5(4),28(2)

AUTHORS: Bergo, B.G., Platonov, V.M., Aerov, M.E., Yevtushenko, Y.A.

S/064/59/000/07/001/035
B005/B123

TITLE: Computation of Rectification on Analog Computers

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 7, pp 555-560 (USSR)

ABSTRACT: The editors of the periodical refer to the fact that the method described in the present paper is based on the assumption of a complete countercurrent vapor - liquid. This supposition would have to be proved, however, for disk columns. This article was published, nevertheless, in order to draw attention to the possibility of using analog computers for the computation of processes in chemical technology. The use of analog computers for the computation of rectification, condensation, and other processes of gas fractionation makes it possible to mechanize this computation procedure in scientific institutes and industrial laboratories. The usual computation of rectification is based on the concept of "theoretical plates". This concept is, however, a very crude simplification as the vapor concentration changes continuously in real fractionating columns. The transfer of mass from liquid to vapor can be

Computation of Rectification on Analog Computers S/064/59/000/07/001/035
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represented by the basic equation

$$\frac{dl_i}{dH} = \beta_x \left(X_i - \frac{Y_i}{K_i} \right) \quad (1)$$

For the computation of analog computers this equation is brought into the following form: $l_p = L - \sum_{i=1}^{p-1} l_i$ (7). This equation characterizes the total mass balance. It is composed of two systems of differential equations (one for the fractionating and one for the concentrating section of the column). The boundary conditions for solving the equations result from the construction of the respective columns. Generally the computation of one fractionating column demands the solution of two equation systems of general differential equations of (p-1)st order. In the present paper the two mentioned systems of differential equations are solved by integrating in the MGU computation center of an analog computer, type IPT-5. The boundary conditions are given by one system of linear and one of nonlinear algebraic equations. The results of the rectification computations are not unequivocal, as the system contains some

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degrees of freedom that can, however, be fixed by arbitrary restrictions. The computation procedure worked out was tested with various fractionating columns. Table 1 gives a survey over the products of ethane fractionation in a column and over the relative volatilities of components; table 2 shows the distribution of components in the fractionating column for ethane. Table 2 and figure 3 show similar conditions found in the course of fractionating methane. The results of the completed computations prove that the rectification procedure can be computed on analog computers with satisfying accuracy and great time saving. Because of these reasons the use of analog computers in scientific research institutes and planning institutes is highly recommended. The whole computation procedure is described in detail in the paper. Meaning of symbols used in equations: l_i - amount of any component i in the liquid (mol/hour); β_x - coefficient of transfer of mass, referred to the concentration difference in the liquid (mol/hour.m); H - coordinate of any cross-section (in m); X_i, Y_i - absolute concentrations of the component i in the liquid or in vapor respectively (mol/mol); K - equilibrium constant for the component i; L - amount of liquid (mol/hour). There are 4 figures, 2 tables, and 3

Computation of Rectification on Analog Computers S/064/59/000/07/001/035
B005/B123

references.

ASSOCIATION: Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov (Scientific Research Institute for Synthetic Alcohols and Organic Products). Moskovskiy gosudarstvennyy universitet (Moscow State University)

Card 4/4

AUTHORS: Platonov, V. M., Bergo, B. G. S/064/59/000/08/018/021
B115/B017

TITLE: The Use of Electronic Computers in Chemical Technology

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 8, pp 711 - 716 (USSR)

ABSTRACT: Among the electronic computers used in chemical technology in recent years mainly two types are used, i.e., continuous simulators and automatic discontinuously operating computers. The design and the mode of operation of these two types are shortly described, and their application in various computations is demonstrated (Table). The types of computers are described, which are used for computing the separation of multi-component systems in rectifying-, absorption-, and other apparatus, of distilling columns, of thermal pyrolysis, of continuously and periodically operating industrial apparatus, of nonsteady conditions in complicated technological processes, of the extraction of aromates from saturated hydrocarbons by selective adsorption on silica gel, of heat-transfer processes, of systems of differential equations which occur the most frequently in practice, of the control and regulation, in spectrometry and of various functions in physical and chemical problems. The operational methods of these computers are briefly characterized. There are 1 table and 80 references.

Card 1/1

BERGO, B.G., inzh.

Calculation of countercurrent condensations and of the evaporation of a binary mixture. Kislorod 12 no.5:6-12 '59. (MIRA 13:2)

(Air--Separation) (Condensation)

S/064/60/000/004/009/021/XX
B013/B069

AUTHORS: Bergo, B. G., Platonov, V. M.

TITLE: Method of Calculating Rectification From Mass Transfer Equations

PERIODICAL: Khimicheskaya promyshlennost', 1960, No. 4, pp. 18-23

TEXT: The method of calculating rectification from mass transfer equations has been analyzed and compared with the usual method basing on the notion of the theoretical plate. The mass transfer equations were shown to be equivalent to the equations of theoretical plates. This does not mean, however, that the results should coincide perfectly. Since the calculation in the first case is done by continuous integration, and in the second case by stepwise integration, the results are bound to diverge more or less. The two methods were intercompared by the calculation of an amplifier column designed for the separation of C_2 and heavier hydrocarbons from pyrolytic gases. The mass transfer equations for this problem were calculated at the Vychislitel'nyy tsentr MGU (Computer Center of

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Method of Calculating Rectification From Mass Transfer Equations

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Moscow State University) on an analog computer of the type ИПТ-5 (IPT-5) under the supervision of V. A. Yevtushenko. Calculations by the method of theoretical plates were performed at the Vychislitel'nyy tsentr Akademii nauk (Computer Center of the Academy of Sciences) on the universal digital computer "Ural". The program was worked out by E. A. Maurit and L. A. Filimonova. Both methods yield practically equivalent results. It was thus possible to demonstrate by concrete examples that both calculation methods can be used for the solution of mechanization problems with the aid of computers. When using analog computers it appears to be suitable to apply mass transfer equations. These equations are to be preferred also in those cases where digital computers are used, as only a single solution of the equation describing the process is then required. Mass transfer equations can be also applied to calculate the rectification of multicomponent mixtures. M. P. Malkov and K. F. Pavlov are mentioned. There are 2 figures, 3 tables, and 5 references: 2 Soviet.

ASSOCIATION: NIISS (Scientific Research Institute of Synthetic Alcohols and Organic Products)

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BERGO, B.G.; PLATONOV, V.M.

Method of calculating the rectification from mass transfer equations. Khim.prom. no.4:282-287 Je '60.
(MIRA 13:8)

(Distillation, Fractional) (Mass transfer)

PLATONOV, V.M.; BERGO, B.G.; MONKO, Ya.D.; KOGAN, B.O.

Calculating the rectification of mixtures of components having close-boiling points by means of a digital computer. Khim.prom. no.8:656-660 D '60. (MIRA 13:12)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov.
(Distillation, Fractional)
(Calculating machines)

B.

BERGO, N. G.; PLATONOV, V. M.

Calculation of the rectification process by means of digital computers. Khim. i tekh. topl. i masel 5 no.6:39-44 Je '60. (MIRA 13:7)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov.
(Distillation, Fractional)
(Calculating machines)

MONKO, Ya.D.; BERGO, B.G.; PLATONOV, V.M.

Calculations of the processes involved in the vapor - liquid equilibrium of multicomponent systems by means of electronic computers. Gaz.prom. 5 no.10:44-47 O '60. (MIRA 13:10)
(Gas manufacture and works) (Phase rule and equilibrium)
(Electronic calculating machines)

PLATONOV, V.M.; BERGO, B.G.

Calculation of rectification taking into account the thermal flow interaction with the use of a large digital computer. Khim. prom. no. 2:118-122 F '61. (MIRA 14:4)
(Distillation, Fractional)

PLATONOV, V.M.; MONKO, Ya.D.; BERGO, B.G.

Calculation of unsteady rectification conditions by means of the "Ural" digital computer. Khim.prom. no.6:424-428 Je '61.
(MIRA 14:6)

(Distillation, Fractional)

S/194/62/000/006/022/232
D413/D308

AUTHORS: Bergo, B.G., and Platonov, V.M.

TITLE: Gas separation process calculations by means of electronic computers

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-1-133 v (Vestn. tekhn. ekon. inform. N.-i. in-t tekhn.-ekon. issled. Gos. kom-Sov. Min. SSSR po khimii, no. 8, 1961, 14-20)

TEXT: In the general case, the computation of the rectification problem for multi-component systems corresponds mathematically to the solution of a boundary problem, i.e. the compositions of the distillate and residue should satisfy defined boundary conditions and a condition of general mathematical balance. Since the problem is solved by the method of successive approximations, the choice of the initial section assumes considerable importance. In general it is best to take the section at the height of the column feed input as the initial section, the calculation proceeding upwards for the top part and downwards for the lower part. If an analog compu-

Card 1/3

Gas separation process calculations ...

ter is used for the calculation, it is best to apply the equations of mass transfer. Digital computers are preferable for the solution of complex and standard problems. A method has been worked out for computing the rectification process for mixtures of substances with widely varying boiling points. The method consists of the successive calculation of compositions, temperatures, and quantities of vapor and liquid on the plates of the column. The calculation is carried on until the temperatures on all plates at two successive approximations coincide within given accuracy limits. The gas rectification computations required 18 min. on the 'Strela' computer. A method has been devised for control calculation of the rectification process for mixtures with widely varying boiling points, which allows one to determine the thermal load on the fractionating column and boiler at which a given distribution of the two components is obtained in the separation products. The method is based on plate-to-plate computation, but it differs from the generally accepted method of Lewis and Mathieson in that the computation is carried out simultaneously in two directions: downwards for the light components, and upwards for the heavy ones. A single table gives a list and brief characteristics of the computing methods for the funda-

S/194/62/000/006/022/232
Gas separation process calculations ... D413/D308

mental problems of gas separation using electronic computers. 4 references. [Abstracter's note: Complete translation.]

Card 3/3

BERGO, B.G.; PLATONOV, V.M.

New method of calculating multicomponent rectification by means of digital computers. Khim.prom. no.12:839-843 D '61. (MIRA 15:1)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov.
(Distillation, Fractional)

BERGO, B.E.; PLATONOV, V.M., kand.tekhn.nauk

Calculation of rectification processes by means of computing machines. Zhur.VKHO 6 no.5:549-553 '61. (MIRA 14:10)
(Distillation, Fractional) (Calculating machines)

BERGO, B.G.; AEROV, M.E.; BEREZHNAYA, K.P.

Condensation-evaporation method for the separation of a binary mixture. Khim.prom. no.1:57-60 Ja '62. (MIRA 15:1)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov.
(Gases—Separation)

PLATONOV, V.; BERGO, B.

Letter to the editor concerning B.N. Mikhailovskii's article "Determination of the minimum reflux-to-product ratio in the rectification of multicomponent mixtures." Izv.vys.ucheb. zav.;khim.i khim.tekh. 5 no.3:513-514 '62. (MIRA 15:7)
(Distillation, Fractional)

BERGO, B.G.; MONKO, Ya.D.; PLATONOV, V.M.

Thermal effects in the rectification of multicomponent mixtures. Khim. i tekh.topl.i masel 7 no.3:1-5 Mr '62. (MIRA 15:2)

1. Nauchno-issledovatel'skiy institut sinteticheskogo spirta.

(Distillation, Fractional)

BERGO, B.G.; PLATONOV, V.M.

Approximate methods for the calculation of the process of multicomponent rectification. Khim.prom. no.7:516-519 Jl '62. (MIRA 15:9)
(Distillation, Fractional)

PLATONOV, V.M.; MONKO, Ya.D.; BERGO, B.G.

Optimum conditions of delivery of feed stock during the rectification of multicomponent mixtures. Khim. i tekh. topl. i masel 8 no.6:12-16 Je '63. (MIRA 16:6)

1. Nauchno-issledovatel'skiy institut sinteticheskikh spirtov i organicheskikh produktov.
(Petroleum--Refining)
(Distillation, Fractional)

PLATONOV, V.M.; MONKO, Ya. D.; BERGO, B.G.

Thermodynamic efficiency of multicomponent rectification. Zhur. prikl. khim. 36 no.4:768-779 Ap '63. (MIRA 16:7)

(Distillation, Fractional) (Thermodynamics)

BERGO, B.G.

Calculation of the process of gas mixture separation by the condensation-evaporation method with the use of a computer. Khim. prom. no.5:357-361 My '63. (MIRA 16:8)

AEROV, M.E.; BEREZHNAYA, K.P.; BYSTROVA, T.A.; BERGO, B.G.;

Hydraulic and mass transfer in the intertubular space of a heat-exchange column. Khim.prom. no.9:703-705 S '63. (MIRA 16:12)

BERGO, B.G.; MONKO, Ya.D.; PLATONOV, V.M.

Calculating and investigating multicomponent absorption on a computer. Gaz. prom. 8 no.3:33-38 '63 (MIRA 17:7)

ZELENTSOVA, N.I.; BERGO, B.G.; AEROV, M.A.; PLATONOV, V.M.

Investigating the design of a set-up for separating casing-head gases using a liquid coolant. Gaz. prom. 8 no.6:30-35 '63.
(MIRA 17:8)

BERGO, B.G.

Use of a computer for studying a process of propane-propylene mixture separation by the condensation-vaporization method. Khim. prom. 40 no.10:725-727 O '64. (MIRA 18:3)

DALIN, M.A.; BERGO, B.G.; GERSH, V.S.; MARKOSOV, P.I.; MONKO, Yu.D.;
Prinimali uchastiye: GUSEYNOVA, Z.D.; TANIYANTS, K.D.;
SARKISYANTS, G.I.; TUREVSKIY, Ye.N.; NEMCHIK, L.G.

Low temperature rectification of pyrolysis gas on a sectional column. Khim. prom. 40 no.10:785-790 O '64.

(MIRA 18:3)

PLATONOV, Vladimir Mikhaylovich; BERGO, Boris Georgiyevich; RATMANSKIY, M.N., red.; MINEVICH, R.Z., red.

[Separation of multicomponent mixtures; calculation and study of rectification with computers] Razdelenie mnogokomponentnykh smesei; raschet i issledovanie rektifikatsii na vychislitel'nykh mashinakh. Moskva, Khimiia, 1965. 367 p. (MIRA 18:9)

PLATONOV, V.M.; BERGO, B.G.

Role of the component key pair in the theory and calculation of the rectification process. Khim. prom. 41 no.10:763-766 O '65. (MIRA 18:11)

BERGOL'TS, B.M.

USSR.

The role of sulfur-containing compounds in carcinogenesis (a neuroenzymic hypothesis of blastomatosis). B.M. Bergol'ts. *Uspekhi Sovrem. Biol.* 39, 47-64 (1955).—A review and speculation on the possible role of S-containing compds. in carcinogenesis.

B. S. Levine

BERGOL'TS, B.M.

USSR/ General Problems of Pathology. Tumors U-4

Abs Jour : Ref Zhur - Biol., No 5, 1958, 22915

Author : Bergol'ts, B.M.
Inst :
Title : Experimental Studies of the Etiology of Leukemias in Man. Communication I. Detection of the Noncellular Factor in Human Leukemic Tissues Which Produces Leukemias in Mice.

Orig Pub : Probl. gematol. i perelivaniya krovi, 1957, 2, No 1, 11-17, 63

Abstract : Subcutaneous injections (to the newborn) and intrasplenic injections (to the adult) of extracts from the lymph nodes and the spleen of people who had died from leukemia (primarily from acute hemocytoblastic leukemia) given to 637 mice representing strains SS_{57} and S_3NA, with a low incidence of leukemia, and to white mice of no particular strains, have demonstrated that the

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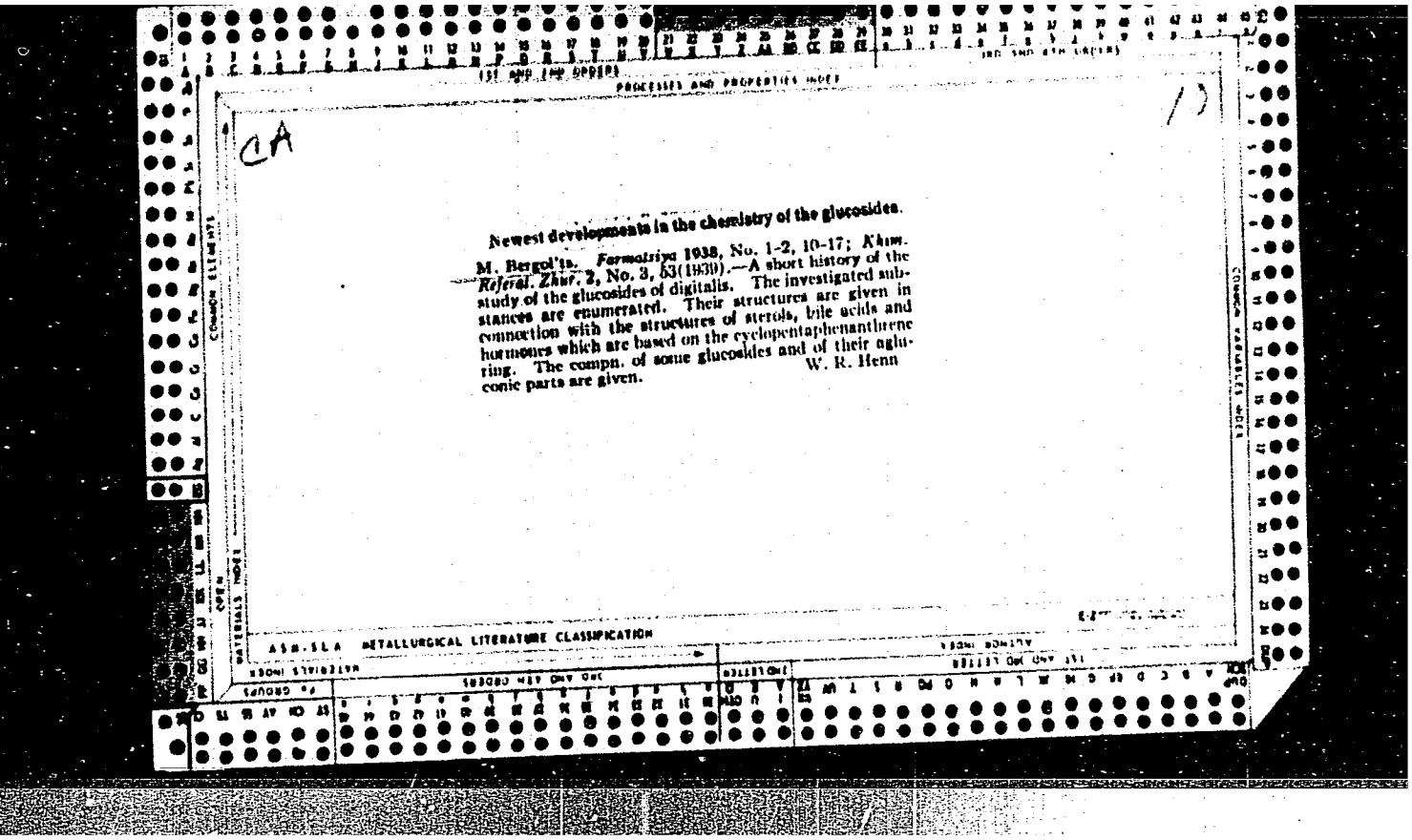
KASSIRSKIY, I.A.; ALEKSEYEV, G.A.; BERGOL'TS, B.M.

International Congress of Hematologists. Vest. AMN SSSR 16 no.2: 70-78 '61. (MIRA 14:10)

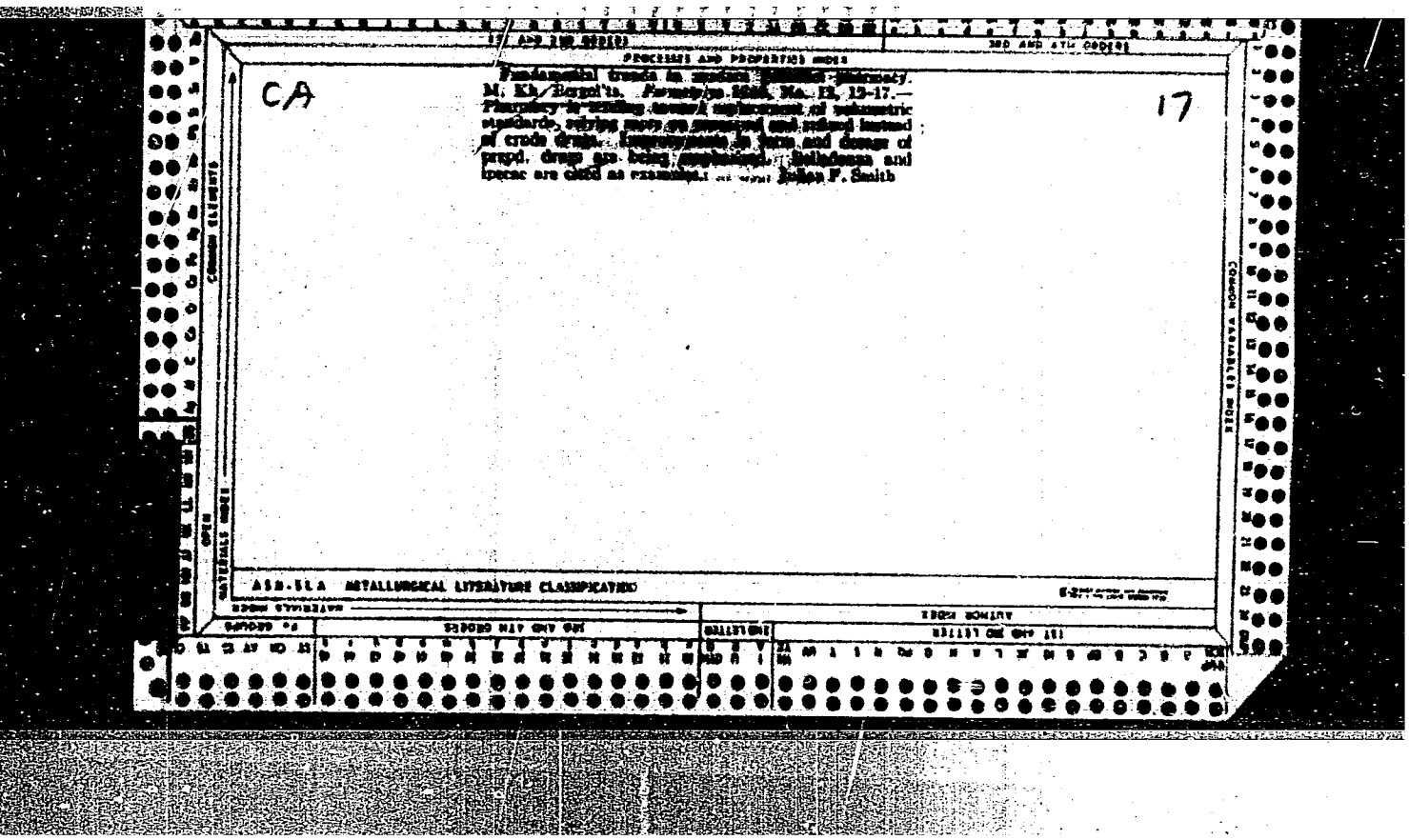
(HEMATOLOGY--CONGRESSES)

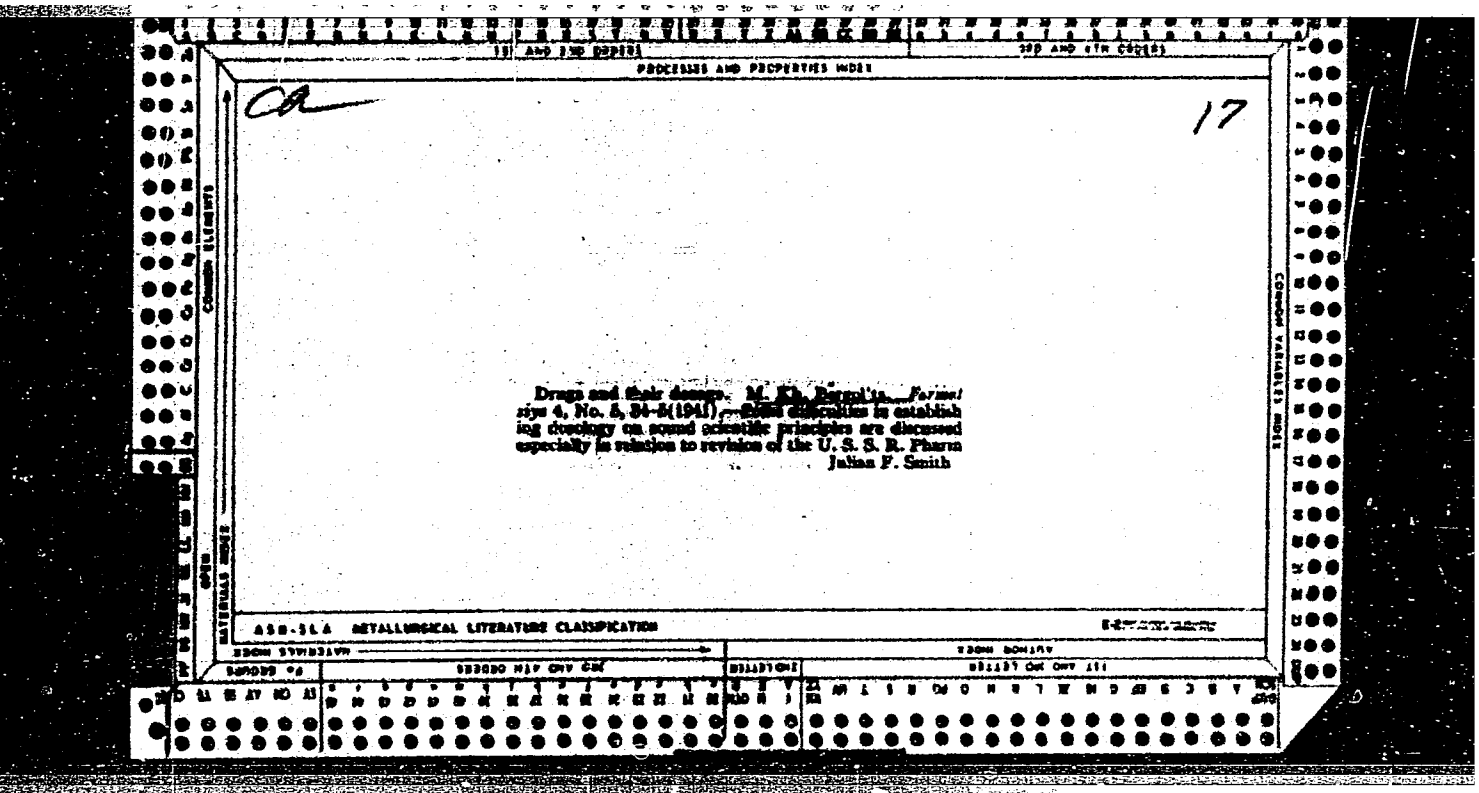


CA

Newest developments in the chemistry of the glucosides.

M. Bergol'ts. *Farmatsiya* 1938, No. 1-2, 10-17; *Khim. Referat. Zhur.* 2, No. 3, 53(1939).—A short history of the study of the glucosides of digitalis. The investigated substances are enumerated. Their structures are given in connection with the structures of sterols, bile acids and hormones which are based on the cyclopentaphenanthrene ring. The compn. of some glucosides and of their agluconic parts are given. W. R. Henn





1ST AND 2ND ORDERS

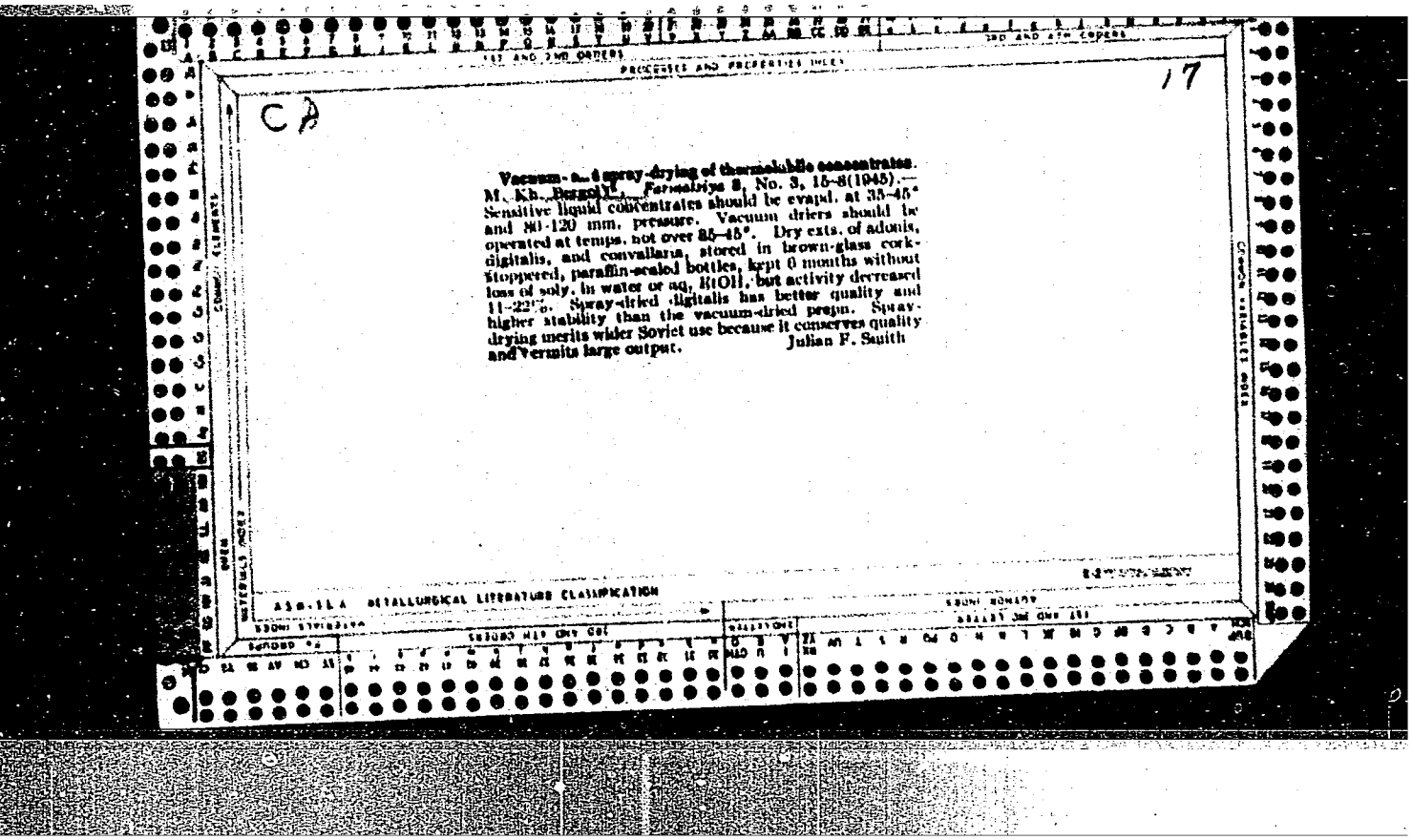
PROCESSES AND PROPERTIES INDEX

CA

17

Present stimulants of the adrenaline-ephedrine group. M. Kh. Bergol'ts. *Farmatsiya* 7, No. 6, 28-31(1944). — A review. Sonya G. Machelson

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

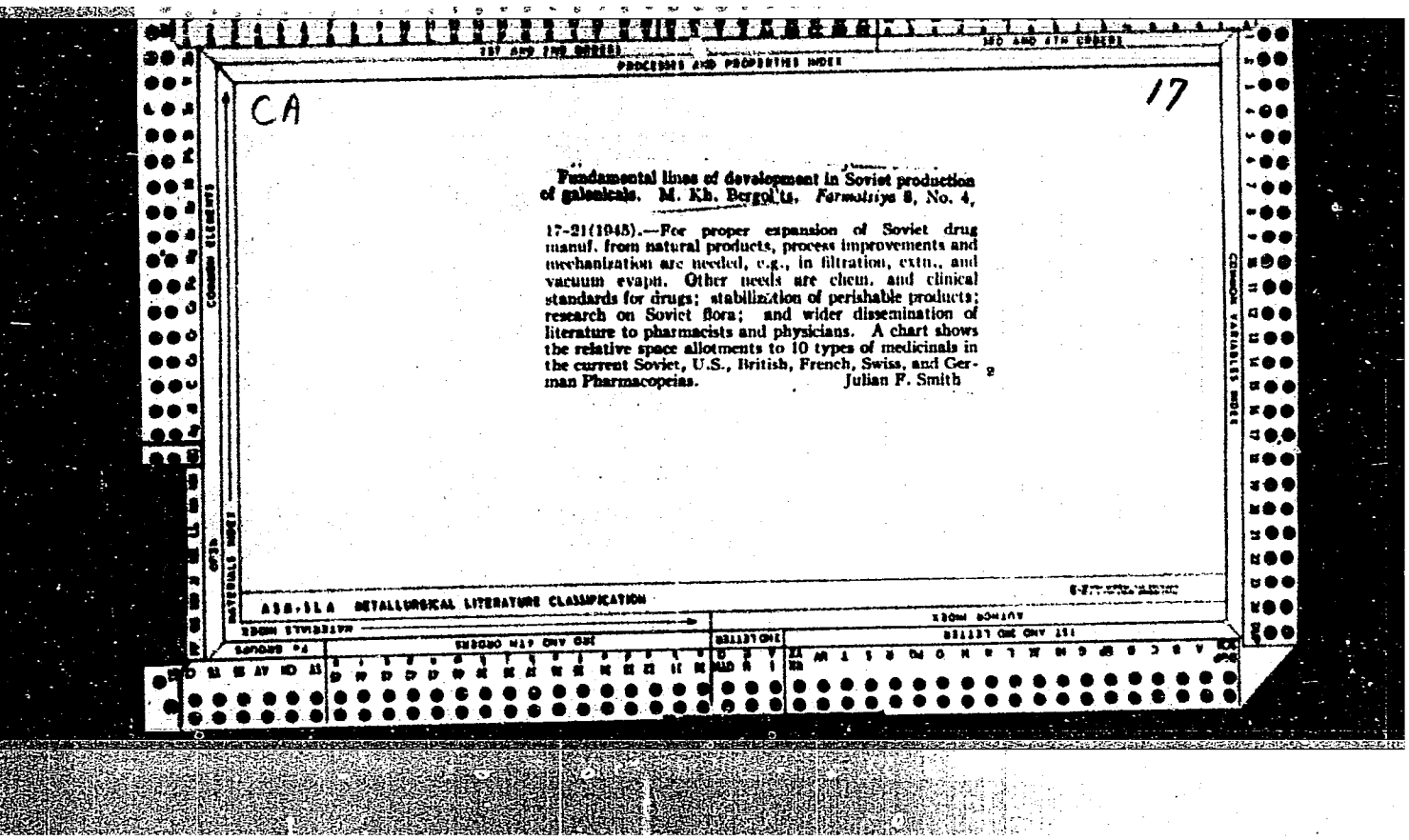


17

CA

Vacuum- and spray-drying of thermolabile concentrates. M. Kh. Bergel'. *Farmatsiya* 8, No. 3, 15–8(1945).—Sensitive liquid concentrates should be evapd. at 35–45° and 80–120 mm. pressure. Vacuum driers should be operated at temps. not over 35–45°. Dry exts. of adonis, digitalis, and convallaria, stored in brown-glass cork-stoppered, paraffin-sealed bottles, kept 6 months without loss of soly. in water or aq. EtOH, but activity decreased 11–22%. Spray-dried digitalis has better quality and higher stability than the vacuum-dried prepn. Spray-drying merits wider Soviet use because it conserves quality and permits large output. Julian F. Smith

A58-11A METALLURGICAL LITERATURE CLASSIFICATION



CA 17

Fundamental lines of development in Soviet production of galenicals. M. Kh. Bergol'ts. *Farmatsiya* 8, No. 4, 17-21(1948).—For proper expansion of Soviet drug manuf. from natural products, process improvements and mechanization are needed, e.g., in filtration, extn., and vacuum evapn. Other needs are chem. and clinical standards for drugs; stabilization of perishable products; research on Soviet flora; and wider dissemination of literature to pharmacists and physicians. A chart shows the relative space allotments to 10 types of medicinals in the current Soviet, U.S., British, French, Swiss, and German Pharmacopeias. Julian F. Smith

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

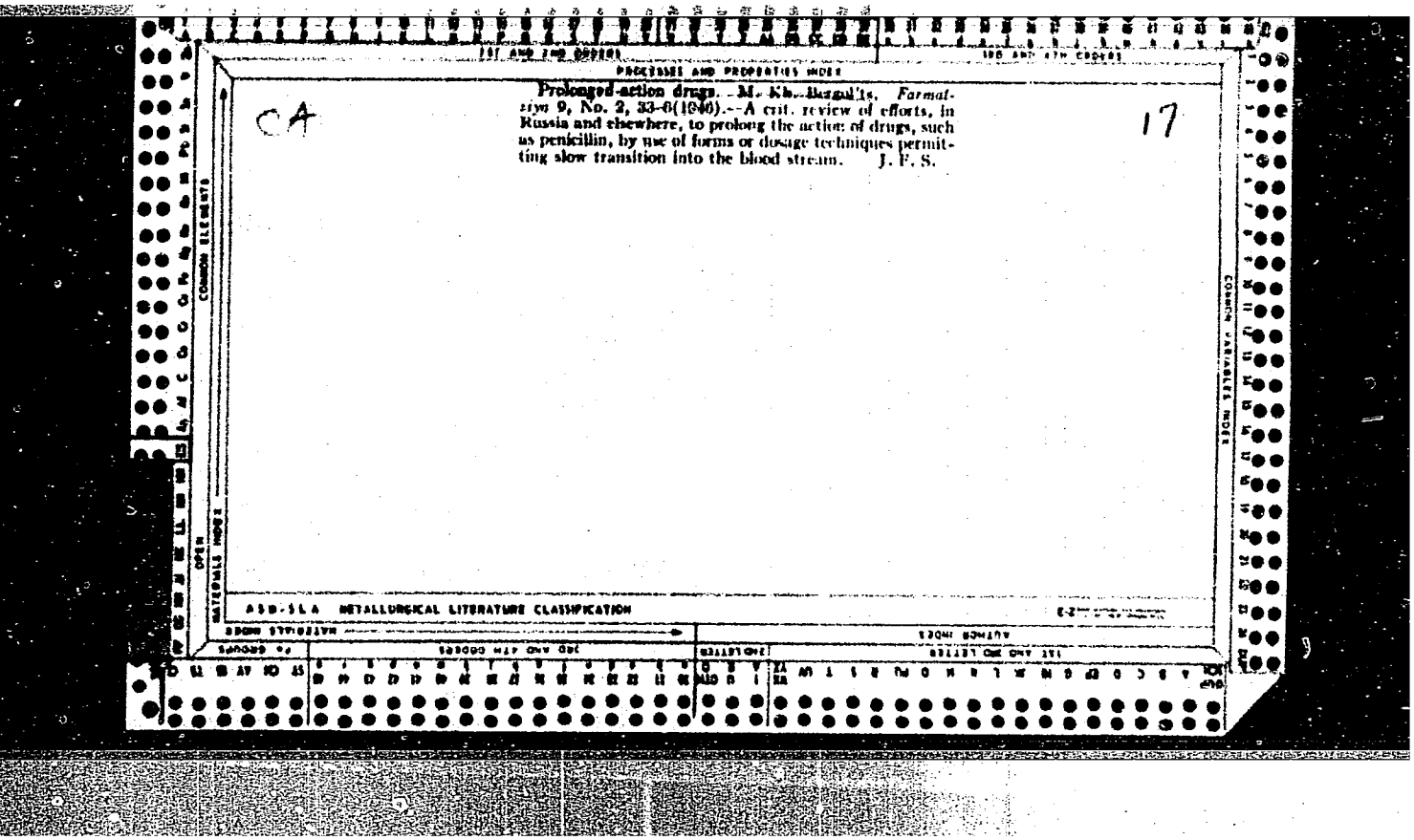
PROCESSES AND PROPERTIES INDEX

CA

17

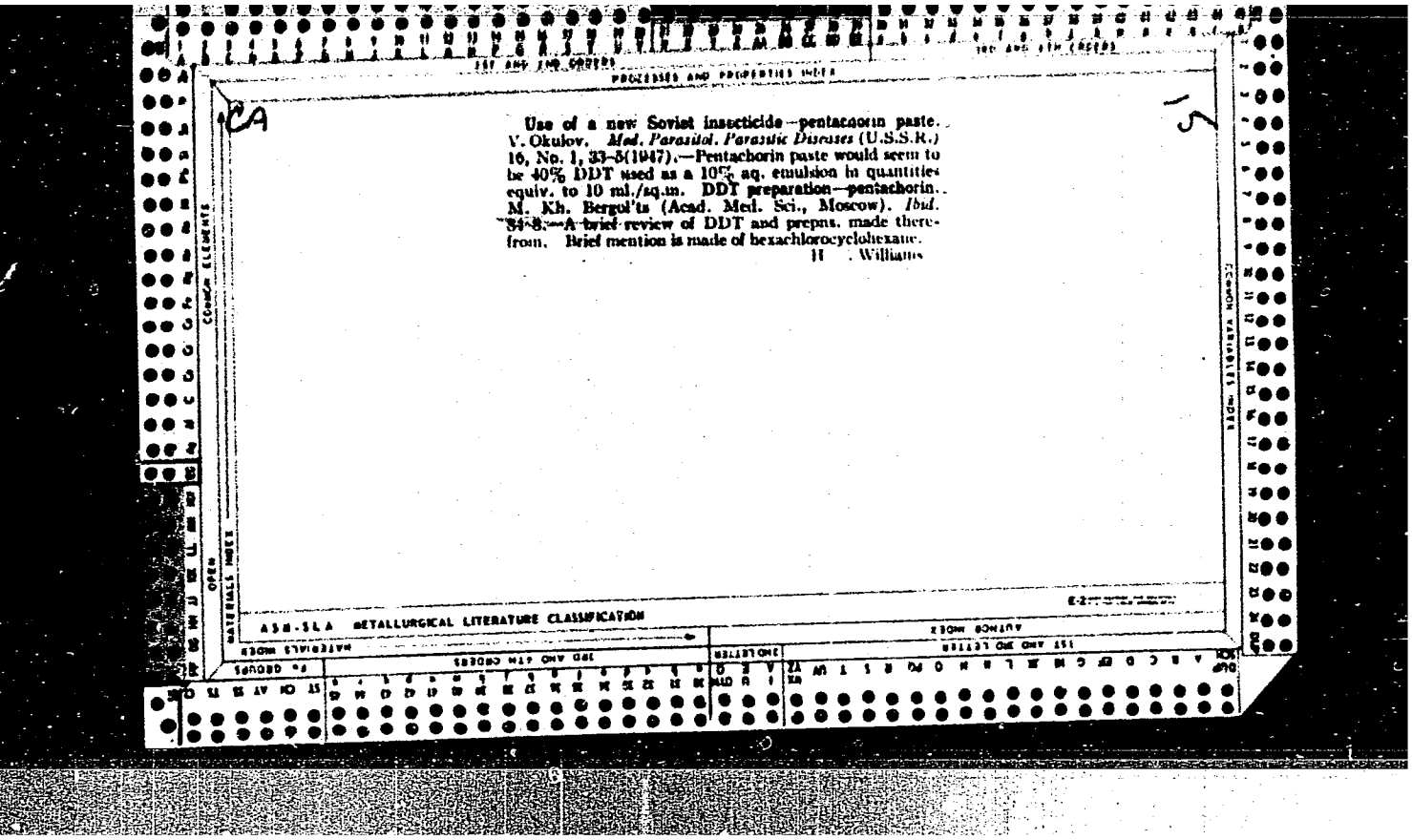
Galenicals in the new U.S. Pharmacopeia XII and National Formulary VII. M. Kh. Bergul's. *Farmatsiya* **8**, No. 6, 36-9(1945). Dosage standards, methods for making liquid exts., and some discussions of products (notably denatured alc. and glucose for compounding) are critically reviewed. Julian F. Smith

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION



BERGOL'TS, M. KH.

"Durant Preparations of Penicillin," in the book: Antibiotiki, 8-11, Moscow, 1947



CA

Use of a new Soviet insecticide—pentachorin paste. V. Okulov. *Med. Parasitol. Parasitic Diseases* (U.S.S.R.) 16, No. 1, 33–5(1947).—Pentachorin paste would seem to be 40% DDT used as a 10% aq. emulsion in quantities equiv. to 10 ml./sq.m. DDT preparation—pentachorin. M. Kh. Bergol'ts (Acad. Med. Sci., Moscow). *Ibid.* 34–8.—A brief review of DDT and prepns. made therefrom. Brief mention is made of hexachlorocyclohexane.

H. Williams

5

BERGOL'TS, M. KH. 57/49T68

USSR/Medicine - Medical Literature Apr 49
Medicine - Pharmacopoeia

"Review of M. Kh. Bergol'ts' Book 'Handbook of Prescriptions,'" Ye. Yu. Shass, 1 p

"Fel'dsher i Akusher" No 4

Book (352 pp) was published by Medgiz in 1948 to serve as a ready reference for prescription writers and compounders. It incorporates the State Pharmacopoeia. Book is a valuable aid to all young doctors, but has several errors which might lead to serious consequences.

57/49T68

BERGOL'TS, M. Kh.

22028 Bergol'ts, M. Kh. Preparaty gormonov s prodlennym deystviyem. Novosti meditsiny, vyp. 12, 1949, s. 26-29

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949.

BERGOLTS, M-K.

BERGOLTS, M. K.

Therapeutic use of new medicinal preparations. Klin. med., Moskva 26:8, Aug. 50. p. 35-40

1. Of the All-Union Scientific-Research Chemico-Pharmaceutic Institute imeni S. Ordzhonikidze (Director--N. G. Polyakov).

CLML 19, 5, Nov., 1950

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" New Therapeutic Agents" Novyye Lekarstvennyye Sredstva IZ Ak Med Nauk SSSR 1951 207 pp

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[Physician's prescription handbook] Vrachebnyi retsepturnyi spravochnik. 4 izd.dop. i perer. Moskva, Medgiz, 1952. 430 p. (MLRA 6:7)
(Medicine--Formulae, receipts, prescriptions)

1. BERGOL'TS', M. KH., KALASHNIKOV, V. P. Prof.,

2. USSR (600)

4. Drugs

7. Review of M.Kh. Bergol'ts' "New drugs and types of medicinal preparations." Apt. delo 2 No. 1, 1953.

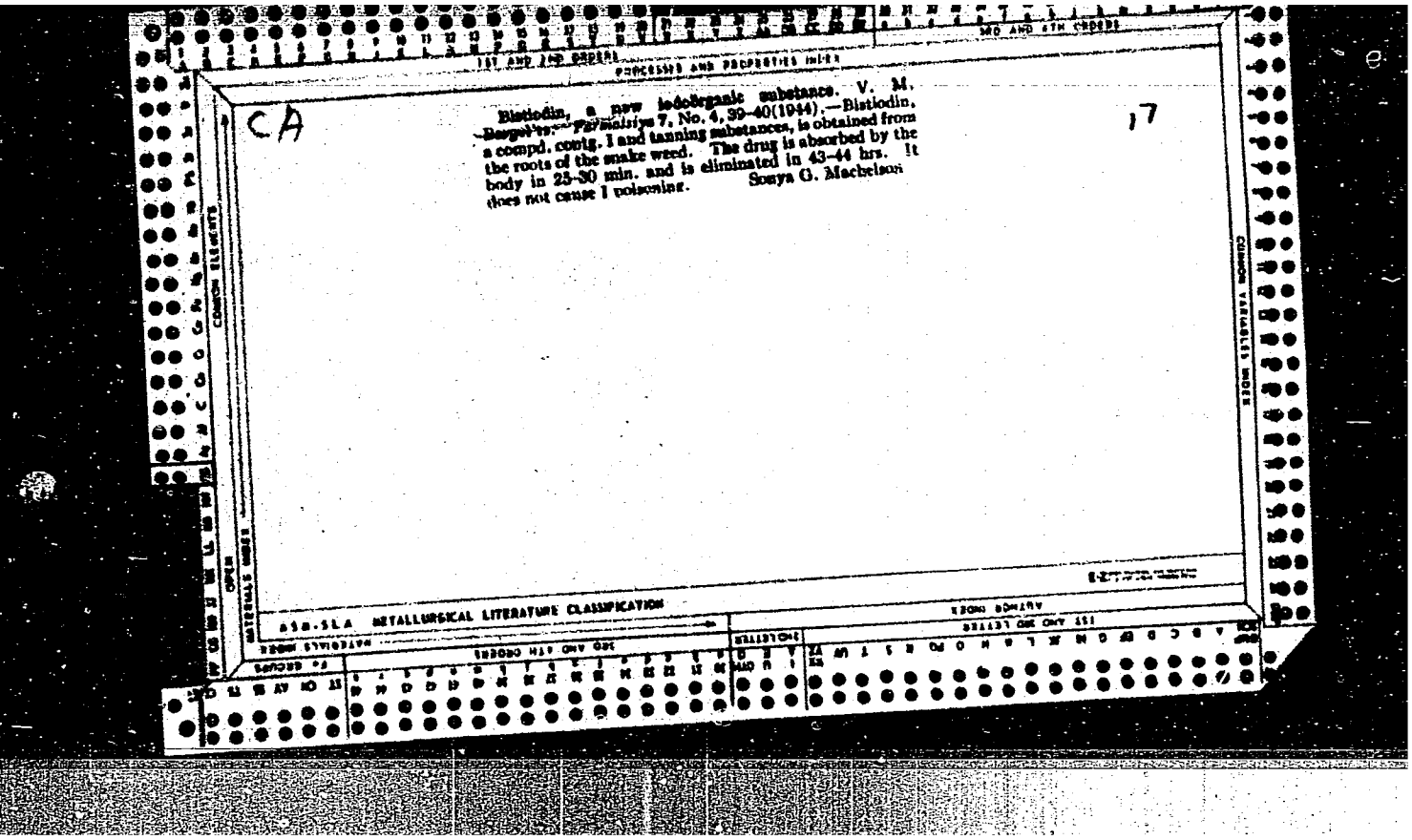
9. **Monthly List of Russian Accessions**, Library of Congress, June 1953. Unclassified.

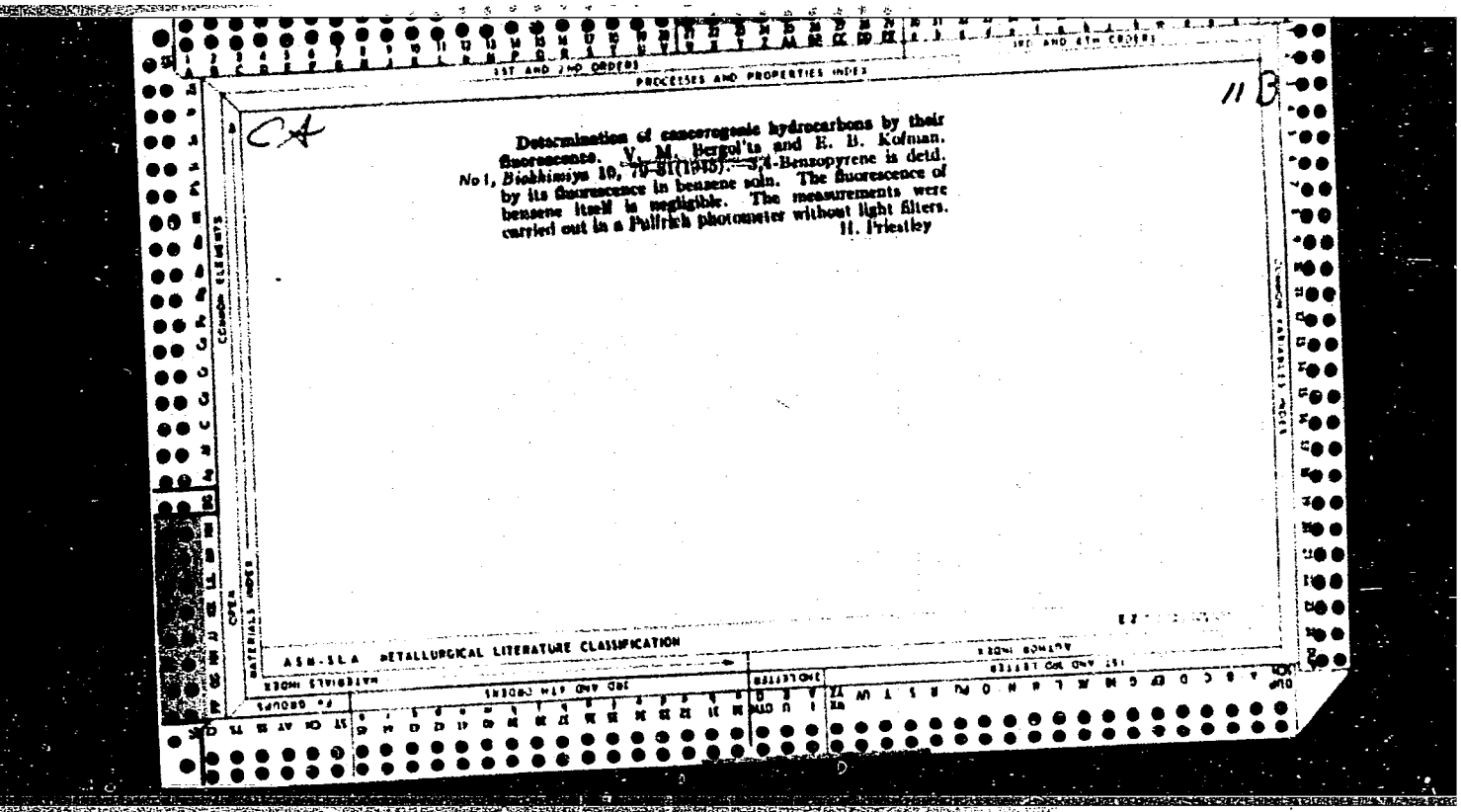
BERGOL'TS, M.Kh.

ANICHKOV, S.V.

"New medicines and medicinal forms," M.Kh.Bergol'ts. Second enlarged and revised edition. Vest.AMN SSSR no.3:61 '53.
(MLRA 7:1)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Anichkov). (Drugs) (Bergol'ts, M.Kh.)



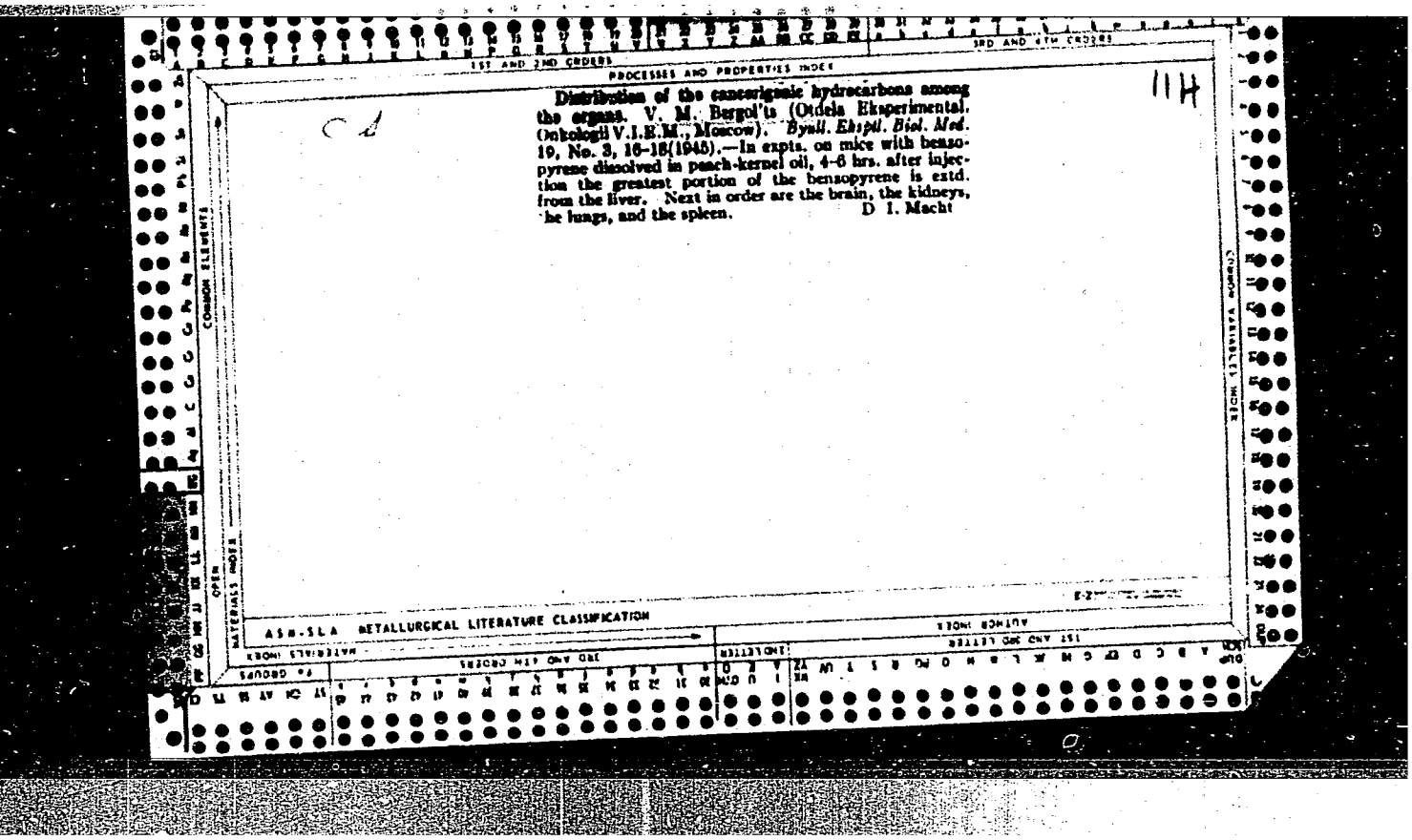


CA

11 B

Determination of cancerogenic hydrocarbons by their fluorescence. V. M. Bergol'ts and E. B. Kofman. *Biokhimiya* 10, 70-81(1945). 3,4-Benzopyrene is detd. No 1, by its fluorescence in benzene soln. The fluorescence of benzene itself is negligible. The measurements were carried out in a Pulfrich photometer without light filters.
H. Priestley

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

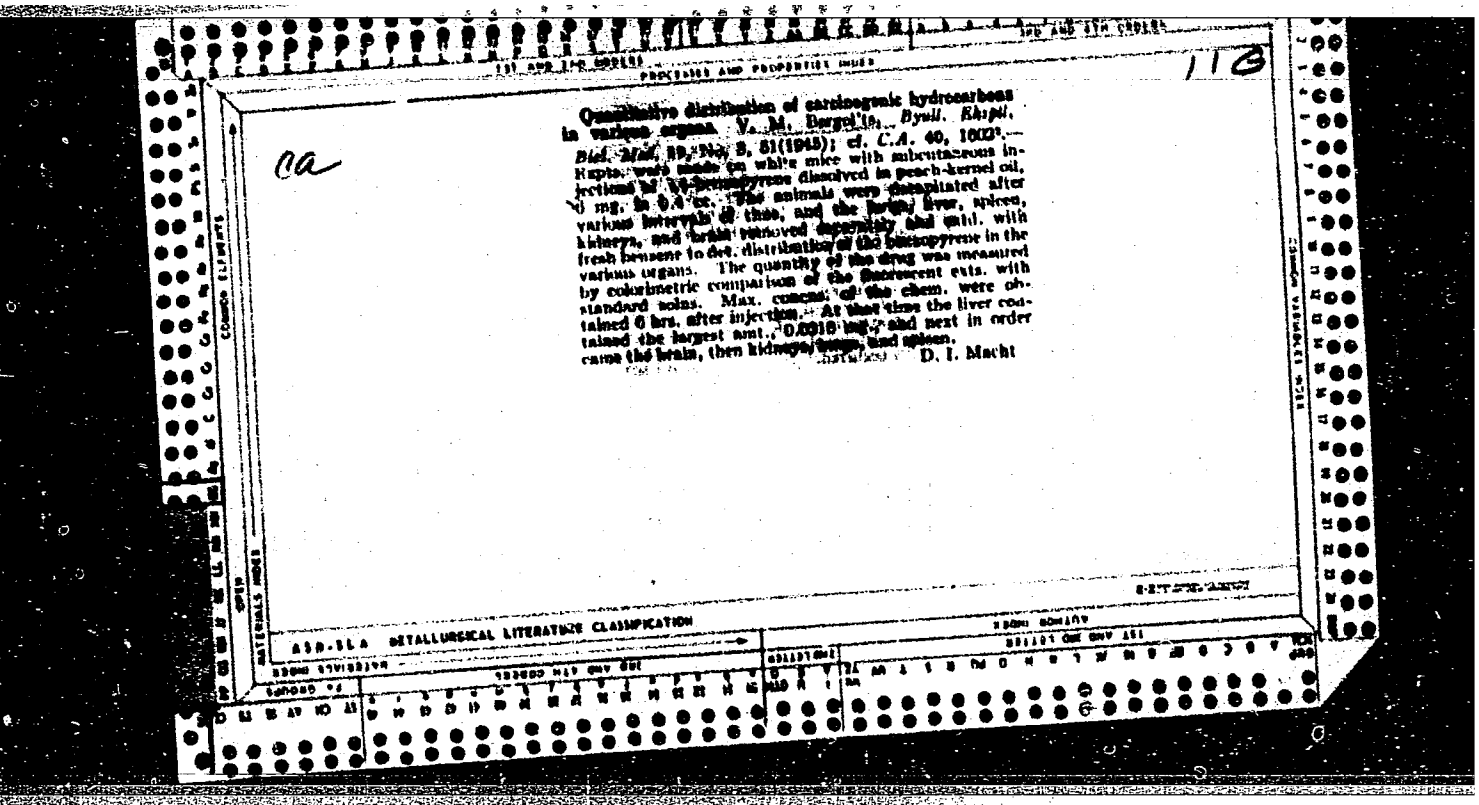
1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

11H

Distribution of the cancerigenic hydrocarbons among the organs. V. M. Bergol'is (Otdela Eksperimental. Onkologii V.I.E.M., Moscow). *Byull. Eksptl. Biol. Med.* 19, No. 3, 16–18(1945).—In expts. on mice with benzopyrene dissolved in peach-kernel oil, 4–6 hrs. after injection the greatest portion of the benzopyrene is extd. from the liver. Next in order are the brain, the kidneys, the lungs, and the spleen. D I. Macht

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

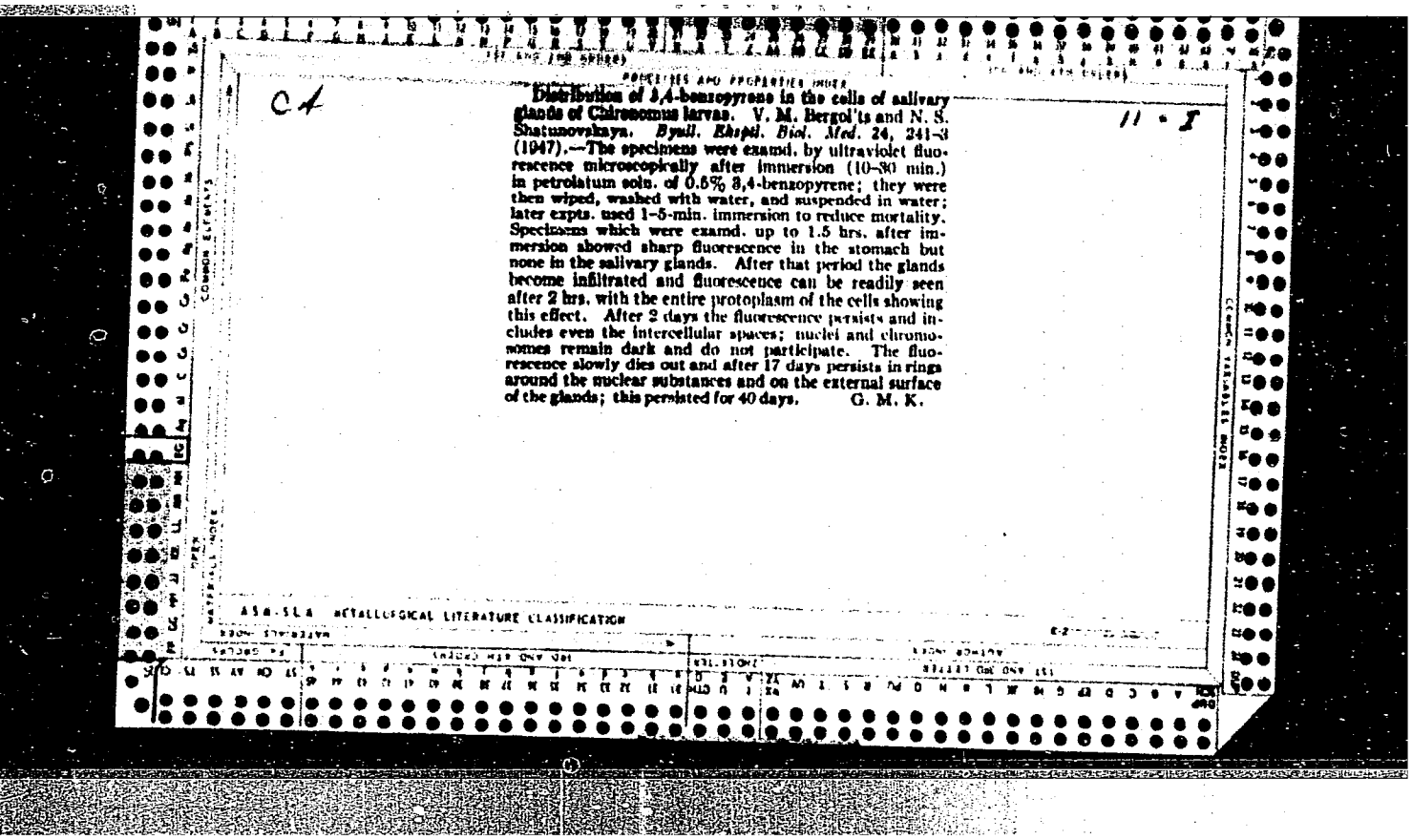


118

ca

Quantitative distribution of carcinogenic hydrocarbons in various organs. V. M. Dargel'in. *Byull. Eksptl. Biol. Med.* 19, No. 5, 51(1945); cf. *C.A.* 40, 1003⁹.—Rats were made on white mice with subcutaneous injections of 3,4-benzopyrene dissolved in peach-kernel oil, 0.5 mg. in 0.4 cc. The animals were decapitated after various intervals of time, and the lungs, liver, spleen, kidneys, and brain removed aseptically and mild, with fresh benzene to det. distribution of the benzopyrene in the various organs. The quantity of the drug was measured by colorimetric comparison of the fluorescent exts. with standard solns. Max. concns. of the chem. were obtained 6 hrs. after injection. At that time the liver contained the largest amt., 0.0018 mg., and next in order came the brain, then kidneys, lungs, and spleen.

D. I. Macht



C4

Distribution of 3,4-benzopyrene in the cells of salivary glands of Chironomus larvae. V. M. Bergol'ts and N. S. Shatunovskaya. *Byull. Eksptl. Biol. Med.* 24, 241-3 (1947).—The specimens were examd. by ultraviolet fluorescence microscopically after immersion (10–30 min.) in petrolatum sols. of 0.5% 3,4-benzopyrene; they were then wiped, washed with water, and suspended in water; later expts. used 1–5-min. immersion to reduce mortality. Specimens which were examd. up to 1.5 hrs. after immersion showed sharp fluorescence in the stomach but none in the salivary glands. After that period the glands become infiltrated and fluorescence can be readily seen after 2 hrs. with the entire protoplasm of the cells showing this effect. After 2 days the fluorescence persists and includes even the intercellular spaces; nuclei and chromosomes remain dark and do not participate. The fluorescence slowly dies out and after 17 days persists in rings around the nuclear substances and on the external surface of the glands; this persisted for 40 days. G. M. K.

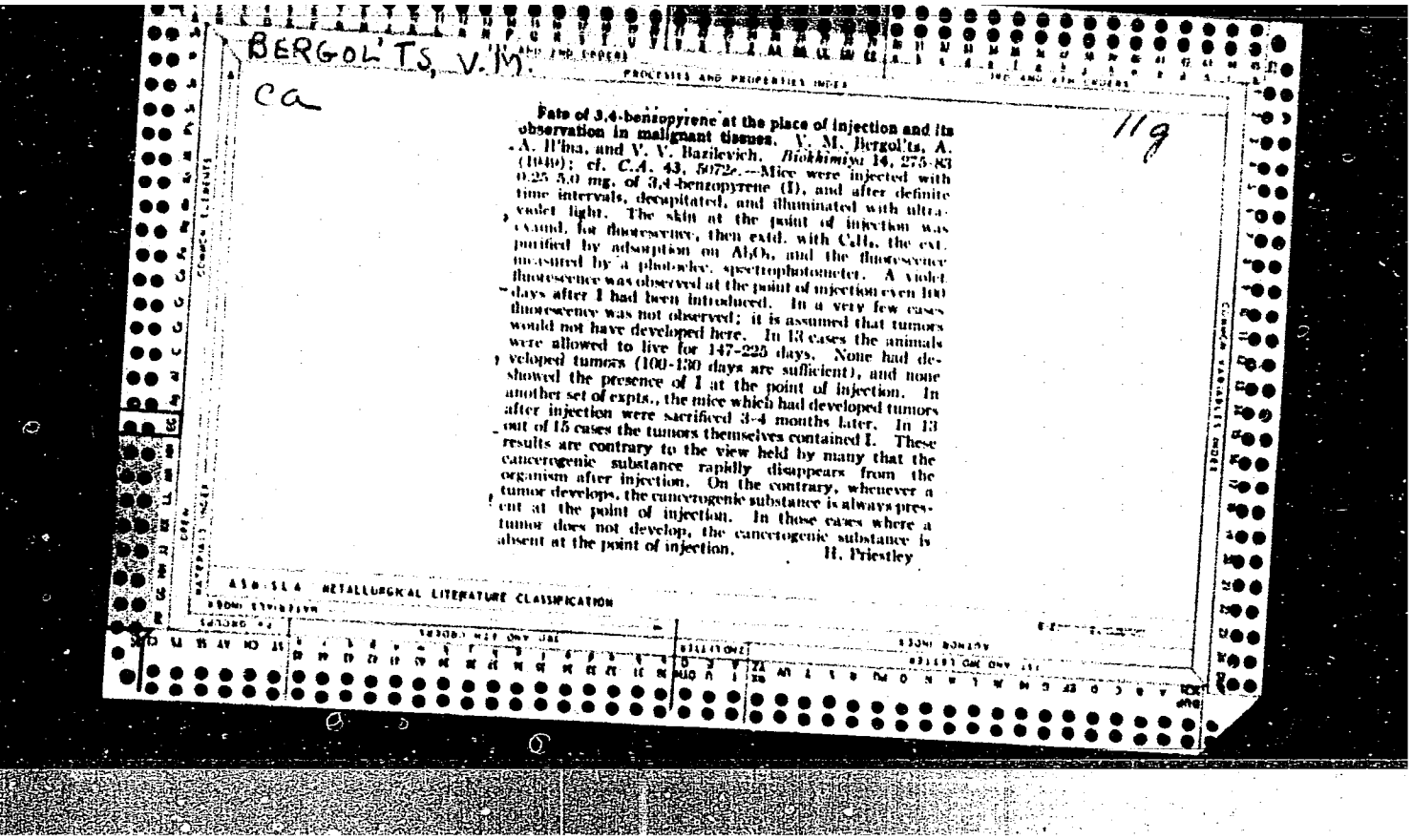
11 • 8

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

BERGOL'TS, V. M.

42720. BERGOL'TS, V. M. O Spetsifichnosti Kharaktera Raspredeniya Kantserogennykh Uglevodorodov Vnutri Zhivotnoy Kletki, Byulleten' Eksperim. Biologii I Meditsiny, 1948, No 12, s. 446-49.

SO: Letopis' Zhurnal'nykh Statey, Vol. 7, 1949



BERGOL'TS, V. M.

Ca

119

Fate of 3,4-benzopyrene at the place of injection and its observation in malignant tissues. V. M. Bergol'ts, A. A. Il'ina, and V. V. Bazilevich. *Biokhimiya* 14, 275-83 (1949); cf. *C.A.* 43, 5072e.—Mice were injected with 0.25-5.0 mg. of 3,4-benzopyrene (I), and after definite time intervals, decapitated, and illuminated with ultraviolet light. The skin at the point of injection was excised, for fluorescence, then extd. with CaH_2, the ext. purified by adsorption on Al_2O_3, and the fluorescence measured by a photoelec. spectrophotometer. A violet fluorescence was observed at the point of injection even 100 days after I had been introduced. In a very few cases fluorescence was not observed; it is assumed that tumors would not have developed here. In 13 cases the animals were allowed to live for 147-225 days. None had developed tumors (100-130 days are sufficient), and none showed the presence of I at the point of injection. In another set of expts., the mice which had developed tumors after injection were sacrificed 3-4 months later. In 13 out of 15 cases the tumors themselves contained I. These results are contrary to the view held by many that the cancerogenic substance rapidly disappears from the organism after injection. On the contrary, whenever a tumor develops, the cancerogenic substance is always present at the point of injection. In those cases where a tumor does not develop, the cancerogenic substance is absent at the point of injection. H. Priestley

A56-SL4 METALLURGICAL LITERATURE CLASSIFICATION

BERGOL'TS, V. N.

PA 45/49T11

USSR/Chemistry - Spectrum Analysis
Chemistry - Benzoxy-Pyrene

Jan/Feb 49

"Fluorescence Spectra of 3,4-Benzoxy-Pyrene and Their Utilization for Detecting It in the Living Organism," V. M. Bergol'ts, A. A. Il'ina, V. V. Bazilevich, Lab of Oncol, Inst of Normal and Path Morph, Acad Med Sci USSR, Opt Lab, State Pedagogical Inst, Moscow, 5½ pp

"Biokhimiya" Vol XIV, No 1

Studies fluorescence spectra of 3,4-benzopyrene, one of most potent cancerogenic substances, by means of a photoelectric spectrometer. Applies method to detection of benzopyrene in urine and certain organs of mice. Submitted 19 May 48.

45/49T11

BERGOL'TS, V. M. PA 63/49T41

[redacted] May/Jun 49

[redacted]tention of 3,4-Benzpyrene in the Site of Administration and Its Presence in Tumors Formed by Its Action," V. M. Bergol'ts, A. A. Il'ina, V. V. Bazilevich, Lab of Oncol, Inst of Normal and Path Morph, Acad Med Sci USSR, Opt Lab, State Opt Inst, Moscow, 8½ pp

"Biokhim" Vol XIV, No 3

Tabulates and summarizes spectral analysis of the fluorescent effects on mice inoculated with varying amounts of benzpyrene at time intervals from that immediately following the inoculation to 226 days afterward. Submitted 15 Oct 48.

63/49T41

BERGOL'TS, V. M.

"New Data In The Study Of The Destiny Of Cancerigenic Hydrocarbons In Animal Organisms And The Mechanism Of Their Actions." (p. 385) by Bergol'ts, V. M. (Moscow)

SO: PROGRESS OF CONTEMPORARY BIOLOGY (Us. Sovrem. Biol) Vol. XXVII 1949, No. 3, May-June

"New Data Obtained on the Occurrence of Cancerogenic Hydrocarbons in Animal Organisms and their Functional Mechanism," Uspekhi Sov Biol 27, No 3, 1949

BERGOL'TS, V. M.

BERGOL'TS V. M., IL'INA A. A.

Sud'ba nekotorykh kantserogennykh i nekantserogennykh uglevodorodov v zhivotnom organizme. /Fate of certain cancerogenous and non-cancerogenous hydro-carbons in the animal organism/
Biokhimiia, Moskva 16:3 May-June 51 p. 262-8.

1. Department of Oncology, Institute of Morphology of the Academy of Medical Sciences USSR, Moscow.

CIML 20, 10, Oct. 51

BERGOL'TS, V. M.

"Modern Concepts about Endogenetic Tumor-Causing Substances,"

SOURCE: Progress of Modern Biology, Moscow 1951 (Acad Sci), Vol 31, No 2, pp 215-230,

B-60764

CA

11C

The fate of some cancerogenic and noncancerogenic hydrocarbons in the animal organism. V. M. Bergol'ts and A. A. Il'ina (Acad. Med. Sci., Moscow). *Onkologiya* 16, 312–8(1951).—A comparison was made of the length of time cancerogenic and noncancerogenic substances remained at the site of injection. The cancerogenic hydrocarbons tested on mice were 9,10-dimethyl-1,2-benzanthracene, and 1,2-benzanthracene; the noncancerogenic, 9,10-dimethyl-9,10-dihydro-1,2-benzanthracene, and anthracene. Analysis was by absorption and fluorescence spectra. Neither the cancerogenic nor noncancerogenic hydrocarbons could be detected in the unchanged condition in the internal animal organs. At the place of injection, noncancerogenic hydrocarbons disappeared within a month. The weakly cancerogenic hydrocarbon 1,2-benzanthracene could be detected under the skin for 2 months, and the strongly cancerogenic hydrocarbon dimethylbenzanthracene for 3–3.5 months. In order for tumors to develop, the cancerogenic agent must be present and act up to the time of the appearance of the malignancy. Its further presence in the tumor is then no longer necessary. Tumor formation then develops without the participation of the agent that caused it. H. Priestley

CA

11G

Current state of research on endogenous blastomogenic substances. V. M. Bergol'ts. *Uspekhi Sovremennoi Biol.* 31, 218-30(1951).—Some sources of blastomogenic substances are discussed, e.g. cancer tissue; urine of chronic myeloid leukemia patients; and estrogenic hormones. 84 references.
Julian F. Smith

BERGOL'TS, V.M.

[Fluorescence microscopy; use of fluorescent light analysis in medicine] Liuminestsentnaia mikroskopiia; primenenie liuminestsentnogo analiza v meditsine. Moskva, Medgiz, 1953. 135 p.
(Microscopy, Medical) (Fluorescence microscope) (MLRA 7:8)

BERGOL'TS, V.M.

New highly active cancergenic substances. Usp. sovrem. biol. 36 no.2:278-280 Sept-Oct 1953. (CIML 25:5)

1. Moscow

BERGOL'TS, V.M.

Fluorescent analysis in biology and medicine. Priroda 42 no.9:31-38 S '53. (MLRA 6:8)

(Fluorescence) (Biology)

BERGOL'TS, V.M.

Blastomogenic activity of extracts from human malignant tumor tissue. Biul.eksp.biol.i med. 37 no.3:65-68 Mr '54. (MLRA 7:6)

1. Iz otdela onkologii (zav. chlen-korrespondent AMN SSSR prof. L.M.Shabad) Instituta normal'noy i patologicheskoy morfologii (dir. akad. A.I.Abrikosov), Moskva.
(NEOPLASMS, experimental,
*prod. in animals with human tumor tissue extracts)

BERGOL'TS, V.M.

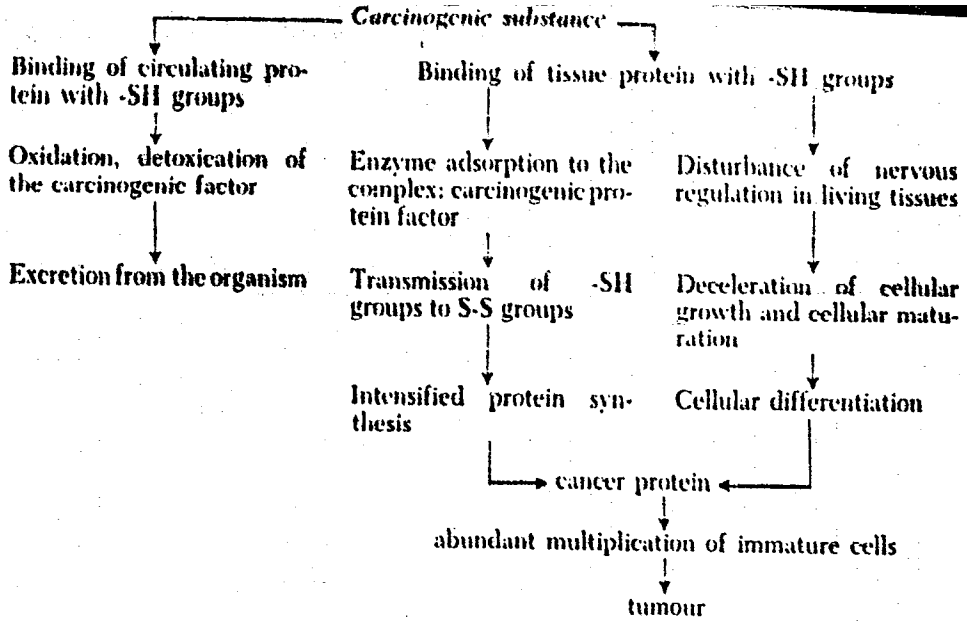
Experimental data on the etiology and blastomatous nature of leukoses. Biul. eksp. biol. i med. 38 no.10:59-61 O '54.
(MLRA 8:1)

1. Iz laboratorii eksperimental'noy onkologii (zav. chlen-korrespondent AMN SSSR prof. L.M.Shabad) Instituta onkologii (dir. chlen-korrespondent AMN SSSR prof. A.I.Serebrov) AMN SSSR.
(LEUKEMIA, LYMPHATIC, experimental, etiol. & blastomatous characteristics)

BERGOLTS, V.M.

56. BERGOLTS V. M. Moscow. *The significance of sulphur-bearing compounds in cancerogenesis (a neuro-enzymatic hypothesis of blastomatous growth)* (Russian text) Usp. sovr. Biol. 1955, 39/1 (47–61)

In recent papers by Russian authors (Petrov, Engelhardt, Koštojanc) and by foreign investigators (Crabtree, Potter and others) mention is made of the importance of sulphur-bearing compounds in carcinogenesis, with special emphasis on the sulfhydryl (-SH) groups. This was verified by investigations using 3:4-benzpyrene, whereby regulation of the -SH groups causes discoloration of the benzpyrene fluorescence. The -SH groups are activators of the proteolytic enzyme of cathepsin, and blockage of the -SH groups by carcinogenic substances therefore also inhibits this enzyme; proteolysis is decelerated and proteosynthesis is increased. The carcinogenic hydrocarbons are deposited in the cells in the perinuclear zone (in mitochondria?) in the form of sterol protein compounds; here there occurs a so-called chemically 'dry' environment suitable for enzymatic synthesis. According to Oparin (1937), any enzyme in the cells is present in 2 states, viz: dissolved or adsorbed. In these 'dry' cellular regions, unilateral adsorption of proteinases may occur – the result is a pathological 'cancer protein'. This process is elucidated in the following diagram:



Gurvič's phenomenon of dissolution (1947) and polarographic determination of -SH groups are recommended as aids in the early diagnosis of cancer. The following 3 possibilities are given for cancer prophylaxis: (1) introduction of substances rich in -SH (e.g. mercaptopurine); (2) activation of -SH reserves of the organism, and (3) administration of brombenzene, maleic acid and other similar agents. These agents have hitherto successfully been used only in animal experiments. Further investigations in this field are recommended.

Brandt — Berlin

BERGOL'TS, V. M.

USSR/General Problems of Pathology. Tumors U-4

Abs Jour : Ref Zhur - Biol., No 7, 1958, No 32538

Author : Borgol'ts V.M.
Inst : Not Given
Title : Experiment of Vaccination Against Spontaneous Leukemia in Mice (Preliminary Report).

Orig Pub : Probl. gématol. i pereliveniya korvi, 1956, I, no4, 29-31

Abstract : Among 14 ♀ and 12 ♂ mice Afb-vaccinated at age 1½-3 months and surviving 6 months, general leukemia appeared in 2 ♀ and 1 ♂, while in 1 ♂ thymoma appeared (average latent period 8 3/4 months); leukemic changes of the liver were found in 14 months in 1 ♀ and in 12½ months in 1 ♂. Among the non-vaccinated mice, Afb leukemia appears spontaneously in 90% ♀ and in 65% ♂, with an average latent period of 8½ months.

Card : 1/1

USSR/Medicine - Cancer research

Card 1/1 : Pub. 86 - 21/35

Authors : Bergol'ts, V. M., Cand. Med. Sc.

Title : About the nature of leukemia

Periodical : Priroda 44/2, 105 - 108, Feb 1955

Abstract : Through experimentation on animals it was found that leukemia is blastomatous; generally, however, the nature of this disease is not clear. The subject is treated by dividing the etiological factors of cancer and leukosis into four basic groups: (1) chemical substances which appear in the organism from without, (2) ionizing radiation, (3) chemical substances formed in the organism of humans and animals as a result of the disturbance of the exchange of material, and (4) biological (virus-like) factors. Eight references; 4 USSR and 4 English (1937 - 1953).

Institution : .....

Submitted : .....

BEGOL'TS, V.M.

Problem of malignant growth; at the Tenth Meeting of the General Assembly of the Academy of Medical Sciences of the U.S.S.R. Priroda 45 no.7:49-51 Jl '56. (CANCER) (MLRA 9:9)

BERGOL'TS, V.M.

"Experimental study of leukemia" by M.O. Raushenbakh. Reviewed by V.M. Bergol'ts. Vop. onk., 2 no.6:767-768 '56 (MLRA 10:4)
(LEUKEMIA) (RAUSHENBAKH, M.O.)

BERGOL'TS, V.M.

Present status of the problem of the etiology of leukosis. Probl. gemat. i perel.krovi 2 no.4:47-62 Jl-Ag '57. (MLRA 10:10)
(LEUKEMIA, etiology and pathogenesis, review (Rus))

BERGOL'TS, V.M.

"Experimental Study of the Etiology of Leukemias in Man. Report I: Discovery in Human Leukemic Tissue of a Noncellular Factor Causing Leukosis in Mice," by V. M. Bergol'ts, Virology Laboratory (head, Prof L. A. Zil'ber, Active Member, Academy of Medical Sciences USSR), State Oncology Institute imeni P. A. Gertsen (director, Prof A. N. Novikov; scientific director, Prof A. I. Savitskiy, Corresponding Member, Academy of Medical Sciences USSR), Problemy Gematologii i Perelivaniya Krovi, Vol 2, No 1, Jan/Feb 57, pp 11-17

From the leukemic tissues (spleen and lymph nodes) of men who had died with leukoses, noncellular protein and lipoprotein extracts were obtained. When these extracts were injected subcutaneously into new born mice and also into the spleen of adult mice, true leukemia was produced in 26% of the experimental animals, 6.2 months later (mice are rarely affected by leukemia).

Therefore, from the leukemic tissues of men it is possible to isolate a noncellular factor which induces leukemia in mice.

The chemical nature of this leukemogenic factor which was isolated from leukemic tissues of man remains unknown, but intensive studies concerning it are in progress.

Sum. 1305

BERGOL'TS, V.I., kandidat meditsinskikh nauk (Moskva)

New virus tumors. Priroda 46 no.7:89-90 Jl '57. (MLRA 10:8)
(TUMORS) (VIRUSES)

BERGOL'TS, V.M.(Moskva, K-9, ul.Semashko, d.8, kv.16); GOL'BERT, Z.V.

Study of the blastomogenic activity of acellular extracts from human tumors (lung cancer, sarcoma, polyposis) [with summary in English]. Vop.onk. 3 no.5:532-540 '57. (MIRA 11:2)

1. Iz Virusologicheskoy laboratorii (zav. - deyatv. chl. AMN SSSR prof. L.A.Zil'ber) Gosudarstvennogo instituta im. P.A.Gertsena (dir. - prof. A.N.Novikov; nauch. rukov. - chl.-korr. AMN SSSR prof. A.I.Savitskiy)

(LUNG CANCER, exper.
transpl. in animals with human tumor extracts)
(SARCOMA, experimental
same)
(POLYPI, experimental,
same)

BERGOL'TS, V.M. Doc Med Sci -- (diss) "~~The~~ Experimental study of ~~the~~ etiology of ~~the~~ leucoses ~~in the human~~", Mos, 1958. 15 pp (Min of Health USSR. Central Institute for Advanced Training of Physicians). 200 copies. (KL, 37-58, 112)

26-58-5-10/57

AUTHOR: Bergol'ts, V.M., Candidate of Medical Sciences

TITLE: On the Problem of Etiology of the Neoplasms (K voprosu ob etiologii opukholey) At the Second All-Union Congress of Oncologists (Na 2-m vsesoyuznom s''yezde onkologov)

PERIODICAL: Priroda, 1958, Nr 5, pp 57-59 (USSR)

ABSTRACT: The Second All-Union Conference of Oncologists in January 1958 dealt with problems of the etiology of tumors, pre-tumor diseases, chemotherapy of tumors, tumors of the bones, and the organization of the anti-cancer fight in the USSR. At the first oncologists' conference 11 years ago, only one paper by Professor L.A. Zil'ber dealt with the virus theory of cancer. This theory became one of the principal themes at the new conference. It was opened by N.N. Petrov, the oldest oncologist of the USSR and Hero of Socialistic Labor. The first paper was delivered by Professor L.A. Zil'ber. It was intitled "On the Virus Nature of the Tumors of Man" and described over 20 tumors and similar processes in animals, the virus origin of which he thinks has been proved. Among them were the sarkoma and leucosis of chickens, the papilloma and fibroma of rabbits, mammary gland cancer and

Card 1/4

On the Problem of Etiology of the Neoplasms. At the Second All-Union Congress of Oncologists

leucosis of mice. Under the electron microscope, virus-like etiologic agents were found in matter isolated from the tissues of men suffering from leucosis, but the virus origin of most malignant tumors of man have not as yet been demonstrated. A.D. Timofeyevskiy found virus-like globular bodies measuring from 40 to 80 millimicrons in the extracts of diverse tumors of man (cancer of the stomach, the mamary gland, the lung, sarkoma, etc). Immunological reactions showed the specific nature of these bodies. Professor L.F. Larionov criticized the virus theory. He based his doubts on data from medical literature but thought it was possible that some animal tumors were of virus origin, although there is no evidence yet with respect to man. Professor M.A. Morozov, in his paper "Virusoscopic Observations in Malignant Tumors of Man", holds that virus penetration from without is the etiologic factor. I.N. Mayskiy and M. M. Kapichnikov delivered a paper on the immunology of malignant neoplasms. In sarkoma of chickens and several tumors of man, special antigens were found. This agrees with A.D. Timofeyevskiy's discovery of virus-like bodies

On the Problem of Etiology of the Neoplasms. At the Second All-Union Congress of Oncologists

found in the blood and tissues of people suffering from malignant neoplasms. These bodies could be cultivated in chicken embryoes and possess specific antigen properties. It was demonstrated in the State Oncological Institute imeni P.A. Gertsen that in the organism of leucosis patients a non-cellular etiologic agent can be found that has many characteristics of a virus. Most oncologists, however, did not hold true that viruses are the only etiologic factor in malignant tumors. They think that chemical substances and penetrating radiation must be considered of similar etiologic importance. The papers delivered by L.M. Shabad, M.F. Glazunov, A.M. Neyman and others were concerned with the morphological and experimental data characterizing the pre-cancer stage in various tissues and organs of the animal organism. According to L.M. Shabad, every cancer has its special "pre-cancer". The importance of early diagnosis and therapeutic measures was stressed once more. Professor L.F. Larionov pointed out that more than 30 chemical drugs have been successfully administered against malignant tumors in recent years in the USSR. The drugs include the follow-

On the Problem of Etiology of the Neoplams. At the Second All-Union Congress of Oncologists

ing groups: hormones (estrogens, androgens, cortisone); antifolic drugs (aminopterin); derivatives of purine and pirimidine (mercaptopurine); chlorethylamines and their derivatives (embichine, nitromine, derganol, dopan sarkolysine); ethylenimines (TET, TEF, E 39, etc); esters of methanesulfooxylic acids (mileran); antibiotics (aktinomycin, sarkomycin), etc. In some cases, such as lymphogranulomatosis, metastases of cancer of the mammal gland, seminoma, etc; long-term healing was achieved by aid of these drugs. While they are useful in cases of lymphogranulomatosis and leucoses, there is almost no way they can be applied in the more important and frequent cases of malignant tumors of the stomach, alimentary tract, lungs, etc. Although 23 papers dealt with the results of new experimental research, new methods of a combined chemotherapy, radiation treatment and surgical measures were recommended.

ASSOCIATION: Gosudarstvennyy onkologicheskiy institut imeni P.A. Gertsena, Moskva (State Oncological Institute imeni P.A. Gertsen, Moscow)

AVAILABLE: Library of Congress

Card 4/4 1. Cancer research - USSR 2. Tumors - Therapy

AUTHOR: Bergol'ts, V.M., Candidate of Medical Sciences

TITLE: Leukemia (Belokroviye) Experimental Data (Eksperimental'nyye dannyye)

PERIODICAL: Priroda, 1958, Nr 12, pp 43-46 (USSR)

ABSTRACT: Soviet researcher M.I. Arinkin was the first to suggest puncturing the bone marrow of the sternum and investigating the obtained cells to diagnose leukoses. The numerical increase of leukemia cases during the past ten years is partly explained by improved diagnostic methods, while on the other hand still imperfectly known factors, among the ionizing radiation, must be studied. The present most convincing theory is based on the assumption of the blastomatous nature of leukoses. According to L.A. Zil'ber and co-researchers, specific antigens are developed in leucocyte-forming tissues, a phenomenon that also occurs in malignant tumors. Many factors elucidating the problem of leukoses were found in the study of leukemia. There are 4 basic groups of causative agents: chemical substances penetrating into the organism from outside; chemical substances forming in the organism as

a result of a disturbance of the metabolic processes; ionizing radiation; viruses and virus-like agents. M.O. Raushenbakh injected lipoid extracts from the organs of people that had died of a leukose into mice which within a few months also developed leucosis. Raushenbakh concluded that certain chemical compounds or non-cellular agents are contained in the organs of leukose patients. The fact that many survivors in Hiroshima and Nagasaki developed leucosis is attributed to the effect of radiation. In the Oncological Department (headed by Professor A. Graffi) of the Institute of Biology and Medicine of the AS of East Germany, it was demonstrated that leukose filtrates from mice suffering from a leukose also contained agents causing malignant tumors, which, on their passage to healthy animals, become pathogenic in several cases, while, conversely, round - tumor filtrates contained leukose agents that, in cases, became manifestant. The latter case was established with respect to several sarcomata in mice, and Ehrlich's cancer, where in new-born and also adult mice leukoses were developed in up to 80 % of the test animals. The hypothetical virus-like agent of the human leukose was tentatively established by L.A. Zil'ber and V.A. Parnes by immunological

reactions and under the electron microscope. It is suggested that the leukose antigen consists of two components: a virus and a tissue component. Specific antigen properties also appeared in passages of the blood of leukose patients to the fetal membranes of chick embryos. The nature of these antigens is still imperfectly known. A.D. Timofeyevskiy, G.A. Piskunova and staff, L.V. Shershul'skaya and the author were principally engaged in relevant research. Almost 6,000 experiments on animals were conducted in the Virusological Laboratory of the State Oncological Institute imeni P.A. Gertsen under the scientific guidance of Professor L.A. Zil'ber. It is concluded that a non-cellular etiological agent, which has the basic features of a virus is contained in the organism of leukose patients. This concept may lead to the development of effective methods of prophylaxis and treatment of leukemia.

ASSOCIATION: Gosudarstvennyy onkologicheskiy institut im. P.A. Gertsena, Moskva (The State Oncological Institute imeni P.A. Gertsen, Moscow)

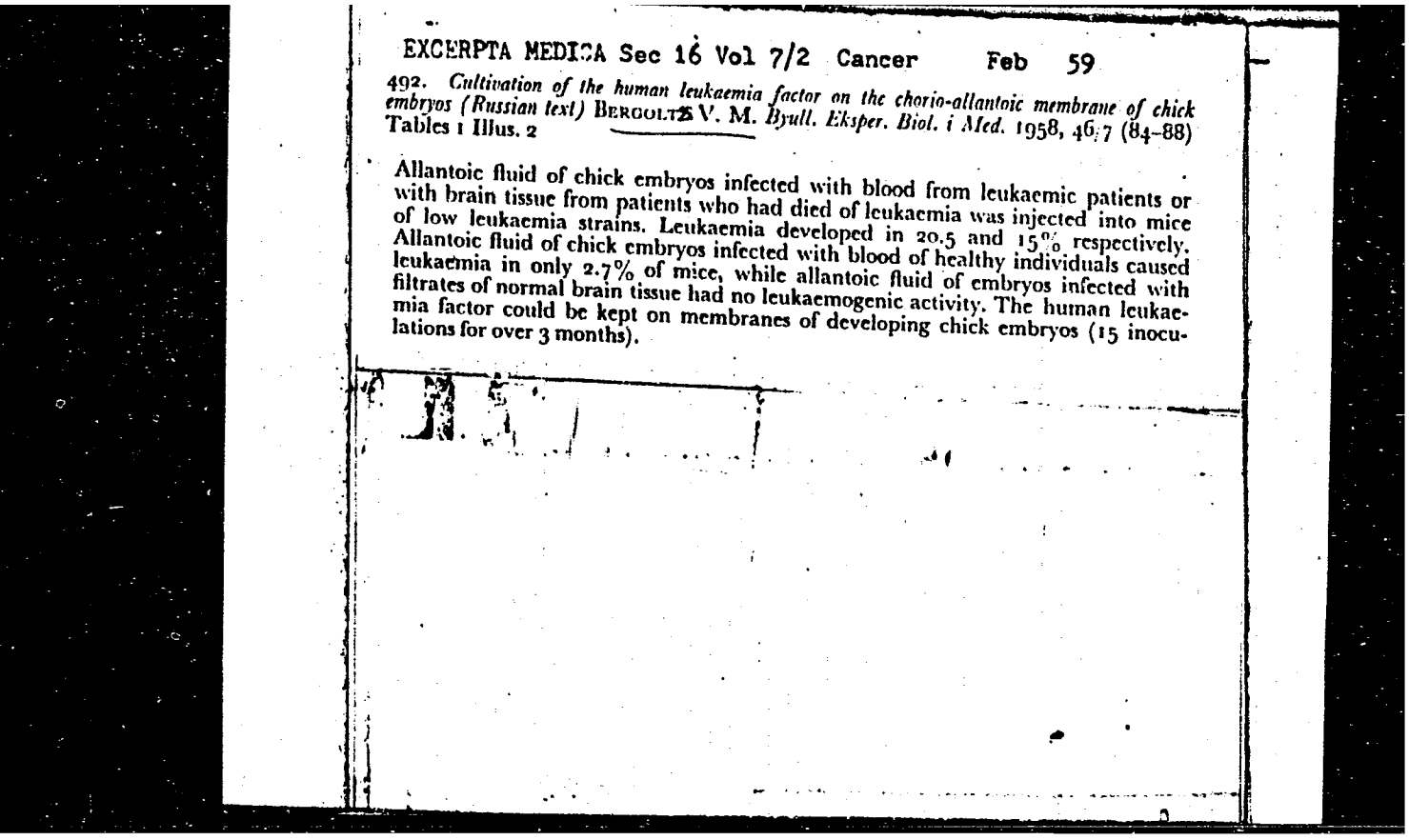
98. *Antigenic properties of the human leukaemic factor inoculated on the chick chorio-allantoic membrane (Russian text)* BERGOLTZ V. M. and SHERSHULSKAYA L. V. *Byull. Eksper. Biol. i Med.* 1958, 45/5 (84–89) Tables 3

By means of the anaphylactic reaction with desensitization it could be demonstrated that the specific leukaemic factor is present in the allantoic fluid of chicken embryos after the injection of human leukaemic blood. This factor is absent in allantoic fluid not so treated. The human leukaemic factor may be maintained on the chorio-allantoic membrane of developing chick embryos for up to 19 passages.

982. LEUCOSOGENIC ACTIVITY OF CELL-FREE FILTRATES OF LEUKAEMIC HUMAN TISSUE (Russian text) - Bergolts V. M. St. P. A. Guertzen Oncol. Inst., Moscow - BYULL. EKSPER. BIOL. MED. 1958, 45/6 (89-91) Tables 1 Illus. 6

Experiments are described to produce leukaemia in mice of low-tumour strains (C57 and C3HA) by injection of cell-free filtrates from lymph nodes, blood, brain and leucotic tumours from 4 humans dead from haemocytoblastosis. Apart from controls, 309 mice were used. The filtrates were injected intrasplenally in adult mice and subcutaneously in newborn mice. Results: leucotic tumours (mycloses) developed in 25% due to cell-free tissue filtrates, and in 11% due to injection of blood; the latent period was 3.7 months. Only one leukaemia developed in a control after the injection of 'normal' brain; leukaemoid reactions were observed with equal frequency in the controls and the experimental animals. Brain filtrates of leukaemic patients proved particularly active, which should probably be attributed to their high lipid content. It is supposed that these experiments have shown that 'virus-like factors' play a role in the development of human leukaemia.

Brandt - Berlin (V, 16)



EXCERPTA MEDICA Sec 16 Vol 7/2 Cancer Feb 59

492. *Cultivation of the human leukaemia factor on the chorio-allantoic membrane of chick embryos (Russian text)* BERGOLTZ V. M. *Byull. Eksper. Biol. i Med.* 1958, 46, 7 (84–88) Tables 1 Illus. 2

Allantoic fluid of chick embryos infected with blood from leukaemic patients or with brain tissue from patients who had died of leukaemia was injected into mice of low leukaemia strains. Leukaemia developed in 20.5 and 15% respectively. Allantoic fluid of chick embryos infected with blood of healthy individuals caused leukaemia in only 2.7% of mice, while allantoic fluid of embryos infected with filtrates of normal brain tissue had no leukaemogenic activity. The human leukaemia factor could be kept on membranes of developing chick embryos (15 inoculations for over 3 months).

BERGOL'TS, V.M., kand. med nauk.

Etiology of tumors. Priroda 47 no.5:57-59 My '58. (MIRA 11:5)

1. Gosudarstvennyy onkologicheskiy institut im. P.A. Gertsena, Moskva.

(ONCOLOGY--CONGRESSES)

BERGOL'TS, V.M., kand. med. nauk

[illegible]kemia; experimental data. Priroda 47 no.12:43-46 D '58.
(MIRA 11:12)

1.Gosudarstvennyy onkologicheskiy institut imeni P.A. Gertsena, Moskva.
(LEUKEMIA)

AUTHOR: Bergol'ts, V. M. 2o-119-4-5o/6o

TITLE: On Several Properties of a Viruslike Cell-Free Agent Isolated From Human Leukemic Tissues (O nekotorykh svoystvakh virusopodobnogo beskletochnogo agenta,izolirovannogo iz leykoznykh tkaney cheloveka)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 4, pp. 8o6 - 8o8 (USSR)

ABSTRACT: The author tried to passivate the human "leukemic factor" (Reference 1) in a mouse brain and in Kroker's sarcoma (Reference 2). The method of the passages in these two mediums is described separately. The died and killed animals were investigated carefully histologically and cytologically, in order to be able to give the diagnosis of a genuine leucosis. Table 1 shows that extracts from the cerebral tissue have no leucosogenous activity after the first, second, and possibly after the fifth passage if they were directly introduced into the mouse brain. The same homogenate caused subcutaneously leucosis (myelosis,figures 1,2) after the sixth passage in the case of 5o% of the experimental mice. Thus the factor which

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caused leucosis in mice is passivated within 3 months in the cerebral tissue of the mice. Therefore the leucosis factor can be passivated constantly in the brain of newborn mice. This property is characteristic of virus agents. Table 2 shows clearly that the leucosis factor can be passivated very durably (up to 5 months) in Kroker's sarcoma. Extracts from this sarcoma after the 7th and 15th passage of the leukosis factor had a marked leucosogenous effect in the case of a subcutaneous injection in newborn mice. The same applies in the case of injections into the milt of one month old mice. It were myeloses, only in one case a reticulosis. Thus the results obtained in the brain were confirmed. Thus human leukosis has viruslike character. The Real Member, Academy of Medical Sciences, USSR, Professor L. A. Zil'ber cooperated consultatively in this paper. There are 2 figures, 2 tables and 5 references, 2 of which are Soviet.

30(7)
AUTHOR: Bergol'ts, V.M., Candidate of Medical Sciences

SOV/26-59-2-28/53

TITLE: The International Symposium on the Etiology of Leucoses (Mezhdunarodnyy simpozium po etiologii leykozov)

PERIODICAL: Priroda, 1959, Nr 2, pp 102-103 (USSR)

ABSTRACT: The VII International Hematological Congress convened in Rome in September 1958. The Soviet delegation was composed of: Professor G.A. Alekseyev (Chairman) (Moscow), F.A. Efendiyev (Baku), G.S. Suleymanova (Tashkent), T.S. Istamanova, M.A. Rozhdestvenskaya (Leningrad) and Candidate of Medical Sciences V.M. Bergol'ts (Moscow). During the Congress a symposium on the etiology of leucoses also took place. In connection with a considerable increase of cases of leucoses this problem was especially studied. The author reported on Soviet research stressing the probable virus etiology of leucoses in man.

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A non-cellular agent could be recovered from the organism of patients suffering from serious leucoses. This agent had the properties of a virus.

ASSOCIATION: Gosudarstvennyy onkologicheskiy institut im. P.A. Gertsena (State Oncological Institute imeni P.A. Gertsen) - Moscow

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BERGOL'TS, V.M.

Viral etiology of leukemia. Vop. virus. 4 no.1:4-14 Ja-F '59. (MIRA 12:4)
(LEUKEMIA, etiol. & pathogen,
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