RAZUMOVICH, M.B., kand.biol.nauk; BELENSHCHIKOV, L.D. [Bialinshchykau, L.D.]

Effect of phytoncides on subordinative chronaxy. Vestsi AN BSSR. Ser. biial. nav. no.3:61-65 '60. (MIRA 14:1)
(PHYTONCIDES) (CHRONAXIA)

BELENSKI, Boncho.

Atomic energy and its application. Sofia 1946. 32 p.

NN

BE [illegible], A.

Introducing infusoria, a new method for dealing with cold diseases

Kolkh, proizv, 12, no. 1, 1952

USSR/Medicine - Proteins Jan 50
Serum

"Physiology of Protein Nutrition of Animals,"
Acad N. G. Belen'skiy

"Dok v-s Ak Selkhoz Nauk" No 1, pp 3-11

PA 165T44

Investigates intravenous introduction of "VNS" species nonspecific serum (modified blood serum of cattle which has been made nonspecific and can be safely introduced into circulation of other animals, including humans) as a source of protein nutrition, by a series of tests on dogs. Finds subject injection is completely assimilated without

FDD 165T44

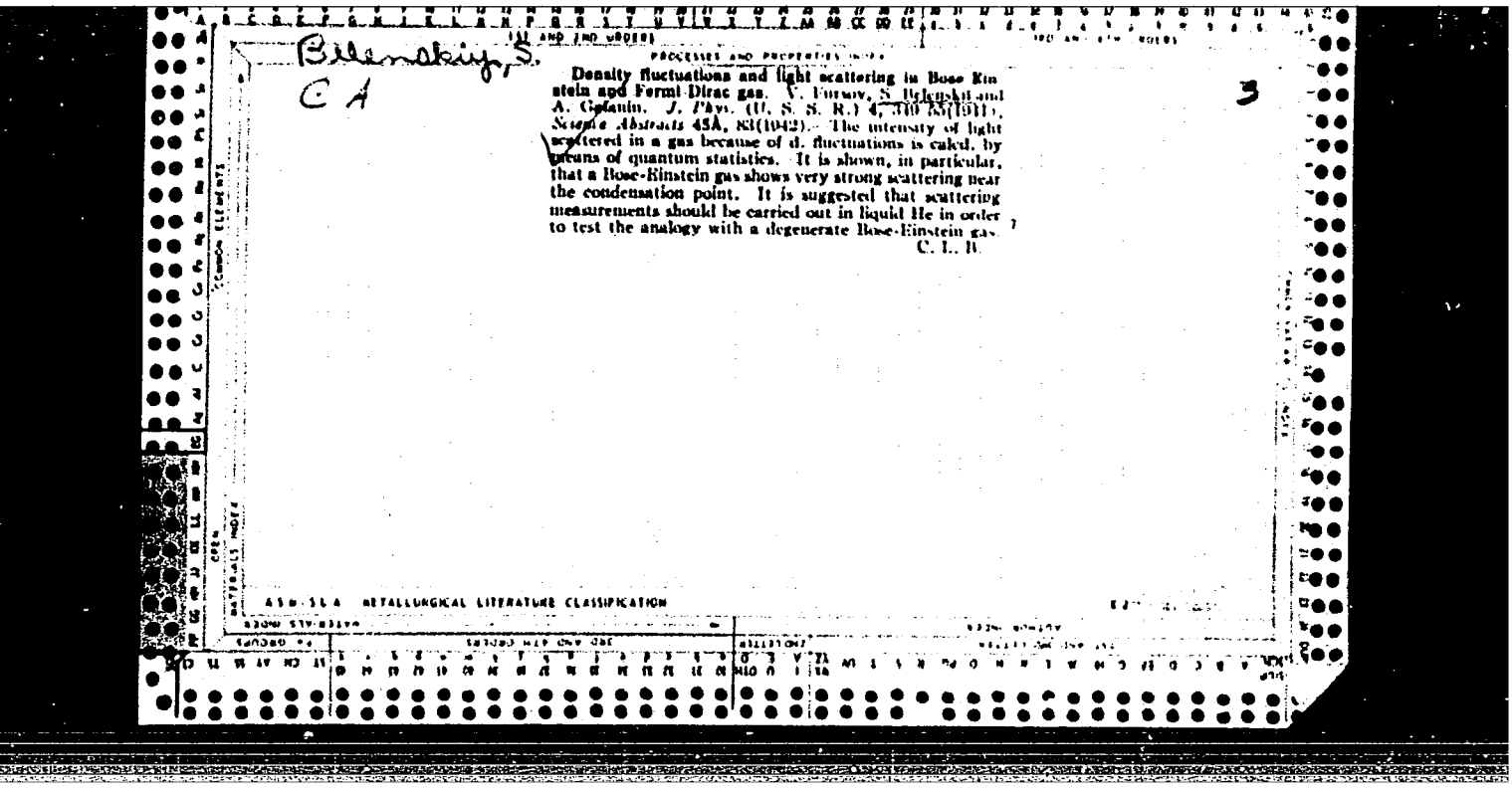
USSR/Medicine - Proteins (Contd) Jan 50

loss in course of a few days both when animal has protein deficit, and when it has sufficient protein. In latter case protein reserve is formed. Endogenic decomposition of protein is stopped during a few days following injection. Includes seven tables.

Submitted 1 Dec 49.

165T44

BELEN'SKIY, N. G., Acad.



Bilenkiy, S.

C A

3

Density fluctuations and light scattering in Bose Einstein and Fermi-Dirac gas. V. Fursov, S. Belyaev, and A. Galanin. *J. Phys.* (U. S. S. R.) 4, 310 AS(1941); *Science Abstracts* 45A, 85(1942).—The intensity of light scattered in a gas because of d. fluctuations is calcd. by means of quantum statistics. It is shown, in particular, that a Bose-Einstein gas shows very strong scattering near the condensation point. It is suggested that scattering measurements should be carried out in liquid He in order to test the analogy with a degenerate Bose-Einstein gas.
C. L. B.

BELENSKIY S.

FURSOV, B., BELENSKIY, S., and GALININ, A. D.

"Density Fluctuations and Light Scattering in Bose-Einstein and in Fermi-Dirac Gases." Uchenye Zapiski, Moskovskiy Ordena Lenina Gosudarstvennyi Universitet imeni M. V. Lomonosova, Fizika, XXXX 1944, Vol 74. pp. 59-66.

Moskov Ordena Lenina Gosudartvennyi Universitet imeni M. V. Lomonosov.

Abstract: Math. In a Bose-Einstein gas the light scattering strongly increases when the temp. is lowered to near the condensation point. This criterion may be applied to He II.

BELEN'SKIY, S.A.

KRIVITSKIY, A.B., inzh.; BELEN'SKIY, S.A., inzh.

Assuring a year-round supply of inert building materials in Siberia. Stroi.prom. 35 no.9:22-24 S '57. (MIRA 10:10)
(Siberia--Gravel)

ACCESSION NR: AP4033098 S/0120/64/000/002/0019/0021

AUTHOR: Demirkhanov, R. A.; Poroshin, O. F.; Belensov, P. Ye.; Mkheidze, G. P.

TITLE: Heavy-current injector of hydrogen ions

SOURCE: Pribory* i tekhnika eksperimenta, no. 2, 1964, 19-21

TOPIC TAGS: injection, ion injection, hydrogen ion injection, heavy current ion injection

ABSTRACT: A new hydrogen-ion injector (whose development is claimed to have been completed in 1959) operates continuously at a drawing voltage 50 kv or lower. The system uses a magnetic-type arc plasma source with oscillating electrons. The following operating data is reported: ion-beam current, 275 ma at 45 kv (drawing); beam diameter at 250 cm from the source, 5 cm; aperture of the converging beam, 2.5×10^{-2}; beam directivity, 7 acm^{-2}; current of the h-v

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ACCESSION NR: AP4033098

source, 500 ma; gas pressure in the source in the cathode region, 3×10^{-2} torr; same, in the "intermediate-electrode-anode" region, 6×10^{-3} torr; arc voltage, 220 v; arc current, 12 amp; magnetic field of the source, 600 oerst; magnetic field of the principal focusing lens, 1,500 oerst; magnetic field of the auxiliary lens, 220 oerst. "The authors thank Yu. V. Kursanov, T. I. Gutkin, N. I. Leont'yev, and G. I. Bolislavskaya for their participation in the initial phase of the project; I. A. Chukhin for design work; and A. M. Abzianidze, A. A. Kolodub, and S. I. Filatov for their practical help with the project." Orig. art. has: 4 figures and 1 formula.

ASSOCIATION: Fiziko-tekhnicheskiy institut GKAE SSSR (Physico-Technical Institute, GKAE SSSR)

SUBMITTED: 28Apr63 DATE ACQ: 11May64 ENCL: 00

SUB CODE: NS NO REF SOV: 003 OTHER: 002

Card 2/2

L 21831-65 EWT(1)/EWG(k)/EPA(sp)-2/EPA(w)-2/EEC(t)/T/EEC(b)-2/EWA(m)-2 Pz-6/
Pc-4/Pab-10/Pi-4 SSD/AFWL/ASD(a)-5/SSD(b)/AEDC(b)/ASD(f)-3/ASD(p)-3/APETR/ B
RAEM(a)/FSD(gs)/IJP(c) AT

ACCESSION NR: AP5000834 S/0057/64/034/012/2120/2128

AUTHOR: Belensov, P. Ye.; Kapin, A. T.; Plyutto, A. A.; Ryzhkov, V. N.

TITLE: Instability of current in separation of charged particles from plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v, 34, no. 12, 1964, 2120-2128

TOPIC TAGS: plasma, plasma instability, plasma flow, plasma relaxation oscillation, charged particle separation

ABSTRACT: Some results are presented of experimental investigations of stability conditions in a plasma flowing from an orifice under the action of an electric field. Specifically, the case of the separation of the electronic component from plasma is described. Some data concerning the peculiarities of the separation of the ionic components are given. The plasma was generated by a stacionary arc in vacuum, between a magnesium cathode and a circular anode, with an arc current range of 25 to 250 amp at voltages up to 15 v. Two orifices, the first of variable diameter (from 0.5 to 2.5 cm) and the second with a fixed diameter of 14 mm, could be put under a voltage difference

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ACCESSION NR: AP5000834

up to 30 kv over a capacitor. The plasma concentration in the area of the first orifice at zero voltage was about (1 to 3) x 10^{11} particles per cm^3 with an electron temperature between 0.5 and 1.0 ev. The arrangement made it possible to maintain a quasi-stationary field condition at a slowly changing voltage difference. The different characteristics of plasma flow—the stationary flow, the transitory regime, and the unstable flow—were distinguished. The first displays the dependence of the current only on the fluctuation of the arc. The transitory regime is characterized by the possibility of relaxation oscillations, which may attenuate; the current does not depend appreciably on the inter-orifice voltage. With the unstable flow, modulation of the current between the orifices takes place within the whole range of applied inter-orifice voltages; the mean current value increases slowly with the voltage. The transition from one regime to another can be effected by a change of the arc current and by the initial voltage applied to orifices, i. e. initial field strength. Both possibilities were investigated and the results plotted. The dependencies of the form, period, and amplitude of the relaxation oscillations were studied in some detail. The relationships are

Card 2/3

L 21831-65

ACCESSION NR: AP5000834

discussed in some detail and analytical expressions proposed. Orig. art. has: 9 figures and 3 formulas.

ASSOCIATION: none

SUBMITTED: 12Dec63 ENCL: 00 SUB CODE: ME, EM

NO REF SOV: 012 OTHER: 002 ATD PRESS: 3166

Card 3/3

06246
6(4) SOV/107-59-6-10/50

AUTHOR: Belentsev, S. (UA2KAW), Master Radio Amateur

TITLE: At the Group Radio Station

PERIODICAL: Radio, 1959, Nr 6, p 7 (USSR)

ABSTRACT: The author gives a brief report on the activity of the group radio station UA2KAW which is well-known to amateurs in the USSR and abroad and of which he is the leader. Recently, the station UA2KAW worked mainly in the 10 and 14 m range. Only a few Soviet radio amateurs use these frequencies as well as the 80 m range. On certain days, no European radio station may be heard in the 14 m range, while some dx working with a considerable intensity does not receive a single call. Obtaining such a dx contact in the 20 m range would be much more difficult because of the great number of radio amateurs trying to establish dx calls.

Card 1/1

BOBROVNIKOV, G.A., dotsent, kand.tekhn.nauk; BELENTSOVA, N.A., inzh.;
BOLILYY, M.M., inzh.

Molybdenum disulfide as a new lubricant for light industry machinery. Izv.vys.ucheb.zav.; tekh.leg.prom. no.2:105-110 '59.
(MIRA 12:10)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti.
(Molybdenum sulfide) (Machinery--Lubrication)

POLOSUKHIN, N.A., kand.tekhn.nauk dots.; BELENTSOVA, N.A., inzh.

Reinforcement of winding machine parts worn out by thread friction. Izv.vys.ucheb.zav.; tekh.leg.prom. no.5:156-159 '59. (MIRA 13:4)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti. Rekomendovana kafedroy tekhnologii metallov.
(Protective coating) (Textile machinery)

BELENYA, Ye.I., doktor tekhn. nauk; KILIMNIK, L.Sh., inzh.

Performance of prestressed steel beams during the development of plastic deformations. Prom. stroi. 42 no.5:29-34 '65. (MIRA 18:8)

PA 27T21

BELENYA, E. I.

USSR/Engineering Jun 1947
Cranes
Construction, Steel

"New Arrangements of Crane Equipment in Industrial Buildings," Dr E. I. Belenya, Candidate in Technical Sciences, MISI-TSNIPS, 2 pp

"Stroitel'naya Promyshlennost'" No 6

An examination of the new types of steel crane installations in industrial plants and the types of steel used in their framework.

BS 27T21

BELENYA, Ye. I.

Belenya, Ye. I. "The steel framework of heavy industrial buildings in the new methods of crane equipment", Sbornik trudov (Mosk. inzh.-stroit. in-t im. Kuybysheva), No. 6, 1948, p. 42-65.

So: U-3261, 10 April 53, (Letopis 'Zhurnal 'nykh Statey, No. 12, 1949).

BELENYA, Ye. I

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya kultura, Moscow, No. [illegible], 20 Feb - 3 Apr 1954)

Name	Title of Work	Designated by
Streletskiy, N.S. Geniyev, A.N. Baldin, V.A? Belenya, Ye. I. Lessig, Ye. N. Tubin, S.M.	"Steel Construction" (textbook, 2nd edition)	Moscow Construction Engineering Institute imeni V.V. Kuybyshev

SO: W-30604, 7 July 1954

SOV/124-57-8-9530

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 8, p 136 (USSR)

AUTHORS: Belenya, Ye. I., Khokharin, A. Kh.

TITLE: A Study of the Stress Distribution in Steel Columns Subjected to an Eccentric Load of the Type Created by a Crane (Izucheniye napryazhennogo sostoyaniya stal'nykh kolonn pri zagruzhenii ikh vnetsentrenno prilozhennoy kranovoy nagruzkoy)

PERIODICAL: V sb.: Issledovaniya po stal'nym konstruktsiyam. Moscow, 1956, pp 97-157

ABSTRACT: The stress distribution in the stepped composite I-beam steel columns forming a part of the bents of industrial shops is investigated for a case wherein the columns are supporting a crane, the crane representing an eccentric vertical load upon them. In their investigation hereof the authors take into account the axial stresses X_x, the normal stresses V_y [sic! Probably intended to read Y_y. Tr. Ed. Note.] (perpendicular to the axial stresses), the tangential stresses X_y, and the local stresses. All the stresses in the columns are considered as falling within the elastic range. The bending-moment distribution curve resolves into two distribution curves, and the investigation of a column

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A Study of the Stress Distribution in Steel Columns Subjected to an Eccentric (cont.)

as a frame member reduces to the investigation of a cantilever-type column. The authors dissect the I-column into free bodies consisting of the web and the semi-flanges and then substitutes the balancing interacting forces at the dissection surfaces to maintain the equilibrium of the respective elements. This makes it possible to reduce the problem of analyzing a column into the three separate problems of the generalized plane-stress distribution in the column's web and flanges. Each of these three problems is solved with the aid of a suitably selected stress function and suitably selected boundary and equilibrium conditions. Each of the three solutions obtained contains unknown coefficients, which are determined from the strain-continuity conditions assumed to obtain at those narrow regions where the web adjoins the flanges and where the two semiflanges (of which each flange is deemed to consist) adjoin each other. In consequence, a determination is made of the stresses X_x, Y_y, and X_y at different points of the lower part of the cantilever column, i. e., the part that is underneath the crane, for a case in which the edge face of the flange at the column's step shoulder is subjected to a uniformly distributed vertical pressure (i. e., the basic load). The influence exerted by that portion of the column situated above the step is not taken into account. It is pointed out that the stresses arising in a cantilever column being acted upon by the reactive force of a chord member of the frame can be found in the same manner. Analysis revealed that the distribution

throughout the column cross section of the axial stresses X_x resulting from the aforedescribed vertical load is nonlinear. Although the authors declare that these stresses attain their maximum values at intermediate heights of the column, according to Figure 5a of their paper the maximum X_x stress, which corresponds to the ordinate 1.0361q of the stress-distribution curve, occurs at the base restraint of the column. Also, whereas the authors assert that the Y_y and X_y stresses attain their respective maxima at the extremes of the column height, it would appear from Figures 5b and 5c that these stresses actually attain their maxima in the vicinity of the upper end of the column. The stress distribution in the web of a stepped I-column loaded along the edge faces of its flanges at the column step shoulders is first investigated optically, in experiments with photoelastic celluloid models. The experiments showed a considerable concentration of the principal shearing stresses in the zone of load application and another appreciable concentration thereof at the base of the column. The X_x, Y_y, and X_y web stresses as calculated theoretically are qualitatively compared with these same stresses as determined experimentally by the optical method. In the authors' opinion the two distribution patterns match up fairly well. Next, a description is given of tests made on five steel models of stepped I-columns and on two stepped I-columns of the steel skeleton of a full-scale factory-shop model; the results of these tests are

discussed in detail. Each of the columns in question, belonging to a unit consisting of two cross frames, underwent various tests, until finally, treated as a cantilever beam, it was subjected to gradually increased loads until it failed. In their analysis of the axial stresses X_x, as measured in each column, the authors examine the components of these stresses produced by the column's various geometrical deviations from that absolute straightness of contour which, ideally, columns are supposed to have. The pattern of the axial-stress distribution through the column cross section as observed in the experiments is substantially at variance with the stress-distribution pattern as calculated with the authors' two-term formula. The discrepancy between the stresses measured in the column's outer fibers and the maximum stresses anticipated on the basis of the theory averages 23-34%. The authors infer from their experiments that a column may pass into the elastic-plastic state much sooner than is predicted by the formula given in NiTU 121-55 [Normy i tekhnicheskiye usloviya proyektirovaniya stal'nykh konstruksiy (Standards and Technical Specifications for the Designing of Steel Structures)]. The nonlinear relationship which the authors observe between the external load and the magnitude of the X_x stresses is attributed by them to the abovementioned deviations from the ideal geometrical straightness of the columns. The actual distribution of the X_x stresses in a real column does not obey the law of plane sections. Transversely placed

A Study of the Stress Distribution in Steel Columns Subjected to an Eccentric (cont.)

diaphragms and stiffening ribs do affect considerably the stress distribution in a column's web. The necessity is noted for taking into account the Y_y stresses in analyzing local web stability. The maximum X_y stresses are observed to occur in the vicinity of the region of load application. So far as the web is concerned, it is proposed that for the purposes of a first approximation the X_y stresses therein be assumed to equal 20% of the X_x stresses. An analysis is made of the Y_y and X_y stresses in the flangesof the columns, it being suggested that of the two only the Y_y stresses be taken into account in the analysis of a stressed flange. An analysis is made also of the local stresses present in the capital of a column. The structural correctness of the various shapes imparted to the column shoulders in current design practice is confirmed. The authors formulate conclusions with respect to such matters as in which of the frame members, and to what extent, one should and should not allow for the Y_y and X_y stresses in analyzing columns, by what amount a column's bearing capacity is diminished by the operation of such factors as non-uniform stress distribution, a compound-stress condition, etc. The paper contains typographical errors and editorial inaccuracies.

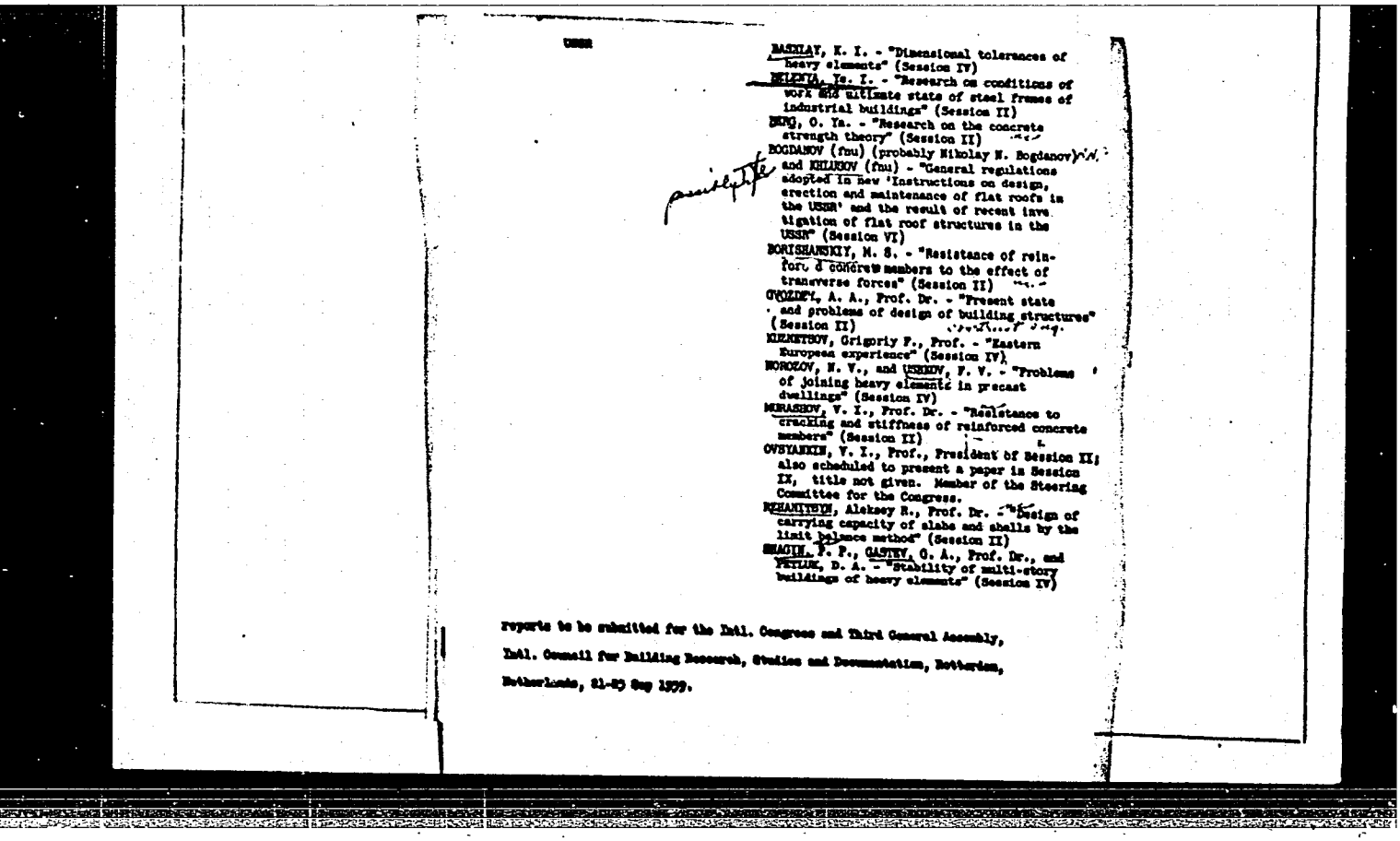
K. M. Khuberyan

Card 5/5

BELENYA, Ye.I., kand.tekhn.nauk; KLEPIKOV, L.V., kand.tekhn.nauk; SAFONOV, [illegible] inzh.nauchn.red.; GUSEVA, S.S., tekhn.red.

[Study of the joint performance of soils, foundations and transverse members of steel frames of industrial buildings] Issledovanie sovmestnoi raboty osnovanii, fundamentov i prperechnykh ram stal'nykh karkasov promyshlennykh zdanii. Moskva, Gos.izd-vo lit-ry po stroit. i arkhit. 1957. 57 p. (Moscow, TSentral'nyi nauchno-issledovatel'skii institut promyshlennykh sooruzhenii. Nauchnoe soobshchenie, no.28). (MIRA 12:11)

(Foundations) (Soil mechanics) (Building, Iron and steel)



USSR

BAKHLAY, K. I. - "Dimensional tolerances of heavy elements" (Session IV)

BELENYA, Ye. I. - "Research on conditions of work and ultimate state of steel frames of industrial buildings" (Session II)

BENG, O. Ya. - "Research on the concrete strength theory" (Session II)

BOGDANOV (fnu) (probably Nikolay N. Bogdanov) and KHLUNOV (fnu) - "General regulations adopted in new 'Instructions on design, erection and maintenance of flat roofs in the USSR' and the result of recent investigation of flat roof structures in the USSR" (Session VI)

BORISHANSKIY, M. S. - "Resistance of reinforced concrete members to the effect of transverse forces" (Session II)

GVOZDEV, A. A., Prof. Dr. - "Present state and problems of design of building structures" (Session II)

KHRISTOV, Grigoriy P., Prof. - "Eastern European experience" (Session IV)

MOROZOV, N. V., and USHKOV, F. V. - "Problems of joining heavy elements in precast dwellings" (Session IV)

MURASHOV, V. I., Prof. Dr. - "Resistance to cracking and stiffness of reinforced concrete members" (Session II)

OVSYANKIN, V. I., Prof., President of Session II; also scheduled to present a paper in Session IX, title not given. Member of the Steering Committee for the Congress.

RZHANITSYN, Aleksey R., Prof. Dr. - "Design of carrying capacity of slabs and shells by the limit balance method" (Session II)

SHAGIN, P. P., GASTEV, G. A., Prof. Dr., and PETLIN, D. A. - "Stability of multi-story buildings of heavy elements" (Session IV)

reports to be submitted for the Intl. Congress and Third General Assembly, Intl. Council for Building Research, Studies and Documentation, Rotterdam, Netherlands, 21-25 Sep 1959.

BELENYA, Ye. I., Doc Tech Sci — (diss) "Actual performance and design ~~calculation~~ of tranverse frames ~~frame casings~~ of steel ~~frames~~ of ~~the~~ single-story industrial buildings. (Experimental theoretical study)." Mos, ~~Order~~ 1959. 26 pp (Min of Higher and Secondary ~~Education~~ Special Education, 322 Mos Order of Labor Red Banner Engineering Construction Institute im V.V. Kuybyshev). 150 copies. (KL, 37-59, 107)

GAYDAROV, Yuriy Vladimirovich, kand.tekhn.nauk; BELENYA, Ye.I., kand. tekhn.nauk, nauchnyy red.; BUDARINA, E.M., red.izd-va; KL'KINA, E.M., tekhn.red.

[Prestressed steel construction elements in industrial building] Predvaritel'no napriazhennye stal'nye konstruktsii v promyshlennom stroitel'stve. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 85 p. (MIRA 13:10)
(Building, Iron and steel)

BELENYA, YE. I.

PHASE I BOOK EXPLOITATION SOV/5854

Streletskiy, Nikolay Stanislavovich, Corresponding Member, Academy of Sciences USSR, Professor, Member of the Academy of Construction and Architecture of the USSR; A. N. Geniyev, Professor; Ye. I. Belenya, Doctor of Technical Sciences, Professor; V. A. Baldin, Candidate of Technical Sciences, Docent; and Ye. N. Lessig, Candidate of Technical Sciences, Docent

Metallicheskiye konstruktsii (Metallic Structures) 3rd ed., rev. Moscow, Gosstroyizdat, 1961. 776 p. Errata slip inserted. 70,000 copies printed.

Scientific Ed.: S. M. Tubin, Candidate of Technical Sciences; Ed. of Publishing House: T. V. Goryacheva; Tech. Ed.: P. G. Gilenson.

PURPOSE: This book was approved by the Ministry of Higher and Secondary Specialized Education USSR as a textbook for civil engineering schools of higher education; it may also be used as a manual by engineers and aspirants.

COVERAGE: The following basic problems in designing metallic structures are discussed: the load-carrying ability of the material and joints; calculation

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2

methods; arrangement of constructional elements and complexes of industrial and civil buildings with metal frames; large-span buildings; sheet and plate structures; pipelines; and electric-powerline supports. Also discussed are fundamentals of the economics of steel structures and of the use of structural aluminum. Modern types of prestressed constructions (metallic, steel-reinforced concrete, steel-rope, etc.) are also considered. The limit-state methods used are in accordance with SNiP; substantiation for new engineering design specifications is given. The book was written as follows: N. S. Streletskiy, the Introduction and Chs. I, II, III, V, VI, and XXVI; A. N. Geniyev, Ch. XI through XVII; V. A. Baldin, Ch. VIII; Ye. I. Belenya, Chs. IV, IX, X, and XVIII; and Ye. N. Lessig, Chs. VII and XIX through XXV. There are no references.

TABLE OF CONTENTS: [Abridged]

BELENYA, Ye.I., doktor tekhn.nauk; RENSKIY, A.B., kand.tekhn.nauk

Investigating resilience and the design of combined frames and columns with flexible interties. Trudy TSNIISK no.4:61-94 '61. (MIRA 15:2)

(Structures, Theory of)

KIKIN, A.I., prof.; BELENYA, Ye.I., prof.; STRELETSKIY, N.S., prof., doktor tekhn. nauk; LESSIG, Ye.N., dots.; MUKHANOV, K.K., dots.; DUBINSKIY, G.S., dots.; SHESTAK, G.A., dots.; IGNAT'YEVA, V.S., dots.; RYBAKOV, V.M., dots.; GENIYEV, A.N., prof.; VSDENIKOV, G.S., dots.; TUBIN, S.M., kand. tekhn. nauk, nauchnyy red.; BEGAK, B.A., red. izd-va; OSENKO, L.M., tekhn. red.

[Metal construction; present state and outlook for future development] Metallicheskie konstruktsii; sostoianie i perspektivy razvitiia. Pod obshchei red. N.S.Streletskogo. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 333 p. (MIRA 15:4)

1. Moscow. Moskovskiy inzhenerno-stroitel'nyy institut.
2. Kafedra metallicheskikh konstruktsiy Moskovskogo inzhenerno-stroitel'nogo instituta imeni V.V.Kuybysheva (for all except Tubin, Begak, Osenko).
(Building, Iron and steel)
(Aluminum, Structural)

BELENYA, Yevgeniy Ivanovich, doktor tekhn. nauk, prof.; VEDENIKOV, G.S., kand. tekhn. nauk, retsenzent; PIMENOV, I.L., retsenzent; POPOV, S.A., kand. tekhn. nauk, nauchn. red.; BORODINA, I.S., red.; GOL'BERG, T.M., tekhn. red.

[Supporting elements of prestressed metal] Predvaritel'no napriazhennye metallicheskie nesushchie konstruktsii. Moskva, Gosstroiizdat, 1963. 322p. (MIRA 17:1)

BELENYA, Yevgeniy Ivanovich, doktor tekhn. nauk, prof.; VEDENIKOV, G.S., kand. tekhn. nauk, retsenzent; PIMENOV, I.L., kand. tekhn. nauk, retsenzent; POPOV, S.A., kand. tekhn. nauk, nauchn. red.; BORODINA, I.S., red.

[Bearing structures of prestressed metal] Predvaritel'no napriazhennye metallicheskie nesushchei konstruktsii. Moskva, Gosstroiizdat, 1963. 322 p. (MIRA 17:5)

BELENYA, Ye.I., doktor tekhn.nauk, prof.

International Conference on Prestressed Metal Structures. Prom. stroi. 41 no.2:41-42 F '64. (MIRA 17:3)

STRELETSKIY, Nikolay Stanislavovich, doktor tekhn. nauk, prof.; BELENYA, Yevgeniy Ivanovich, prof.; VEDENIKOV, Georgiy Stanislavovich, dots.; MUKHANOV, Konstantin Konstantinovich, dots.; LESSIG, Yevgeniy Nikolayevich, dots.; POPOV, S.A., kand. tekhn. nauk, nauchn. red.; LILEYEV, A.F., inzh., nauchn. red.

[Metal elements; a special course] Metallicheskie konstruktsii; spetsial'nyi kurs. Pod red. N.S.Streletskogo. Moskva, Stroiizdat, 1965. 366 p. (MIRA 19:1)

1. Chlen-korrespondent AN SSSR (for Streletskiy).

BELENYESSY, M.

Remarks on Drahomire Stranska's essay "The Czech People as Represented in Miniatures." p. 154 (Ethnographia Vol. 67, no 1/2, 1956 Budapest)

SO: Monthly List of East European Accession (EEAL) LC. Vol. 6 no. 7, July 1957, Uncl.

BELENYESY, M.

Frantisek Graus' History of the Country Population during the Pre-Hussite Period I.; a book review. p. 672 (Ethnographia Vol. 67, no. 4, 1956 Budapest)

SO: Monthly List of East European Accession (EEAL) LC. Vol. 6 no. 7, July 1957, Uncl.

BELENYESY, MARTA.

"Kultura es tanc a bukovinai szekelyeknel."

Budapest, Hungary, Akademiai Kiado, 1958. 175 p.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.
Uncla.

L 60407-65

ACCESSION NR: AR5015893 UR/0299/65/000/009/R027/R027 3
577.3

SOURCE: Ref. zh. Biologiya. Svodnyy tom, Abs. 5R172 B

AUTHOR: Beleradek, Ya. V.

TITLE: Intermolecular aspects of the structural stability of protoplasm at extreme temperatures

CITED SOURCE: Sb. Kletka i temperatura sredy, M.-L., Nauka, 1964, 289-295

TOPIC TAGS: protoplasm, protoplasm stability, protoplasm thermal stability, protoplasm structural stability, protoplasm structure, cell reaction

TRANSLATION: Proceeding from the concept of the forces of molecular interaction the author considers live protoplasm as a polyphase system. Cooling leads to a cessation of cell reactions as a result of excessive ordering of the molecules. The presence of small impurities capable of disrupting the molecular order may change the threshold value of injurious temperatures. In discussing the relationship between the thermal stability of an organism and the thermal stability of cell components (proteins, enzymes, nucleic acids, lipids, water, salts), the author shows

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L 60407-65

ACCESSION NR: AR5015893

that none of these substances can in itself be responsible for the injuries caused to the organism by extreme temperatures. N. Ryabchenko.

SUB CODE: IB ENCL: 00

Card 2/2

Ecuaţiile de Echilibru în Coordonate Oblice la Învelitorile Subţiri de Grosime Constantă. Aurel Beleş. *Stud. Cerc. Mec. Aplic.*, July-Sept., 1960, pp. 831-851. 12 refs. In Rumanian. Derivation of equilibrium equations using the system of oblique coordinates for thin plates of constant thickness.

BALAN, Stefan; BELES, Aurel A.; IFRIM, Mihail

Testing some structural models on the seismic platform.
Studii astron seismol 6 no.2:315-324 '61.

1. Membri corespondenti al Academiei R.P.R. (for Balan and Beles)

S/169/62/000/009/016/120
D228/D307

AUTHORS: Beleş, Aurel and Ifrim, Mihail

TITLE: Contemporary problems of the seismic design of buildings

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 22, abstract 9A137 (Studii şi cercetări astron. şi seismol., 6, no. 2, 1961, 325-408 (Rum.; summaries in Russ. and Fr.))

TEXT: The state of research on the question of earthquake effects upon buildings is considered. The latest studies in the field of engineering seismology in the USSR and the USA are analyzed. The regulations and actual calculated standards of most countries' liable to earthquakes are indicated. A brief description is given of the stare of engineering seismology in Rumania. [Abstracter's note: Complete translation.]

Card 1/1 Corres. Mbr, AS R.P.R.

BELES, Aurel A., acad.

"Calculation and designing of machine and turbine foundations; vibrations in construction and transportation" by Alexandru Major. Reviewed by Aurel A. Beles. Studii cerc mec apl 14 no.2:475-480 '63.

BELES, A., ing., acad. prof.

A useful book for constructors. Constr Buc 15 no.722:3 9 N '63.

BELES, Aurel A.

"Calculation and planning on machine and turbine foundations" by Alexander Major. Reviewed by Aurel A. Beles. Rev mec appl 8 no. 4: 718-722 '63.

BELES, Aurel, A., acad. prof. ing.

"Industrial halls, design, and construction" by A. Major, H. Zeidler. Reviewed by Aurel A. Beles. Rev mec appl 9 no.4:937-939 '64.

BELESKOV, R.I. (gorod Konotop).

Problems for the computation of railroad traction. Fiz.v shkole 14 no.2:71-72 Mr-Ap '54. (MLRA 7:2)
(Railroad engineering--Tables, calculations, etc.)

BELESKOV, R.I

CHEBYKIN, G.N. (g.Polevskoy Sverdlovskoy oblasti); BELESKOV, R.I. (stantsiya Konotop); GOTSMAN, R.B.; MEYL'MAN, M.L.

Problems on artificial earth satellites. Fiz. v shkole 18 no.3:80-84 My-Je '58. (MIRA 11:4)

1.Severo-Kazakhskiy pedagogicheskiy institut, Petropavlovsk (for Gotsman). 2. 612-ya srednyaya shkola, Moskva (for Meyl'man).
(Artificial satellites--Problems, exercises, etc.)

BELESKOV, S. (Melitopol')

PYK block of the "Luch" television receiver. Radio no.3:50 Mr '61. (MIRA 14:8)

(Television--Receivers and reception)

YUGOSLAVIA

BELESLIN, B. D.: Department of Pharmacology, Medical Faculty, Belgrade (Farmakoloski institut medicinskog fakulteta, Beograd), Belgrade.

"The Role and the Significance of Acetylcholine in Depressive and Convulsive States"

Belgrade, Arhiv za farmaciju, Vol 16, No 1, 1966, pp 27-36

Abstract [Author's English summary modified]: The method of regional perfusion of the cerebral ventricles with neostigmine was used to determine the site of origin of the acetylcholine which appears in the effluent of cerebral ventricles perfused with artificial cerebrospinal fluid containing neostigmine in anaesthetized cats. The greatest amount of acetylcholine came from structures lining the anterior horn of the lateral ventricle, namely, the caudate nucleus, olfactory grey matter, and perhaps from the septum. The smallest amount came from structures lining the ventral half of the third ventricle, the walls of which contain the nuclei of the hypothalamus. Under choralost the output of acetylcholine was greater than under amytal on perfusion from cisterna magna to fissures of Sylvius. Morphine in the perfusion fluid depressed the output of acetylcholine in the cerebral ventricles and in the cerebral subarachnoidal space. Leptazol and strychnine increased both the output of acetylcholine into the perfused cerebral ventricles and the release from the parietal cortex. Figures. 5 Yugoslav, 40 Western references.

BELESLIN, D.

The effect of noradrenaline on the response of terminal segment of the isolated guinea-pig ileum to acetylcholine, histamine, 5-hydroxytryptamine and nicotine. Acta med. iugosl. 15 no.2:136-143 '61.

(NOREPINEPHRINE pharmacol.) (ILEUM pharmacol.)
(ACETYLCHOLINE pharmacol.) (HISTAMINE pharmacol.)
(SEROTONIN pharmacol.) (NICOTINE pharmacol.)

BELESLIN, Dusan, dr.

Acetylcholine. Vojnosanit. pregl. 19 no.2:140-144 F '62.

1. Medicinski fakultet u Beogradu, farmakoloski institut.
(ACETYLCHOLINE)

BEIESLIN, D.; VARAGIC, V.

The spontaneous activity and the effect of drugs on the isolated guinea-pig ileum kept under a constant intraluminal supraliminal pressure. Acta med. Iugosl. 17 no.3:336-345 '63.

1. Department of Pharmacology, Medical Faculty, Beograd.

BELESLIN, Slavko, dr

Medico-legal estimation of pain. Med. glas. 15 no.3:133-136 Mr '61.

1. Centar za sudsku medicinu pri Opstoj bolnici Osijek.

(PAIN) (JURISPRUDENCE)

USSR / Farm Animals. Cattle. Q-2

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 64426

Author : Shilo, Yu. M.; Beletkov, M. P.; Sobolyeva, G. S.
Inst : Kurgan Agricultural Institute
Title : Materials for the Study of the Composition of the Milk of the Kurgan Breed of Cows.

Orig Pub : Sb. nauchn. rabot Kurgasnk. s.-kh. in-ta, 1956, vyp. 3, 211-217.

Abstract : The milk composition of cows of the Kurgan breed was studied on 10 cows of three calvings, older than those in the herd of the Institute. The production of cows was 3,600 kg., and the fat content of the milk, 3.9%. The average composition of milk during a lactatation was (in %): dry substances 12.05, fat 3.84, protein 3.33, sugar 4.21-5.1, ash 0.664, calcium 1.184, carotene 1.879-2.247. Density of the milk was 29.84 A. Fat and dry matter content gradually increased toward

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the end of the lactation (fat from 3.54 to 4.5% and dry substances from 11.34 to 12.42%). Protein content was rather high in the first month of lactation (3.3%), and in the subsequent months its amount somewhat decreased; in the 2nd half of lactation, the protein content gradually increased again, and in the 9th month attained 3.409%. Fat content in April (stall period) was 3.76% and in June (pasture period), 3.44%).

BELETKOV, M.P.

SHILO, Yu.M., professor; BELETKOV, M.P., dotsent.

Corn silage in dairy cattle rations. Nauka i pered.op.v sel'khoz. 7 no.7:22-24 Jl '57. (MLRA 10:8)
(Dairy cattle--Feeding and feeding stuffs)
(Corn (Maize))

L 11315-67 EWP(c)/EWP(k)/EWT(d)/EWT(m)/EWP(l)/EWP(v)/EWP(t)/ETI IJP(c) JD/HM
ACC NR: AR6022166 SOURCE CODE: UR/0137/66/000/003/E073/E073

AUTHOR: Taran, V. D.; Belets, L. G.

TITLE: New equipment for quality control of welded seams by gamma radiography

SOURCE: Ref. zh. Metallurgiya, Abs. 3E528

REF SOURCE: Novoye v tekhnol. svarki stroit. konstruktsiy. M., 1965, 100-104

TOPIC TAGS: welding inspection, gamma ray, quality control, radioactive source, radiography

ABSTRACT: Mechanized containers in the NILS-3 and NILS-5 units prevent the radiograph from entering the danger zone during removal and replacement of the ampule containing the radioactive source. The NILS-5 is a portable gamma-ray source with a remote control panel. A special shielding material is used in place of lead to reduce the overall dimensions and weight of the container. The remote panel is connected to the spherical container by a 20-25 m cable so that the operator may work at a safe distance from the ampule. M. Frolova. [Translation of abstract]

SUB CODE: 13,18

nondestructive testing

Card 1/1 bab UDC: 621.791.004.2/002.54

BELETSEV, Ya. N.

USSR/Geology - Ferrous Ore, Origin Mar/Apr 51

"Types of Ore Fields of Krivorog Ferrous Layers and Concepts on Origin of Ferrous Ore," Ya. N. Beletsev

"Iz Ak Nauk, Ser Geol" No 2, pp 3-27

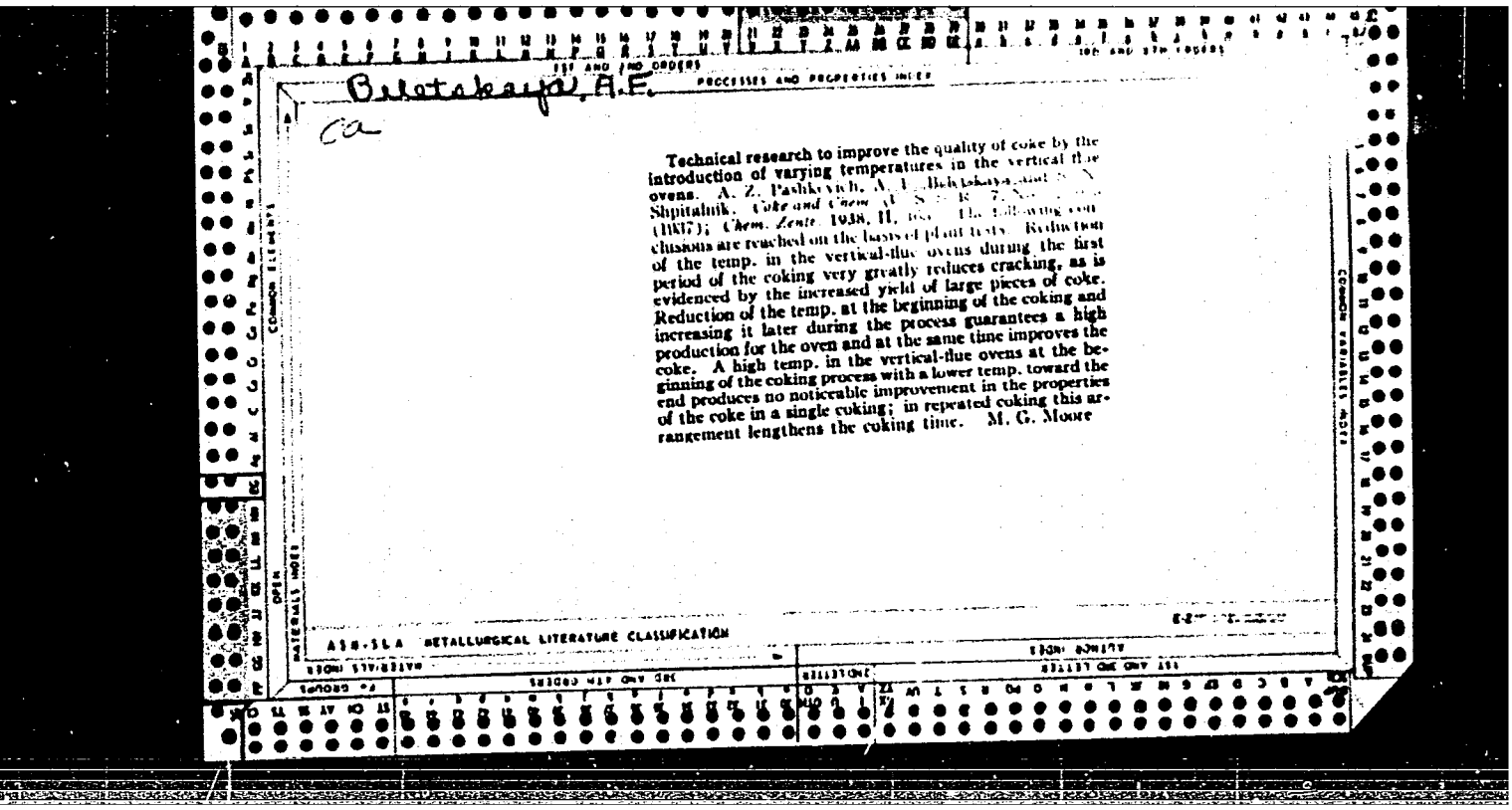
From exploitation of various geol materials on Krivorog fld, Beletsev derives series of conclusions on origin of sep ore types of these deposits.

LC 18Oct53

BELETSKAYA, A.

[redacted]

Solidarity. Rabotnitsa 35 no.11:13-15 N '57. (MIRA 11:2)
(Women) (Telephone--Employees)



Bulatskaya, A.F.

Ca

Technical research to improve the quality of coke by the introduction of varying temperatures in the vertical flue ovens. A. Z. Pashkevich, A. [illegible] Bulatskaya, and S. N. Shpitalnik. *Coke and Chem. (U.S.S.R.)* 7, No. [illegible] (1937); *Chem. Zentr.* 1938, II, 1654. The following conclusions are reached on the basis of plant tests. Reduction of the temp. in the vertical-flue ovens during the first period of the coking very greatly reduces cracking, as is evidenced by the increased yield of large pieces of coke. Reduction of the temp. at the beginning of the coking and increasing it later during the process guarantees a high production for the oven and at the same time improves the coke. A high temp. in the vertical-flue ovens at the beginning of the coking process with a lower temp. toward the end produces no noticeable improvement in the properties of the coke in a single coking; in repeated coking this arrangement lengthens the coking time. M. G. Moore

A18-51A METALLURGICAL LITERATURE CLASSIFICATION

VIROZUB, I.V.; BELETSKAYA, A.F.; PONOMARENKO, M.S.

Letters to the editors. Koks i khim. no.7:58-59 '65. (MIRA 18:8)

1. Ukrainskiy nauchno-issledovatel'skiy uglekhimicheskiy institut.

BELETSKAYA, A. F.

Beletskaya, A. F. - "Certain temperature and heat correlations in coke ovens," Authors: I. A. Kopeliovich, B. I. Kustov, A. I. Voloshin and A. F. Beletskaya. Trudy Ukr. nauch.-issled. uglekhim. in-ta, Issue 2, 1948, p. 67-75

SO: U-5240, 17, Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

BELETSKAYA, A.F.

VODNEV, G.G.; SHELKOV, A.K.; DIDENKO, V.Ye.; FILIPPOV, B.S.; TSAREV, M.N.; ZASHVARA, V.G.; LITVINENKO, M.S.; MEDVEDEV, K.P.; MOLODTSOV, I.G.; LGALOV, K.I.; RUBIN, P.G.; SAPOZHNIKOV, L.M.; TYUTYUNNIKOV, G.N.; DMITRIYEV, M.M.; LEYTES, V.A.; LERNER, B.Z.; MEDVEDEV, S.M.; REVYAKIN, A.A.; TAYCHER, M.M.; TSOGLIN, M.E.; DVORIN, S.S.; RAK, A.I.; OBUKHOVSKIY, Ya.M.; KOTKIN, A.M.; ARONOV, S.G.; VOLOSHIN, A.I.; VIROZUB, Ye.V.; SHVARTS, S.A.; GINSBURG, Ya.Ye.; KOLYANDR, L.Ya.; BELETSKAYA, A.F.; KUSHNEREVICH, N.R.; BRODOVICH, A.I.; NOSALEVICH, I.M.; SHTROMBERG, B.I.; MIROSHNICHENKO, A.M.; KOPELIOVICH, V.M.; TOPORKOV, V.Ya.; AFONIN, K.B.; GOFTMAN, M.V.; SEMENENKO, D.P.; IVANOV, Ye.B.; PEYSAKHZON, I.B.; KULAKOV, N.K.; IZRAELIT, E.M.; KVASHA, A.S.; KAFTAN, S.I.; CHERNOYKH, M.S.; SHAPIRO, A.I.; KHALABUZAR', G.S.; SEKT, P.Ye.; GABAY, L.I.; SMUL'SON, A.S.

Boris Iosifovich Kustov; obituary. Koks i khim. no.2:64 '55.(MLRA 9:3)
(Kustov, Boris Iosifovich, 1910-1955)

BELETSKAYA, A.F.

Study of the combustion of coke-oven gas in coke-oven flues.
Koks i khim. no.3:22-28 '60. (MIRA 13:6)

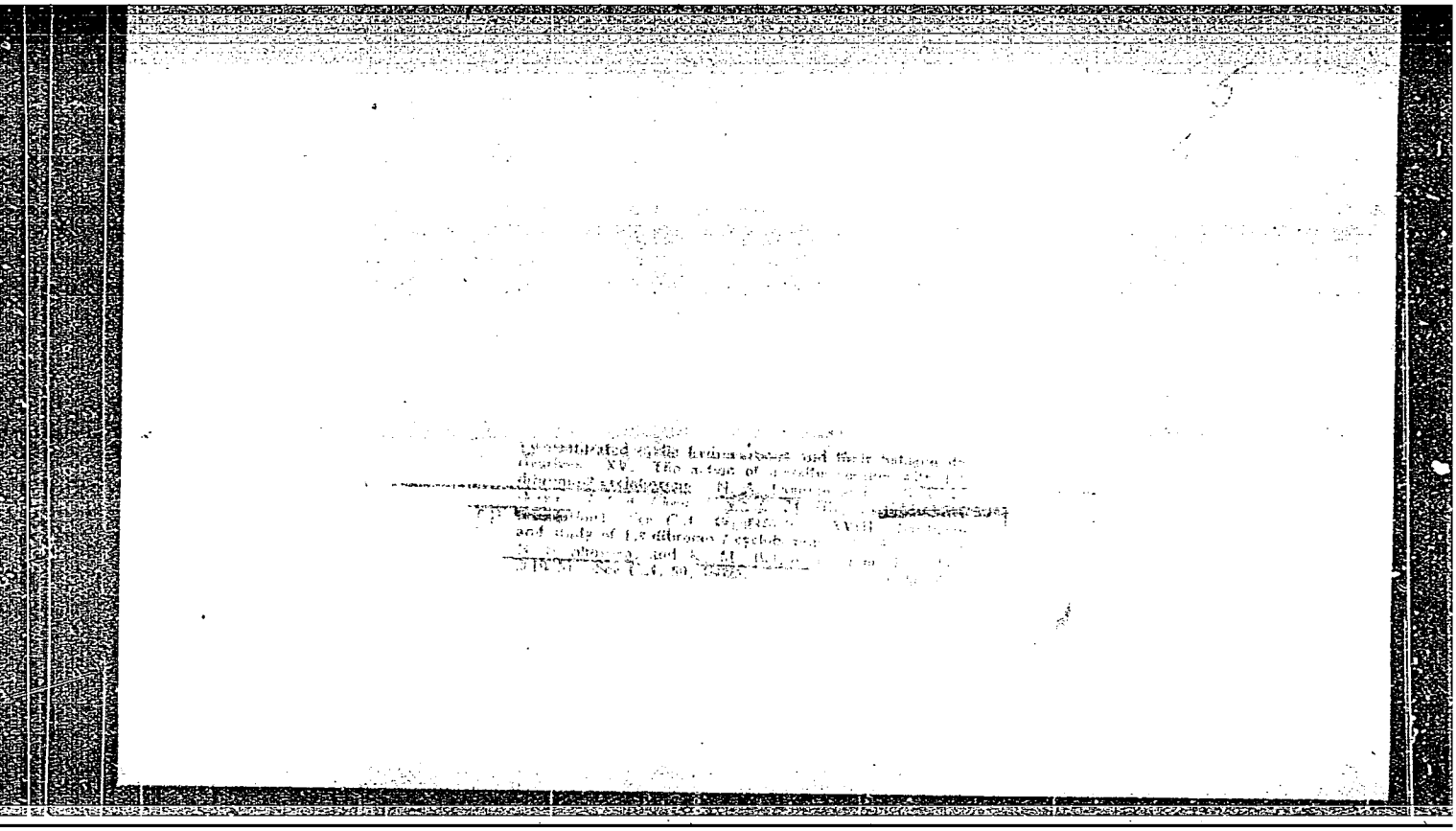
1. Ukrainskiy uglekhimicheskiy institut.
(Coke-oven gas)

BELETSKAYA, A.L.

A great organizer of the Socialist system of communication. Vest. sviazi 17 no.10:54-55 O '57. (MIRA 10:11)
(Telecommunication--History) (Russia--Revolution, 1917-1921)

USSR

Unsaturated cyclic hydrocarbons and their halogen derivatives. XIV. Formation of bromobenzene in the reaction of molecular bromine with 1,2-dibromocyclohexene. N. A. Domnin and A. S. Bekhtakaya (Leningrad State Univ.). *Zhur. Obshchei Khim.* 14, 1017-19 (1944); cf. *C.A.* 41, 5881a; 48, 13644b.—Br with 1,2-dibromocyclohexene yields 1,1,2,2-tetrabromocyclohexane, *o*-$C_6H_4Br_2$, and 8-10% $PhBr$, the latter being formed either by progressive loss of HBr from the tetrabromide or by isomerization of 2,3-dibromo-1,3-cyclohexadiene to 3,3-dibromo-4,5-cyclohexadiene, which then loses HBr. To 71 g. boiling quinoline was slowly added 55 g. mixed chlorides formed from PCl_5 and cyclohexanone (1-chlorocyclohexene and 1,1-dichlorocyclohexane are the reacting components), while the product was being slowly distd.; the product after washing with 1:1 H_2SO_4 gave 30 g. (70%) 1-chlorocyclohexene, b. 142-5°, d_4^{15} 1.0498, n_D^{15} 1.4767; if Me_2NPh is used as the reagent, the product is difficult to purify, while aq. KOH yields a bad emulsion. The product was converted to 1-chloro-1,2-dibromocyclohexane (cf. Favorskii [illegible]). This (90 g.) in $CHCl_3$ treated with cooling with 32 g. Br in $CHCl_3$, the soln. left 24 hrs. at room temp., heated 2 hrs. at 30-40° (HBr evolution), the excess Br removed with Na_2SO_3, and the soln. washed with H_2O, dried, distd., giving fractions of the starting material, *o*-$C_6H_4Br_2$, and 8% $PhBr$; the presence of the latter was confirmed by the ultraviolet spectrum (absorption max., 2720, 2700, 2650, and 2560 A.). G. M. Kosolapoff



BELETSKAYA, A.S.

USSR/Chemistry

Card 1/1 : Pub. 151 - 30/42

Authors : Domnin, N. A., and Beletskaya, A. S.

Title : Investigation of unsaturated cyclic hydrocarbons and their halogen derivatives. Part 15.- Reaction of metallic sodium with 1,4-dibromocyclohexene-2

Periodical : Zhur. ob. khim. 24/9, 1636-1638, Sep 1954

Abstract : The conversions taking place during the reaction of metallic sodium with 1,4-dibromocyclohexene-2 were investigated. The product formed during such reaction and its chemical properties are briefly described. A study of the reaction between 1,4-dibromocyclohexene-2 and zinc dust brought negative results. At equal possibilities of forming conjugated and isolated bonds in a six-membered ring, the conjugated bonds were found in predominance. Eight references: 4-USSR; 2-USA and 2-German (1903-1929).

Institution : State University, Leningrad

Submitted : April 5, 1954

BELETSKAYA, I.P.; ARTAMKINA, G.A.; REUTOV, O.A.

Kinetics of symmetrization of organomercury salts. Report No.8: Effect of polar factors on the rate of symmetrization of ethyl esters of α-bromomercuryarylacetic acids. Izv. AN SSSR. Ser. khim. no.10:1737-1742 O '64. (MIRA 17:12)

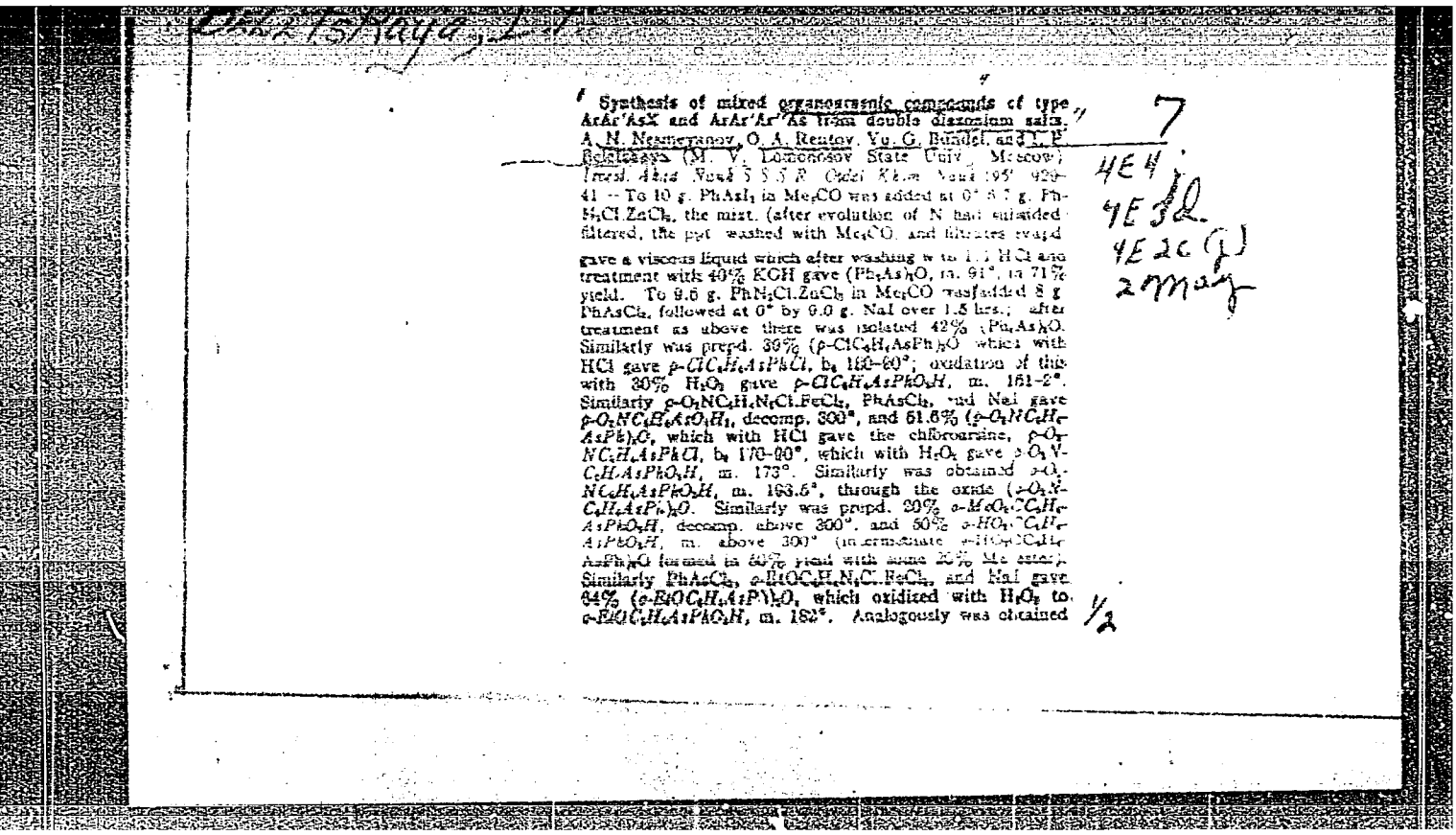
1. Moskovskiy gosudarstvennyy universitet.

BELETSKAYA, I.P.; FEDOROV, L.A.; REUTOV, O.A., akademik

Protolysis of dibenzylmercury according to the S e-1 mechanism.
Dokl. AN SSSR 163 no.6:1381-1384 Ag '65.

(MIRA 18:8)

1. Moskovskiy gosudarstvennyy universitet.



Synthesis of mixed organoarsenic compounds of type ArAr'AsX and ArAr'Ar''As from double diazonium salts. A. N. Nesmeyanov, O. A. Reutov, Yu. G. Bundel', and T. P. Belikhova (M. V. Lomonosov State Univ., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1957, 929–41. — To 10 g. $PhAsI_2$ in Me_2CO was added at 0° 8.7 g. $PhN_2Cl.ZnCl_2$, the mixt. (after evolution of N had subsided) filtered, the ppt. washed with Me_2CO, and filtrates evapd. gave a viscous liquid which after washing w. to 1:1 HCl and treatment with 40% KOH gave $(Ph_2As)_2O$, m. 91°, in 71% yield. To 9.6 g. $PhN_2Cl.ZnCl_2$ in Me_2CO was added 8 g. $PhAsCl_2$, followed at 0° by 9.0 g. NaI over 1.5 hrs.; after treatment as above there was isolated 42% $(Ph_2As)_2O$. Similarly was prepd. 39% $(p\text{-}ClC_6H_4AsPh)_2O$ which with HCl gave *p-ClC₆H₄AsPhCl*, b_4 180–90°; oxidation of this with 30% H_2O_2 gave *p-ClC₆H₄AsPhO₂H*, m. 161–2°. Similarly *p-O₂NC₆H₄N₂Cl.FeCl₃*, $PhAsCl_2$, and NaI gave *p-O₂NC₆H₄AsO₂H₂*, decomp. 300°, and 61.6% $(p\text{-}O_2NC_6H_4AsPh)_2O$, which with HCl gave the chloroarsine, *p-O₂NC₆H₄AsPhCl*, b_4 170–90°, which with H_2O_2 gave *p-O₂NC₆H₄AsPhO₂H*, m. 173°. Similarly was obtained *o-O₂NC₆H₄AsPhO₂H*, m. 163.5°, through the oxide $(o\text{-}O_2NC_6H_4AsPh)_2O$. Similarly was prepd. 20% *o-MeO₂CC₆H₄AsPhO₂H*, decomp. above 300°, and 50% *o-HO₂CC₆H₄AsPhO₂H*, m. above 300° (intermediate *o-HO₂CC₆H₄AsPh₂O* formed in 40% yield with some 20% Me ester). Similarly $PhAsCl_2$, *o-EtOC₆H₄N₂Cl.FeCl₃*, and NaI gave 64% $(o\text{-}EtOC_6H_4AsP)_2O$, which oxidized with H_2O_2 to *o-EtOC₆H₄AsPhO₂H*, m. 182°. Analogously was obtained

A. N. Nesmeyanov, O. A. Reutov, et al

63% (2-$C_6H_4AsPh_2$)$_2$O, which gave 2-$C_6H_4(AsPh_2O_2H$, m. 157–9°; 71% (*p*-$MeC_6H_4AsPh_2$)$_2$O, which gave 37% *p*-$MeC_6H_4AsPhCl_2$, b$_{20}$ 190–225°, which gave *p*-$MeC_6H_4AsPhO_2H$, m. 162°. RN_2Cl and $PhAsCl_2$ with NaI gave as above (*p*-$BrC_6H_4AsPh_2$)$_2$O, which gave *p*-$BrC_6H_4AsPhCl_2$, b$_4$ 178–80°, in 25% overall yield, and this gave *p*-$BrC_6H_4AsPhO_2H$, m. 176°. To 5.5 g. *p*-$MeC_6H_4N_2Cl.ZnCl_2$ in Me_2CO was added 5.7 g. *p*-$ClC_6H_4AsPhCl$ and, at 0° over 60 min., was added 1.5 g. powd. Fe, yielding after aq. treatment 38% (*p*-MeC_6H_4)(*p*-ClC_6H_4)$AsPh$, viscous liquid; $HgCl_2$ *adduct*, m. 188–9°. Use of *p*-$BrC_6H_4AsPhCl$ similarly gave 52% (*p*-MeC_6H_4)(*p*-BrC_6H_4)$AsPh$, whose $HgCl_2$ *adduct* m. 196–7°. Similarly was prepd. 42% (*p*-C_5H_4N-C_6H_4)(*p*-MeC_6H_4)$AsPh$, whose $HgCl_2$ *adduct* m. 193–4°, 52% (*o*-$MeO_2CC_6H_4$)(*p*-MeC_6H_4)$AsPh$, whose $HgCl_2$ *adduct* m. 192°; 79% (*p*-BrC_6H_4)(*o*-$MeO_2CC_6H_4$)$AsPh$, whose *dihydroxide* is a solid and m. 212–15° [illegible] prepd. 42% *p*-$ClC_6H_4AsPh_2$, b$_{0.5}$ 225–30°, $HgCl_2$ [illegible] m. 1[illegible]°, 51% *p*-$BrC_6H_4AsPh_2$, whose $HgCl_2$ adduct [illegible] 1[illegible]°, *p*-$MeC_6H_4AsPh_2$, m. 45°, whose $HgCl_2$ *adduct* m. 182–3°. Similarly were obtained: 51% *p*-$O_2NC_6H_4AsPh_2$, m. 160°, whose $HgCl_2$ *complex*, m. 145–6°, and 73% *o*-$MeO_2CC_6H_4AsPh_2$, m. 92°, whose $HgCl_2$ *adduct* m. 231–2° (decompn.).

G. M. Kosolapoff

7
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1-4E2cj
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BELETSKAYA, I. P.

AUTHORS: Reutov, O. A., Beletskaya, I. P., and Mardaleyshvili, R. Ye., 2o-4-25/51

TITLE: The Kinetics of the Electrophile Supplementary Reaction Beside a Saturated Carbon Atom (Kinetika reaktsii elektrofil'nogo zameshcheniya u nasyshchennogo uglerodnogo atoma)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 4, pp. 617-62o (USSR)

ABSTRACT: By means of the example of diastereomeric 1-methyl-ethers of the α-bromium-mercury-phenyl-acetic acid Nesmeyanov, Poddubnaya, and the first author have found that the symmetrisation of the mercury-organic salts takes place by ammonium which represents the reaction mentioned in the title takes place under the maintainance of the stereochemical configuration. The authors thought from the first that it seems not very probable that the symmetrisation of the mentioned ethers passes the stage of anion formation (in contrast to Hughes and Ingold, reference 4). Therefore they investigated the kinetics of the reaction in question. A mixture of the diasteromers and the diastomer with the melting point 156°of the above mentioned ether alone were used for this purpose. In order to investigate the order of the reaction with respect to the initial substance $R_1R_2R_3C$ -HgX, a method was used which is based upon the nephelometry-principle. A photocell fixed

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the quantity alteration of the light passing through in the course of the reaction in consequence of the deposition formation of $(NH_3)_2.HgBr_2$ according to an equation given here. The reaction has a second order for the two mercurized ethers (ethyl- and methyl). The symmetrisation of the first ethers takes place quicker of the latter. The constant of the reaction velocity is of second order: $K_2 = \frac{1}{C_o T}\left(\frac{C_o}{C} - 1\right)$, C is the concentration of substance in the time 5; $K_2 = K'(NH_3)^2$ (so in the original text - the reporter), as it is shown in the further course. In the second part of the paper the order of the reaction was detected with respect to the second component- ammonium. If the concentration alteration of NH_3 in the course of the first half hour is equated with the initial velocity of the reaction it is easily to be proved that the initial velocity of the ammonium consumption is directly proportional to the square of its initial concentration. Thus the reaction investigated here has the second order with respect to the two substances. As the reaction took place not only with a different effect and is finished in the case of different quantities of consumed substance, it can be assumed that the symmetrisation reaction is reversible. This is con-

firmed by the fact that the addition of the end product slows down the reaction (figure 4); the results obtained of the symmetrisation of mercury-organic salts by ammonium made the authors suggest a 2-stage mechanism of the reaction (scheme is given): I st (reversible) stage is the reaction mentioned in the title. In the II nd stage ammonium binds $HgBr_2$ and shifts the equilibrium I to the right. These results facilitate to detect for the first time a bimolecular mechanism of the reaction mentioned in the title in which the stereochemical configuration is conserved. There are 4 figures, 2 tables and 6 references, 1 of which is Slavic.

ASSOCIATION: State University imeni M. V. Lomonosov, Moscow (Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova)

PRESENTED: March 15, 1957, by A. N. Nesmeyanov, Academician

SUBMITTED: February 22, 1957

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BELETSKAYA, I. P., Cand Chem Sci -- (diss) "On the problem of the mechanism of reactions of electrophyll substitution in a saturated carbon atom. (Study of the kinetics of reaction of the symmetrization of mercuroorganic salts under the action of ammonia.)" Mos, 1958. 8 pp (Mos State Univ im M. V. Lomonosov) (KL, 18-58, 95)

SOV/156-58-4-36/49

AUTHORS: Reutov, O. A., Beletskaya, I. P., Filippenko, L. R.

TITLE: The Symmetrization of Mercury-Organic Salts by Means of Diphenyl Mercury (Simmetrizatsiya rtutnoorganicheskikh soley s pomoshch'yu difenilrtuti)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 754-756 (USSR)

ABSTRACT: In the interaction of mercury-organic salts with mercury diphenyl, symmetric mercury-organic compounds are formed in great yield. The following mercury-organic salts were prepared: acetonyl-mercury chloride, ethyl ester of the α-bromo mercury phenyl acetic acid, ethyl ester of the n-bromo-α-bromo mercury phenyl acetic acid, 3-bromo-mercury-3-benzyl camphor and trans-chloro-vinyl-mercury chloride. The mechanism of the symmetrization of the mercury-organic salts proceeds according to the following scheme:

$$2R_1 R_2 R_3 CHgX \rightleftarrows (R_1 R_2 R_3 C)_2 Hg + HgX_2$$

$$HgX_2 + (C_6H_5)_2 Hg \rightarrow 2C_6H_5 HgX.$$

There are 1 table and 5 references, 4 of which are Soviet.

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The Symmetrization of Mercury-Organic Salts by Means of Diphenyl Mercury

ASSOCIATION: Kafedra organicheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Chair of Organic Chemistry at the Moscow State University imeni M. V. Lomonosov)

SUBMITTED: August 4, 1958

SOV/76-33-1-25/45

5(4)

AUTHORS: Reutov, O. A., Beletskaya, I. P., Kardaleyshvili, R. Ye.

TITLE: Reaction Kinetics of the Symmetrization of Organo-Mercury Salts (Kinetika reaktsii simmetrizatsii rtutnoorganicheskikh soley). I. Determination of the Order From the Organo-Mercury Salt of the Reaction of the Symmetrization of Esters of α-Mercury Bromide Phenylacetic Acid Under the Influence of Ammonia (I. Opredeleniye poryadka po rtutnoorganicheskoy soli reaktsii simmetrizatsii efirov α-brommerkurfeniluksusnoy kisloty pod deystviyem ammiaka)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 1, pp 152 - 155 (USSR)

ABSTRACT: On the example of the diastereomeric l-menthyl esters of the α-mercury bromide phenyl acetic acid (I) it had already been found earlier (Ref 1) that the symmetrization of organo-mercury salts with ammonia proceeds with a constant stereochemical structure. Winstein (Uinshteyn)(Ref 2) obtained the same results on experiments with a different salt, whereas Hughes and Ingold (Kh'yuz and Ingol'd) assumed that an electrophilic substitution takes place with a constant

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structure in the mechanism S_E1 and a change of the structure in S_E2. Since a progress of the reaction mentioned in the title is doubtful with S_E2, the reaction kinetics of ethylene and 1-menthyl ester of (I) was investigated with ammonia in the case under discussion. The symmetrization of $R_1R_2R_3CHgX$ ($R_1 = C_6H_5$, $R_2 = H$, $R_3 = COOC_{10}H_{19}$) took place in absolute chloroform, mixed with ammonia, at 20°. The nephelometric measuring method was used. The concentration of the substances was in the range of $(6.8\text{-}0.85).10^{-5}$ mol/ml. The reaction order of $R_1R_2R_3CHgX$ was determined by the kinetic curves and the initial concentration of (I). The exporimental results obtained showed that the symmetrization reaction of $R_1R_2R_3CHgX$ is of the second order. There are 4 figures, 1 table, and 3 references, 1 of which is Soviet.

Reaction Kinetics of the Symmetrization of Organo-Mercury Salts. I. Determination of the Order From the Organo-Mercury Salt of the Reaction of the Symmetrization of Esters of α-Mercury Bromide Phenyl-acetic Acid Under the Influence of Ammonia SOV/76-33-1-25/45

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 4, 1957

Card 3/3

5(4) SOV/76-33-9-12/37

AUTHORS: Reutov, O. A., Beletskaya, I. P., Mardaleyshvili, R. Ye.

TITLE: Kinetics of the Symmetrization Reaction of Organomercury Salts. II. Determination of the Reaction Order of Symmetrization With Ammonia of the Esters of α-Bromo Mercuro Phenyl Acetic Acid With Respect to Ammonia

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 9, pp 1962-1968 (USSR)

ABSTRACT: In follow-up of a previous report (Ref 1), further investigations were made here concerning the reaction mentioned in the title, with special regard to the reaction order with respect to ammonia (I) as well as the influence exerted by (I) concentration and various additions upon the rate and intensity of symmetrization. Experiments were made in a test tube (Fig 1) with $1.36.10^{-3}$ mol of organomercury salt (II) and (3.28, 2.76, 2,12, 1.60, 1.07).10^{-3} mol (I). The reaction was stopped at various time intervals by the addition of an excess of 0.149 n HCl (with respect to the (I)-amount), and the acid excess was titrated (Table 1). The order of reaction with respect to (I) was determined from the initial reaction rate of (I) as a

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function of its initial square concentration (Tables 2,3). Nephelometric measurements were likewise made, and the values for I = f(t) are tabulated (Table 4). In both cases, a direct dependence of the initial reaction rate on the initial square concentration of (I) was ascertained. In the symmetrization of (II), (I) is, under prevailing conditions, consumed according to the second order. From the curves I = f(t) the portion of reacted (II) was found to depend upon the various initial concentrations of (I) (Table 5); it was further ascertained with the titration method that in the case of (II) amounting to $1.36.10^{-3}$ mol and (I) lying below $4.30.10^{-3}$ mol, the reaction intensity is determined by the initial concentration of (I) (Table 6). Additions of a symmetrical compound $(R_1R_2R_3C-)_2Hg$ (formed in the course of reaction) (Table 7) showed that when increasing the concentration of these additions the reaction rate is lowered. The symmetrization reaction under investigation is assumed to take place in two stages (1) and (2), where (1) is a bimolecular electrophilic substitution in the

Kinetics of the Symmetrization Reaction of Organomercury Salts. II. Determination of the Reaction Order of Symmetrization With Ammonia of the Esters of α-Bromo Mercuro Phenyl Acetic Acid With Respect to Ammonia

saturated carbon atom. It had already been shown (Ref 2) that the symmetrization in question leaves the stereochemical configuration unaltered; thus, a bimolecular reaction of the mentioned kind with preserved stereochemical configuration was established for the first time. There are 6 figures, 7 tables, and 3 references, 2 of which are Soviet.

SUBMITTED: February 21, 1958

S/062/60/000/009/020/021
B023/B064

AUTHORS: 1. Reutov, O. A. and Belotskaya, I. P.; 2) Reutov, O. A. and Lovtsova, A. N.; 3. Vinogradova, L. P. and Zav'yalov, S.I.

TITLE: 1. Electrophilic and Radical Substitution of Iodine for the Mercury Atom in Organo-mercury Salts. 2. Introduction of Dichloro Carbene Into the Metal - Haloid Binding. 3. Interaction of 2-Formyl Cycloalkanones With Hydrogen Peroxide

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 9, pp. 1716-1717

TEXT: 1. In the course of their studies of the mechanism of the electrophilic substitution on the saturated carbon atom, the authors investigated the reaction of the organo-mercury salts: ethyl ester of α-bromo mercury phenyl acetic acid (I) and the benzyl mercury bromide (II) with iodine. The electrophilic substitution of the mercury atom was carried out under the action of iodine in cadmium iodide solution. The reaction took place in aqueous dioxan: $R - HgBr + I_2 \xrightarrow{CdI_2} R - I + HgBr\,I$.

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1. Electrophilic and Radical Substitution of Iodine for the Mercury Atom in Organo-mercury Salts. 2. Introduction of Dichloro Carbene Into the Metal - Haloid Binding. 3. Interaction of 2-Formyl Cycloalkanones With Hydrogen Peroxide

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B023/B064

In case (I) the reaction proceeds rapidly, in case (II) much slower. The reaction kinetics of (II) with iodine was spectrophotometrically recorded and examined by the titration method. The reaction proceeds rapidly in the presence of CdI_2, i.e., photochemically by the radical mechanism. The reaction of (I) with iodine in the absence of CdI_2 (radical reaction) is of first order with respect to iodine and of zeroth order with respect to the organo-mercury salt. The kinetics was spectrophotometrically recorded. Finally, a very important effect of the structural factor upon the rate of the electrophilic and radical substitution of the iodine atom for the mercury atom on saturated carbon was determined. 2. The authors found that the dichloro carbene forming in the benzene medium under the action of tertiary potassium butylate upon chloroform, is capable of linking itself into the mercury - chlorine binding under the formation of trichloro methyl mercury compounds. Sublimate reacts with dichloro carbene under the formation of trichloro methyl mercury chloride (melting point 180°).

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1. Electrophilic and Radical Substitution of Iodine for the Mercury Atom in Organo-mercury Salts. 2. Introduction of Dichloro Carbene Into the Metal - Haloid Binding. 3. Interaction of 2-Formyl Cycloalkanones With Hydrogen Peroxide

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Found: Hg 56.83%. Calculated: Hg 56.60%. Phenyl mercury chloride forms trichloro methyl phenyl mercury (melting point 113.5-114°). Trans-β-chloro vinyl mercury chloride forms trichloro methyl-trans-β-chloro vinyl mercury (melting point 80-81°). Found 53.06%. Calculated: 52.72%. The latter compound is converted under the action of chlorine or bromine into trichloro methyl mercury chloride or trichloro methyl mercury bromide, respectively. At present, the authors are investigating the possibility of synthesizing trichloro methyl organometallic compounds of other metals with dichloro carbene. 3. The authors found that under the action of hydrogen peroxide at low temperatures 2-formyl cyclopentanone and 2-formyl cyclohexanone undergo an oxidative splitting and yield adipic and pimelic acid, respectively. This rare reaction of 2-formyl cycloalkanones may be used for the production of a variety of dicarboxylic acids, beginning with the cyclic ketones. There are 2 Soviet references.

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1. Electrophilic and Radical Substitution of Iodine for the Mercury Atom in Organo-mercury Salts. 2. Introduction of Dichloro Carbene Into the Metal - Haloid Binding. 3. Interaction of 2-Formyl Cycloalkanones With Hydrogen Peroxide

S/062/60/000/009/020/021
B023/B064

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (Moscow State University imeni M. V. Lomonosov), (Reutov,O.A., Beletskaya, I. P., Lovtsova, A. N.), Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR) (Vinogradova, L. P. and Zav'yalov, S.I.)

SUBMITTED: 1. May 23, 1960; 2. June 9, 1960; 3. June 13, 1960

Card 4/4

REUTOV, O.A.; SOKOLOV, V.I.; BELETSKAYA, I.P.

Electrophilic substitution at a saturated carbon atom. Influence of sulfur on the mechanism of the isotopic exchange reaction taking place between ethyl α-bromomercuriphenylacetate and mercuric bromide labeled with Hg^{203}. Dokl. AN SSSR 136 no. 3:631-633 Ja '61. (MIRA 14:2)

1. Chlen-korrespondent AN SSSR (for Reutov).
(Substitution (Chemistry)) (Acetic acid) (Mercury bromide)
(Mercury—Isotopes)

REUTOV, O.A.; SOKOLOV, V.I.; BELETSKAYA, I.P.

Study of electrophilic substitution reactions at a saturated carbon atom by use of the isotope exchange method. Report No.1: Kinetics of the isotope exchange reaction of ethyl -(bromomercuri) phenyl acetate with mercury bromide tagged with Hg^{203} in pyridine. Izv. AN SSSR. Otd.khim.nauk no.7:1213-1217 Jl '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. (Acetic acid) (Mercury bromide) (Substitution (Chemistry))

REUTOV, O.A.; SOKOLOV, V.I.; BELETSKAYA, I.P.

Study of the electrophilic substitution reaction at a saturated carbon atom by the isotope exchange method. Report No.3: Isotope exchange of esters of α-bromomercuriarylacetic acids with mecury bromide tagged with Hg^{203}, in water-dioxane. Izv. AN SSSR. Otd.khim.nauk no.8:1427-1429 Ag '61.

(MIRA 14:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Acetic acid)
(Mercury—Isotopes)

REUTOV, O.A.; SOKOLOV, V.I.; BELETSKAYA, I.P.

Study of electrophylic substitution at a saturated carbon atom using the isotope exchange method. Report No.4: Kinetics of isotopic exchange between ethyl α-(bromomercuri) phenylacetates and mercury bromide tagged with Hg^{203} in dimethylformamide. Izv. AN SSSR. Otd.khim.nauk no.9:1561-1565 S '61. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Acetic acid) (Mercury bromide) (Mercury--Isotopes)

BELETSKAYA, I.P.; REUTOV, O.A.; GUR'YANOVA, T.P.

Substitution for halogen of a mercury atom bonded to a saturated carbon atom. Report No.1: Interaction between benzyl mercury chloride and iodine in the presence of iodine ion in dioxane. Izv. AN SSSR, Otd.khim.nauk no.9:1589-1595 S '61. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Mercury compounds) (Iodine)

BELETSKAYA, I.P.; REUTOV, O.A.; KARPOV, V.I.

Electrophylic substitution reactions at the olefin carbon atom. Report No.1: Reaction of trans-β-chloroviny mercury chloride with iodine in the presence of iodine ion in aqueous dioxane. Izv.AN SSSR.Otd.khim.nauk no.11:1961-1965 N '61. (MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Mercury organic compounds) (Substitution (Chemistry))

BELETSKAYA, I.P.; REUTOV, O.A.; GUR'YANOVA, T.P.

Reaction of the substitution of a halogen for a mercury atom combined to a saturated carbon atom. Report No.2: Reaction of benzyl mercury chloride with iodine in the presence of an iodine anion in dimethylformamide, methyl, and ethyl alcohols. Izv.AN SSSR.Otd. khim.nauk no.11:1997-2002 N '61. (MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Mercury organic compounds) (Iodine)
(Substitution (Chemistry))

BELETSKAYA, I.P.; REUTOV, O.A.; KARPOV, V.I.

Electrophylic substitution reactions at olefin carbon atom. Report No.2: Reaction of trans- and cis-β-chlorovinylmercury chloride with iodine in the presence of cadmium iodide in absolute methanol. Izv. AN SSSR Otd.khim.nauk no.12:2125-2128 D '61. (MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Mercury compounds) (Cadmium iodide) (Substitution (Chemistry))

BELETSKAYA, I.P.; REUTOV, O.A.; KARPOV, V.I.

Electrophylic substitution reactions at olefin carbon atom. Report No.3: Reaction of trans- and cis-chlorovinylmercury chloride with iodine in the presence of cadmium iodide in dimethylformamide. Izv. AN SSSR Otd.khim.nauk no.12:2129-2132 D '61. (MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Mercury compounds) (Cadmium iodide) (Substitution (Chemistry))