly
23.	Tien-tzu Hsueh-pao (Acta Electronica Sinica)	Quarterly
24.	T'ien-wen Hsueh-pao (Acta Astronomica Sinica)	Semiannual
25.	T'ien-wen Hsueh-pao Fu-k'an (Acta Astronomica) Sinica Supplementum)	Semiannual
26.	Ts'e-hui Hsueh-pao (Acta Geodetica et Cartographica Sinica)	Quarterly
27.	T'u-jang Hsueh-pao (Acta Pedologica Sinica)	Quarterly
28.	Tung-wu Hsueh-pao (Acta Zoologica Sinica)	Quarterly
29.	Tzu-tung-hua Hsueh-pao (Acta Automatica Sinica)	Quarterly
30.	Wei-sheng-wu Hsueh-pao (Acta Microbiologica Sinica)	Quarterly
31.	Wu-li Hsueh-pao (Acta Physica Sinica)	Monthly
32.	Yao-hsueh Hsueh-pao (Acta Pharmaceutica Sinica)	Monthly
33.	Chi-hsieh Kung-ch'eng Hsueh-pao (Chinese Journal of Mechanical Engineering)	Quarterly
34.	Chih-wu Pao-hu Hsueh-pao (Chinese Journal of Plant Protection)	Quarterly
35.	Chien-chu Hsueh-pao (Journal of Architecture)	Monthly
36.	Kuei-suan-yen Hsueh-pao (Chinese Journal of Silicate)	Quarterly

37. Shui-li Hsueh-pao (Chinese Journal of Hydraulic Engineering) Bimonthly

38. T'u-mu Kung-ch'eng Hsueh-pao (Chinese Journal of Civil Engineering) Bimonthly

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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,

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)

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