Investigation of the Nature of Catalysts Used in Isomerization and Polymerization of Hydrocarbons. II. On the Catalytic Properties of Silicic Acid

SOV/79-29-6-62/72

catalytic activity at 155° rises 1300 times and is equal to the catalytic activity of loam. In such cases the Soviet industry uses 1% aluminum oxide (occasionally 10%), so that the α-pinene is isomerized even at +20°. These facts explain the easy isomerization of α-pinenes and other unsaturated hydrocarbons under the influence of silica gels, observed by some scientists, and confirm the theory of aluminum silicate catalysis of V. Ye. Tishchenko and G. A. Rudakov. The experimental results published in the paper at hand, show that silica gel without aluminum may be used for the chromatographic separation of unsaturated hydrocarbons. If technical gel, containing 1% aluminum oxide, is used, the alumino silicate must be previously neutralized. It is yet unknown what effect this neutralization exercises upon the separation properties. The two tables show the properties of analyzed gels and for comparison used active loams, produced by the "Voskresenskiy khimkombinat" (Voskresensk Chemical Kombinat). The diagram shows the catalytic isomerization rate of α-pinenes using various catalysts.

Card 2/3

Investigation of the Nature of Catalysts Used in Isomerization and Polymerization of Hydrocarbons. II. On the Catalytic Properties of Silicic Acid

SOV/79-29-6-62/72

There are 1 figure, 2 tables, and 22 references, 18 of which are Soviet.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut (Central Scientific Chemical Research Institute for Forestry)

SUBMITTED: May 29, 1958

Card 3/3

5 (3)

AUTHORS: Rudakov, G. A., Shestayeva, M. M. SOV/79-29-6-70/72

TITLE: On Catalytic Transformations of Terpenes (O kataliticheskikh prevrashcheniyakh terpenov). VIII. Isomerization Changes of Terpinolene in the Presence of Titanic Acid (VIII. Izomerizatsionnyye prevrashcheniya terpinolena v prisutstvii titanovoy kisloty)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 2096 - 2100 (USSR)

ABSTRACT: The isomerization changes of monocyclic terpenes in the presence of acids are usually considered as an irreversible process, which starts from dipentene (I) and passes through terpinolene (II) to α-terpenene (III) and γ-terpenene (IV). A more detailed analysis makes this conception improbable. When acids affect (II), one must expect a simultaneous formation of ions of the carbonium (V) and (VI), or of the corresponding ethers of the α-terpineole and terpinene-4-ole, if the C-atoms 4 and 8 of terpinolene are equivalent in double bond. When the proton of (V) splits, the formation of an equilibrium mixture of 75% of dipentene (I) and of 25% of terpinolene (II) (Ref 1) is to be expected. When the proton of (VI) splits, an equilibrium

Card 1/3

mixture of hydrocarbons (III), (IV) and (II) should result. According to these conceptions, when heating the above named monocyclic terpenes with titanic acid, an equilibrium mixture consisting of (I), (II), (III) and (IV) is to be expected. (scheme 1). The present study should ascertain whether the reciprocal transformations (I)$\rightleftarrows$(II) really take place, the reversible transformation (II)$\rightleftarrows$(III) or (IV), not being taken provisionally into consideration. For this purpose the products of the catalytic changes of terpinolene (II), in presence of titanic acid at a temperature of 135°, were analyzed. In addition to the compounds (II), (III) and (IV) 10% of dipentenes (I) have also been found, which confirms the presence of the reversible transformations (I)$\rightleftarrows$(II). Δ^3-p-menthene and p-cymol have likewise been found. When the optically active limonene is subjected to the action of the catalyst then the presently proved reversible transformations lead to its racemization (scheme 2). In opposition to the hitherto existing admission, the racemization of limonene has, - due to the

reversible transformations (I)$\rightleftarrows$(II), the advantage over the racemization, due to the rearrangement on account of the double bond in the ring, even in a homogeneous medium. The transformation of the limonene into terpinolene is consequently a reversible reaction and apparently the principal cause of the racemization of limonene when heating with acid catalysts, especially if solid catalysts of the type of titanic acid, which are insoluble in limonene, are used. There are 2 figures and 9 references, 6 of which are Soviet.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy lesokhimicheskiy institut (Central Scientific Chemical Research Institute for Forestry)

SUBMITTED: April 7, 1958

RUDAKOV, G.A.; SHESTAYEVA, M.M.; IVANOVA, L.S.

Influence of the carriers on the course of the acid catalytic isomerization of pinene. Dokl. AN SSSR 162 no.6:1320-1322 Je '65. (MIRA 18:7)

1. Institut nefte- i uglekhimicheskogo sinteza Irkutskogo gosudarstvennogo universiteta im. A.A.Zhdanova. Submitted December 9, 1964.

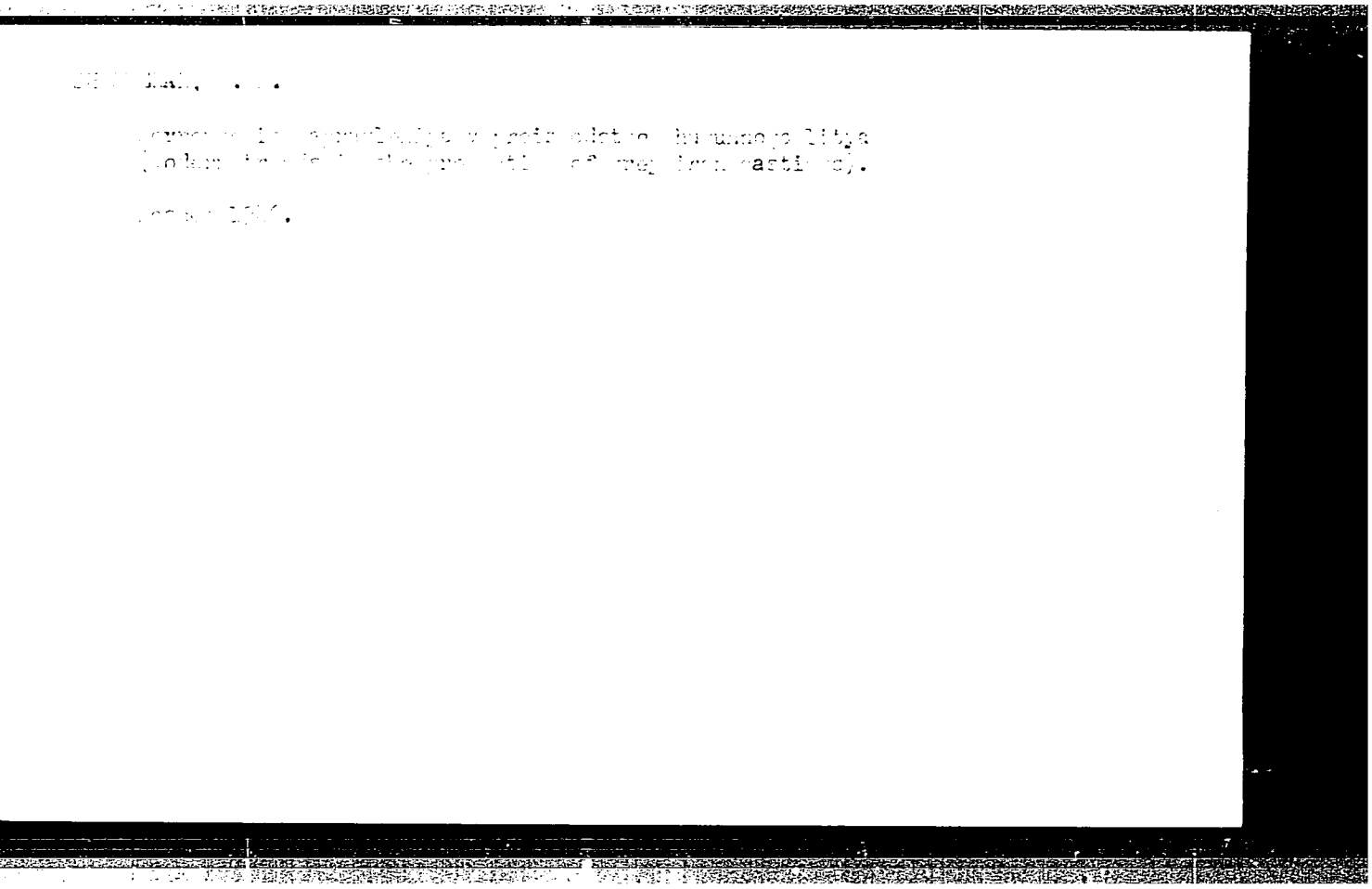
SHESTAKOV, A.A.

Distribution of special points on n simultaneous differential equations ($n \geq 3$). Trudy KAI 27:41-50 '53. (MLRA 10:6)
(Differential equations)

SHESTEL', A.P.

The system of socially useful productive work of students. Biol. v shkole no.5:67-70 S-O '59. (MIRA 13:8)

1. Omskiy pedagogicheskiy institut.
(Student activities)



SHESTEPEROV, I.A.; RUDNITSKIY, M.A.

Reviews and bibliography. Okeanologiia 5 no.5:928-930
'65. (MIRA 18:11)

SHESTERIKOV, A.A., inzhener; KRYNITSA, M.N., inzhener.

Installation of medium-capacity marine reductors. Sudostroenie 22 no.12:30-34 D '56. (MLRA 10:2)
(Marine engineering)

POLONSKIY, M.S.; [illegible], M.A.; LADYZHENSKIY, Yu.B.; [illegible], S.I.; [illegible], [illegible]; [illegible]NIKOV, A.A.; YAKUN', F.V.; KRYT[illegible]SA, M.N.; [illegible], [illegible]; [illegible]IKOV, L.I., starshiy stroitel' sudov; AREF'YEV, B.A.; [illegible], B.M., inzh.; [illegible], A.[illegible], inzh. PAVLENKO, I.F.; [illegible]

Readers' response to the article by engineer M.A. Daikhes entitled "Method of mounting the main engines with minor deformations of the foundation frame and the crankshaft". Sudostroenie 30 no.10:[illegible] [illegible]. (MIRA 17:12)

[illegible]. [illegible] inzh.-mekhanik SSSR parokhodstva "[illegible]" (for Lubov). [illegible]. Inzh.-inspektor Registra SSSR (for Yakun'). 3. Glavnyy inzh.-inspektor Inspektsii Registra SSSR Baltiyskogo basseyna (for Aref'yev). [illegible]. [illegible] mekhanik teplokhoda "Tadzhikistan" (for Pavlenko).

SHESTERIKOV, N., kapitan 1 ranga zapasa

Electric navigational devices. Voen.znan. 36 no.4:23-24 Ap '60. (MIRA 13:4)
(Nautical instruments)

SHESTERIKOV, N.A., kand.tekhn.nauk, dotsent

Regular pin toothing. Trudy SADI no.16 pt.1:62-69. '59. (MIRA 13:11)
(Gearing)

GLUSHKO, G.T., kand. tekhn. nauk; SHESTERIKOV, N.A., dots., kand. tekhn. nauk, otv. za vyp.

[Methods manual on the course "Theory of mechanisms and machines"] Uchebno-metodicheskoe posobie po kursu "Teoriia mekhanizmov i mashin." Sost. G.T.Glushko. Saratov. Pt.2. 1963. 115 p. ___ [Album of dravings...] Al'bom chertezhei k... 1 v. (MIRA 17:4)

PENTIN, Yu.A.; TETERIN, E.G.; SHESTERIKOV, N.N.

Infrared spectroscopy method for determining tri-n-butyl phosphate and diisoamyl ester of methylphosphonic acid in solutions of n-paraffinic hydrocarbons and dearomatized kerosine. Zhur.anal.-khim. 17 no.2:239-244 Mr-Ap '62. (MIRA 15:4)
(Phosphonic acid) (Butyl phosphates--Spectra) (Hydrocarbons)

INDIKOV, E.M.; SOLOVKIN, A.S.; TERRIN, E.G.; SHESTAKOV, N.N.

Benzine in the system sulfuric acid-water-tri-(i-butyl phosphate-diluent. Zhur. neorg. khim. 9 no.12:2786-2788 D '64. (MIRA 18:4)

[illegible], [illegible]; [illegible], V.I.; [illegible], A.G.; TET[illegible], E.G.; SHESTERIKOV, N.N.

Demixing in the system $HClO_4$ - H_2O - [illegible] phosphate - diluent. Zhur.neorg.khim. 10 no.[illegible] N '65. (MIRA 18:12)

1. Submitted December 16, 1964.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001549130002-6"

SHESTERIKOV, N.P.

AID P - 2608

Subject : USSR/Meteorology

Card 1/1 Pub. 71-a - 11/26

Author : Shesterikov, N. P.

Title : Experience in computing drift correction in the measurement of currents

Periodical : Met i gidr, 4, 44-45, Jl/Ag 1955

Abstract : The measuring of currents from drifting ships is described and tables giving possible deviations for 5 and 10 m horizons are presented.

Institution : None

Submitted : No date

SHESTERIKOV, N.P.

Preliminary analysis of the drift of radio beacons in Arctic seas. (MIRA 11:12)
Probl. Arkt. no.2:85-91 '57.
(Arctic Ocean--Radio beacons)

SHESTERIKOV, N.P., mladshiy nauchnyy sotrudnik

Brief characteristics of land floe in the Davis Sea. Inform. biul. Sov. antark. eksp. no.5:43-45 '59. (MIRA 12:10)

1.Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.

(Davis Sea--Ice)

SHESTERIKOV, N.P., mladshiy nauchnyy sotrudnik;SHIL'NIKOV, V.I., mladshiy nauchnyy sotrudnik

Safety measures for cargo transportation on fast ice in the Mirnyy areas. Inform. biul. Sov. antark. eksp. no.7:26-30 '59 (MIRA 13:3)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.
(Mirnyy region--Transportation, Automotive--Freight)

KLEPIKOV, V.V., kand. geogr. nauk; SHESTERIKOV, N.P., mladshiy nauchnyy sotrudnik

Currents observed at three diurnal stations in the coastal waters of eastern Antarctica. Inform. biul. Sov. antark. eksp. no.8:16-20 '59. (MIRA 13:3)

1.Leningradskoye vyssheye inzhenernoye morskoye uchilishche im. admirala Makarova i Arkticheskiy i antzarkticheskiy nauchno-issledovatel'skiy institut.
(Antarctic regions--Ocean currents)

SHESTERIKOV, N.P., mladshiy nauchnyy sotrudnik

Currents in the coastal part of the Davis Sea. Inform. Biul. Sov. antark. eksp. no.10:24-28 '59 (MIRA 13:3)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.
(Davis Sea--Ocean currents)

SHESTERIKOV, N.P., mladshiy nauchnyy sotrudnik

Sea level fluctuations in the Mirnyy region. Inform.biul.Sov. antark.eksp. no.11:29-32 '59. (MIRA 13:5)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.
(Mirnyy region, Antarctica--Tides)

TRESHNIKOV, Aleksey Fedorovich, kand.geograf.nauk. Prinimali uchastiye: MATVEYCHUK, Georgiy Ivanovich; CHUPIN, Nikolay Petrovich; ARALOV, Dmitriy Petrovich; TIKHOMIROV, Igor' Ivanovich, vrach-stomatolog; MANSUROV, Sergey Mikhaylovich; KRICHAK, Oskar Grigor'yevich, kand. geograf.nauk; SHUMSKIY, Petr Aleksandrovich, doktor geograf.nauk; SHESTERIKOV, Nikolay Pavlovich, mladshiy nauchnyy sotrudnik, gidrolog. DROZHZHINA, L.P., tekhn.red.

[Second Continental Expedition, 1956-1958; general description] Vtoraia kontinental'naia ekspeditsiia, 1956-1958 gg.; obshchee opisanie. Pod red. A.F.Treshnikova. Leningrad, Izd-vo "Morskoi transport," 1960. 205 p. (Sovetskaia antarkticheskaia ekspeditsiia, no.8). (MIRA 13:7)

1. Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. 2. Nachal'nik Vtoroy kontinental'noy ekspeditsii (for Treshnikov). 3. Zamestitel' nachal'nika Vtoroy kontinental'noy ekspeditsii po administrativno-khozyaystvennoy chasti; nachal'nik beregovoy bazy (for Matveychuk).

(Continued on next card)

TRESHNIKOV, Aleksey Fedorovich ---(continued) Card 2.

4. Glavnyy inzhener Vtoroy kontinental'noy ekspeditsii (for Chupin). 5. Nachal'nik otryada svyazi i radionavigatsii Vtoroy kontinental'noy ekspeditsii (for Aralov). 6. Starshiy vrach Vtoroy kontinental'noy ekspeditsii (for Tikhomirov). 7. Nachal'nik geofizicheskogo otryada Vtoroy kontinental'noy ekspeditsii (for Mansurov). 8. Nachal'nik aerometeorologicheskogo otryada Vtoroy kontinental'noy ekspeditsii (for Krichak). 9. Nachal'nik glyatsiologicheskogo i vnutrikontinental'nogo otryada Vtoroy kontinental'noy ekspeditsii. 10. Nachal'nik otryada pribrezhnoy gidrologii Vtoroy kontinental'noy ekspeditsii (for Shesterikov).

(Antarctic regions--Russian exploration)

SHESTERIKOV, N.P., mladshiy nauchnyy sotrudnik

Effect of the heat resources of water on the freezing time of the Davis Sea and the adjacent part of the Indian Ocean. Inform. biul. Sov. antark. eksp. no.19:35-38 '60. (MIRA 13:9)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.
(Davis Sea--Sea ice) (Ocean temperature)

SHESTERIKOV, N.P.

Simplified method for computing heat resources of water in the Laptev Sea. Probl.Arkt.i Antarkt. no.7:5-10 '61. (MIRA 14:10)
(Laptev Sea--Ocean temperature)

SHESTERIKOV, N.P.

Some features of the growth of land ice in the Mirnyy region.
Probl. Arkt. i Antarkt. no.13:19-25 '63. (MIRA 16:9)
(Mirnyy region, Antarctica—Ice)

SHESTERIKOV, N.P.

Some characteristics of the change in the albedo of the ice in the Arctic in the summer. Probl.Arkt.i Antark. no.14:27-31 '63.
(MIRA 16:12)

SHESTERIKOV, N.P., kand.geograf.nauk; DUBROVIN, L.I., kand.geograficheskikh nauk

Tidal waves in the Lazarev Station region. Inform.biul.Sov.antark. eksp. no.44:39-42 '63. (MIRA 17:4)

1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.

TITOV, V.B., kand.geograf. nauk; SHESTERIKOV, N.P., kand. geograf. nauk

Distribution and character of the tidal wave in the Southern Ocean. Inform. biul. Sov. antark. ekesp. no.47:35-39 '64. (MIRA 18:4)

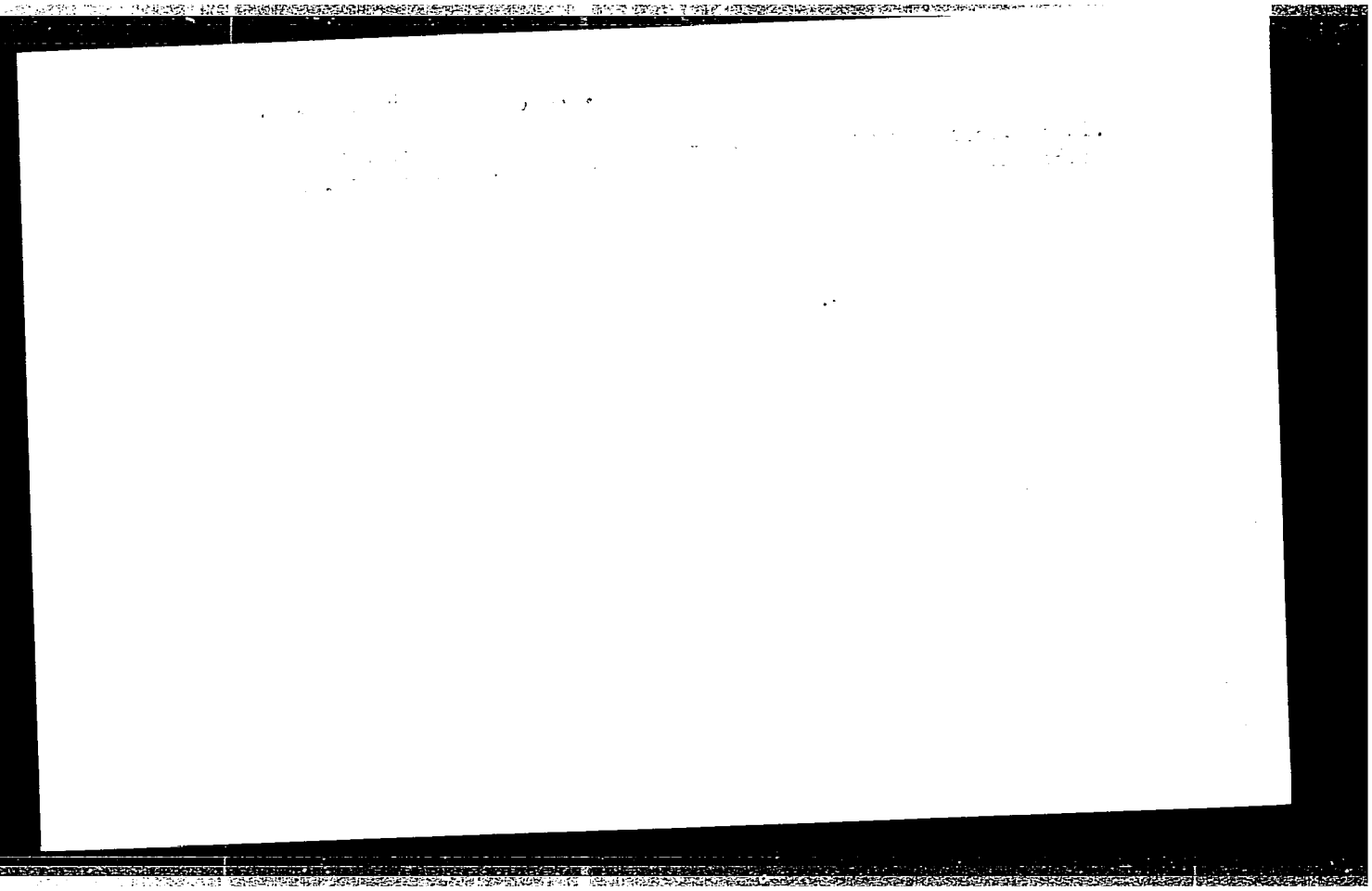
1. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut.

SHESTERIKOV, N.P.

Methods for the calculation of ice melting. Probl.Arkt.i Antarkt. no.15:19-24 '64. (MIRA 17:4)

SHESTERIKOV, N.P.

Method for the precalculation of tides based on the harmonic constants and the data of "Astronomicheskii ezhegodnik." Probl. Arkt. i Antarkt. no.16:27-34 '64. (MIRA 17:6)



BUZUYEV, A.Ya.; SHESTERIKOV, N.P.; TIMEREV, A.A.

Albedo of ice in the Arctic seas according to data of aircraft observations. Probl. Arkt. i Antark. no.20:49-54 '65. (MIRA 18:10)

L 17025-66 EWT(1) GW

ACC NR: AT5028699 (N) SOURCE CODE: UR/3174/64/000/047/0035/0039

AUTHOR: Titov, V. B. (Candidate of Geographical Science); Shesterikov, N. P. (Candidate of Geographical Science)

ORG: Arctic and Antarctic Scientific-Research Institute (Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut)

TITLE: Propagation and nature of the Antarctic Ocean tide wave

SOURCE: Sovetskaya antarkticheskaya ekspeditsiya, 1955-. Informatsionnyy byulleten'. no. 47. 1964. 35-39

TOPIC TAGS: ocean tide, [redacted], hydrography

ABSTRACT: Cotidal charts of the Antarctic Ocean are presented based on data obtained at the Soviet Antarctic stations during IGY observations (see Figs 1 + 2). Formation of Antarctic tides is considered to be the result of interaction between the circumpolar tide wave travelling around Antarctica from east to west and waves appearing from more northern regions which disrupt the progressive nature of the propagation of the first wave. Superimposition of these two tide wave systems in different phases leads to the formation of interference regions. One of these is found south of New Zealand (see Fig. 1). The centers of almost

Card 1/4

L 17025-66

ACC NR: AT5028699

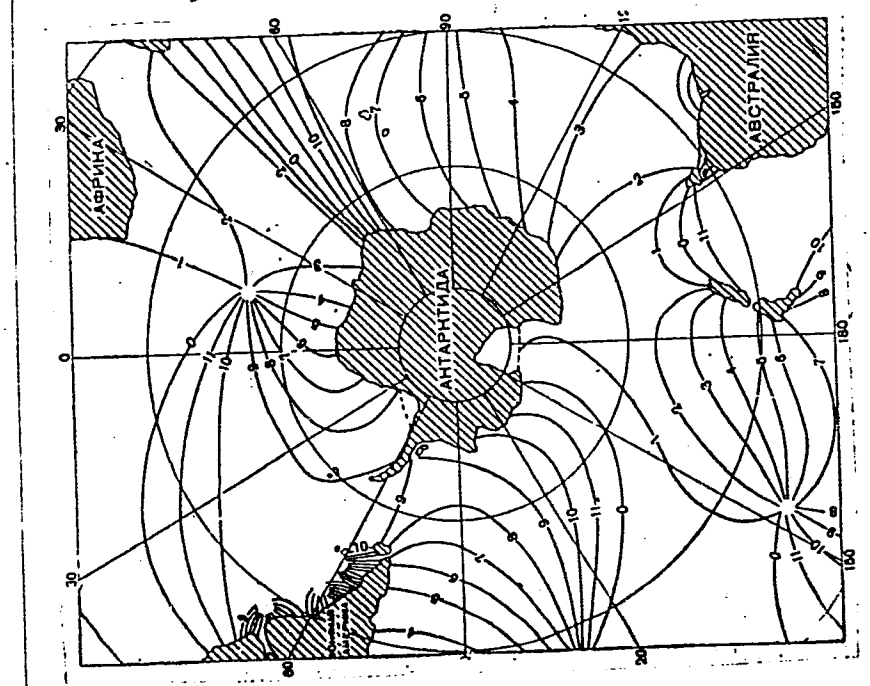


Fig. 1. Cotidal chart of lunar semidiurnal tide wave M_2

Card 2/4

L 17025-66

ACC NR: AT5028699

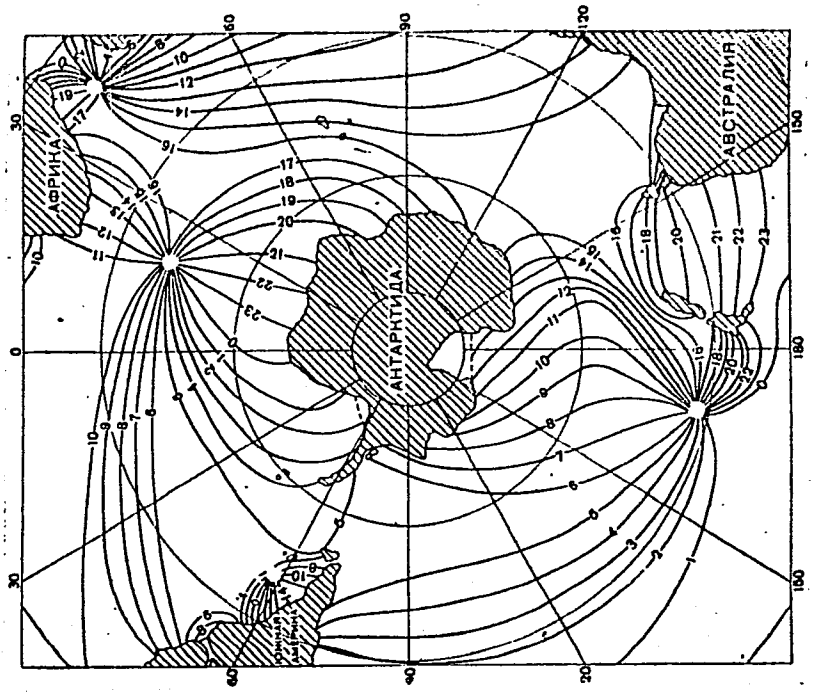


Fig. 2. Cotidal chart of combined diurnal wave $K_1 + O_1$

Card 3/4

L 17025-66

ACC NR: AT5028699 O

all the amphidromic systems are beyond the limits of Antarctica, and only peripheral areas of these systems are found in the immediate waters of Antarctica. Thus, Antarctic Ocean tide waves are mainly progressive in nature with the exception of interference regions where they become progressively stationary. Orig. art. has: 2 figures.

SUB CODE: 08/ SUBM DATE: 22Nov63/ ORIG REF: 005/ OTH REF: 003

Card 4/4 7:95

40838-66 EWT(1) GW

ACC NR: AT6006701 SOURCE CODE: UR/2561/65/000/020/0049/0054

55
B+1

AUTHOR: Buzuyev, A. Ya.; Shesterikov, N. P.; Timerev, A. A.

ORG: none

TITLE: Albedo of ice in Arctic Seas based on data of aircraft observations

SOURCE: Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut. Problemy Arktiki i Antarktiki. Sbornik statey, no. 20, 1965, 49-54

TOPIC TAGS: ice, sea ice, actinometry, aerial reconnaissance, optic albedo, arctic climate

ABSTRACT: Actinometric observations from aboard ice reconnaissance aircraft and a "flying meteorological observatory" were performed during the summer and fall of 1963. The actinometric observations were accompanied by a recording of the ice conditions, cloud cover, and atmospheric phenomena. Pyranometers and albedometers were installed on the aircraft. The total number of observations selected for analysis amounted to about 900. The observations were made in the western sector of the Arctic. It was found that the hummocked condition of ice somewhat lessens the albedo, however this relationship was not well pronounced. Drift ice and fast ice have practically the same albedo value if their degree of disintegration and contamination are identical. An analysis of the observations shows that the basic factor

UDC: 551.322:535

Card 1/2

L 40838-66

ACC NR: AT6006701

determining the change of albedo of ice during the summer in the Arctic Seas is ice disintegration. As the ice melts the albedo of the snow-ice surface decreases from 75% at the starting period to 25% at maximal disintegration of the ice. Against a general background of a decrease of albedo a certain disruption of this tendency is observed at an ice disintegration value of 2—3 scale units (on a 5-point scale). At this period the albedo of the ice remains constant or even somewhat increases, which is explained by the fact that at this degree of disintegration drying of the ice occurs and the values of the albedo of the "dry" sections of ice and melt water on ice are substantially different. It is concluded, that the investigations confirmed the possibility of accomplishing actinometric observation from ice reconnaissance aircraft. An analysis of the material obtained shows that the data of the observations both with respect to standard instruments and to instruments specially fabricated for aircraft observations secure the same degree of accuracy in determining the albedo in the presence of an overcast sky. Orig. art. has: 1 table and 3 figures.

SUB CODE: 08/ SUBM DATE: 20Apr64/ ORIG REF: 003/ OTH REF: 000

15/

Card 2/2 mlp

SHESTERIKOV, S.

"Agricultural geography of the U.S.S.R." by G.A. Zapalov. Reviewed by S. Shesterikov. Geog. v shkole 24 no.5:87-88 S-O '61. (MIRA 14:8)

(Agricultural geography) (Zapalov, G. A.)

SOV/124-58-5-5835 D

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 5, p 129 (USSR)

AUTHOR: Shesterikov, S.A.

TITLE: On the Problem of Stability in Creep (K voprosu ustoychivosti pri polzuchesti)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Physical-Mathematical Sciences, presented to the MGU (Moscow State University), Moscow, 1957

ASSOCIATION: MGU (Moscow State University), Moscow

1. Metals--Stability
2. Metals--Creep

Card 1/1

SHESTERIKOV, S.A. (Moskva)

A variation principle applied to the theory of creep. Izv.AN SSSR Otd.tekh.nauk no.2:122-123 F '57. (MLRA 10:5)
(Creep of materials)

221/14/2 624.071.3 :624.073.1 :539.434

Stability of Rods and Plates under Creep

Prikl.Mat.Mekh. 21(3),406-412 1957

Yu.N. Rabotnov, S.A. Shesterikov U.S.S.R.

An attempt is made to analyze the loss of stability of either a rod or a plate in its pure state, i.e. apart from buckling. The argument is based on the theory of strengthening according to which the process of creep satisfies an equation linking stress and velocity and magnitude of plastic deformation. The stability of plates is discussed from the point of view of both the theory of flow and the theory of deformation, and the results compared. Bibl.6.

SOV/179-59-1-20/36

AUTHOR: Shesterikov, S. A. (Moscow)

TITLE: One Condition for the Laws of Creep (Ob odnom uslovii dlya zakonov polzuchesti)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk Mekhanika i mashinostroyeniye, 1959, Nr 1, p 131 (USSR)

ABSTRACT: The condition is:

$$\frac{\partial^2 \varepsilon}{\partial \sigma^2} > 0 \quad \text{for} \quad t = t_1 = \text{const}, \text{ or } \frac{\partial^2 p}{\partial \sigma^2} > 0 \quad \text{for } t = t_1 \tag{1}$$

where ε = total deformation, p = plastic deformation and σ = stress. The applicability of this condition when age-hardening occurs is discussed. There is 1 Soviet reference.

SUBMITTED: November 10, 1958.

Card 1/1

67612

24.4100

SOV/179-59-5-38/41

AUTHOR: Shesterikov, S.A. (Moscow)

TITLE: Thermal Stresses in an Elastic Disc of Constant Thickness

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 5, pp 177-179 (USSR)

ABSTRACT: The Young's modulus of the material of an annular disc is assumed to vary exponentially with temperature, the Poisson's ratio is assumed independent of temperature. On these assumptions, the differential equation governing the displacements is set up and solved and expressions are derived for the stress components. There is 1 Soviet reference.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet, Kafedra teorii plastichnosti (Moscow State University, Chair of Plasticity Theory)

SUBMITTED: April 20, 1959

Card 1/1

SHESTERIKOV, S.A. (Moskva)

Calculating the relaxation in discs. PMTF no.1:117-120 My-Je '60. (MIRA 14:8)
(Strains and stresses)

SHESTERIKOV, S.A. (Moskva)

Developing a theory of a perfectly plastic solid. Prikl.mat.i mekh. 24 no.3:412-415 My-Je '60. (MIRA 13:10)

1. Moskovskiy gosudarstvennyy universitet.
(Plasticity)

SHESTERIKOV, S.A. (Moskva)

Dynamics of the stability of rods in case of creep. PMTF no.1:66-71 Ja - F '61. (MIRA 14:6)

1. Moskovskiy gosudarstvennyy universitet.
(Creep of materials) (Elastic rods and wires)

SHESTERIKOV, S.A. (Moskva)

Uniaxial creep at variable stresses. Izv.AN SSSR.Otd.tekh.nauk. Mekh.i mashinostr. no.2:148-149 Mr-Ap '61. (MIRA 14:4)
(Creep of metals)

SHESTERIKOV, S.A. (Moskva)

Stability of rectangular plates in creep. PMTF no.3:93-100 S-O '61. (MIRA 14:8)
(Elastic plates and shells) (Creep of materials)

31251
S/207/61/000/005/011/015
D237/D303

10.6000 1327

AUTHOR: Shesterikov, S.A. (Moscow)

TITLE: Stability of plates during creep by flow theory

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1961, 100 - 108

TEXT: The author considers some general problems of buckling of plates during creep. Basic hypotheses of stress and strain conditions were formulated by Yu.N. Rabotnov and the author (Ref. 1: PMM, 1957, v. 21, no. 3) and the equation for bending was obtained on the assumption that coefficients are independent of time. Here the same equation is derived without the above assumption and a possibility of initial bending is allowed for. Then, the behavior of the plate is investigated by quasistatic criterium of stability according to Yu.N. Rabotnov (Ref. 3: The theory of creep and its applications 'Plasticity'. Oxford-London-New York-Paris, Pergamon Press, 1960, 338 - 346). For the case of uniformly compressed plate

Card 1/3

Stability of plates during creep ...

$$u - se^{-x}\int_0^x e^x u dx - 3se^{-(1+b)x-\alpha x}\int_0^x x^\alpha (1+b)\, e^{(1+b)x} u dx = k_0 \qquad (2.2)$$

$$g \equiv A\sigma_i^{n-1} p_i^{-\alpha}, \quad k_0 = \beta u_0 + m_0, \quad \beta = \frac{\sigma_t}{\sigma_0}$$

$$4(1-\beta)s = 1, \quad w(t, x, y) = u(t)\varphi(x, y)$$

is obtained, which can, in general, be reduced to the Whittaker equation. An approximate solution is given for $\beta \simeq 1$ and $\beta \simeq 0$, followed by the discussion of buckling of the plate, again for $\beta \simeq 1$ and $\beta \simeq 0$. A rectangular plate freely supported and compressed in one direction is considered next and the equation obtained is

$$a - \beta_1 (a + a_0) - (1 - s_1) e^{-x}\int_0^x a e^x dx - s_1 e^{-nx} x^{-\alpha} \int_0^x x^\alpha n e^{nx} a dx = 0 \qquad (3.4)$$

Two cases of x small and x large are discussed. This is followed by a determination of critical state by the method of final bendings according to G.V. Ivanov (Ref. 4: PMTF, 1961, no. 3), for the

Card 2/3

Stability of plates during creep ...

uniformly compressed plate, and for the plate compressed in one direction. There are 3 figures and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Yu.N. Rabotnov, The theory of creep and its applications 'Plasticity', Oxford-London-New York-Paris, Pergamon Press, 1960, 538-346.

SUBMITTED: July 17, 1961

X

Card 3/3

BRONSKIY, A.P.; KLYUSHNIKOV, V.D.; MAZING, R.I.; RABOTNOV, Yu.N.; SHESTERIKOV, S.A.

Dynamic strength of building materials at medium deformation rates. PMTF no.1:118-130 Ja-F '62. (MIRA 15:4)
(Deformations (Mechanics)) (Strength of materials)

SHESTERIKOV, S.A. (Moskva)

Approximate method for calculating creep buckling. PMTF no.5: 151-153 S-O '63. (MIRA 16:11)

SHESTERIKOV, S. A. (Moscow)

"The formulation of problems of stability and buckling in creep".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 January - 5 February 1964.

ACCESSION NR: AP4026418 S/0055/64/000/002/0037/0040

AUTHORS: Lokoshchenko, A. M.; Shesterikov, S. A.

TITLE: On the slip line distribution in plastic deformation

SOURCE: Moscow. Universitet. Vestnik. Seriya 1. Matematika, mekhanika, no. 2, 1964, 37-40

TOPIC TAGS: slip line, ground end plane, shear stress, normal vector, applied stress, plastic deformation

ABSTRACT: The slip line direction distribution on the ground end plane of a specimen was solved with the assumption that the possible slip planes are arranged with equal probability relative to the maximum shear stress. The solution is given on the basis of representing a real material by a set of elements with ideal properties. Furthermore, it is assumed that the normal vector to the possible slip plane can make an angle with the applied stress between $\pi/4 - \delta$ and $\pi/4 + \delta$, $0 \leq \delta \leq \pi/4$, with equal probability. On this basis, an expression is derived for the distribution of slip line directions $R(\psi)$ at the ground end plane which for

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ACCESSION NR: AP4026418

$\delta = 0$ reduces to the form

$$R(\psi) = \frac{2}{\pi \cos\psi \sqrt{\cos 2\psi}} \quad \text{at } 0 < \psi < \frac{\pi}{4};$$

$$R(\psi) = 0 \quad \text{at } \frac{\pi}{4} < \psi < \frac{\pi}{2}.$$

"The author is grateful to I. M. Gryaznov for his influence on this work." Orig. art. has: 5 formulas and 3 figures.

ASSOCIATION: Otdel plastichnosti NII mekhaniki MGU (Plasticity Branch NII Mechanics, MGU)

SUBMITTED: 29Dec62

ENCL: 00

SUB CODE: ME

NO REF SOV: 001

OTHER: 000

Card 2/2

L 27845-66 EWT(m)/EWP(w)/EPF(c)/EWP(j)/T/EWP(t)/EWP(b) RM/JD/AW

ACC NR: AP5027273 SOURCE CODE: UR/0207/65/000/005/0068/0075

AUTHORS: Barenblatt, G. I. (Moscow); Kozyrev, Yu. I. (Moscow); Malinin, N. I. (Moscow); Pavlov, D. Ya. (Moscow); Shesterikov, S. A. (Moscow)

ORG: none

TITLE: Vibrocreep of polymeric materials

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1965, 68-75

TOPIC TAGS: polymer, caprolyte, stress analysis, stress, stress measurement, creep, creep mechanism

ABSTRACT: This paper presents experimental data and theoretical discussion on the phenomenon of vibrocreep in polymeric materials. The experimental procedure consisted of applying a vibratory stress to a specimen under a static stress and determining the resultant creep ε as a function of time. A schematic of the experimental setup is given, and the experimental results are presented graphically. The experimental results are compared with the theoretical expression

$$\varepsilon_c = \Psi\left\{\int_0^t \exp -\frac{(U-\gamma\sigma)}{RT}\,dt\right\},$$

where ε_c is the creep deformation, U - the energy of activation, σ - stress,

Card 1/2

T - temperature, R - the universal gas constant, γ - a constant, t - the time, and Ψ is the transform of χ

$$\chi(\varepsilon_c) = \int_0^{\varepsilon_c} \frac{d\varepsilon_c}{F(\varepsilon_c)} = \int_0^t \exp -\frac{(U-\gamma\sigma)\,dt}{RT},$$

in which $F(\varepsilon_c)$ is given by

$$\frac{d\varepsilon_c}{dt} = F(\varepsilon_c) \exp \frac{-(U-\gamma\sigma)}{RT},$$

after S. N. Zhurkov and T. N. Sanfirova (Temperaturnaya zavisimost' prochnosti chistykh metallov. Dokl. AN SSSR, 1955, t. 101. No. 2). It was found that the application of an oscillating stress causes an increase in the creep velocity in polymeric materials. The authors thank V. A. Volodchenkov, N. I. Gal'chin, Yu. S. Levshin, Yu. P. Maksimachev and V. V. Tikhomirov for their participation in the experiments. Orig. art. has: 4 graphs and 22 equations.

SUB CODE: OC/ SUBM DATE: 17Jun65/ ORIG REF: 013/ OTH REF: 005

L 31407-66 EWT(m)
ACC NR: AP6022573 SOURCE CODE: UR/0048/66/030/003/0413/0415 36

AUTHOR: Balalayev, V. A.; Dzhelepov, B. S.; Medvedev, A. I.; Uchevatkin, I. F. B
Shestopalova, S. A.

ORG: All-Union Scientific Research Institute of Metrology im. D. I. Mendeleyev (Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii)

TITLE: New data on the spectrum of conversion electrons for the strongest transitions in Yb sup 170 19

SOURCE: AN SSSR. Izvestiya fizicheskaya, v. 30, no. 3, 1966, 413-415

TOPIC TAGS: ytterbium, transition radiation, conversion electron spectrum, spectral line, electron energy level

ABSTRACT: The availability of a new higher-energy source made it possible to study conversion electrons having energies above 3150 kev. The reference used was the K-conversion line of the transition 2955.2 kev. The spectrum from 2880 to 3150 kev was remeasured to confirm those made above 3150, inasmuch as the spectrum is complex and the K, L, and M lines of the various transitions overlap. Results of measurements above 3150 kev, given in a table, are essentially new. Six new transitions were found: 3224, 3245, 3263, 3287, 3302 and 3325. The latter is suggested as possibly the strongest transition in the spectrum. The authors thank K. Ya. Gromov and Zh. T. Zheleva for providing the sources. Orig. art. has: 1 figure and 1 table. [JPRS]

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 003

Card 1/1

SHESTERIKOV, S.I.

Rural school studies in local agriculture as part of the course in economic geography of the U.S.S.R. Geog. v shkole 20 no.3:26-32 My-Je '57. (MLRA 10:6)

(Agriculture--Study and teaching)
(Geography Economic--Study and teaching)

SHESTERIKOV, S.I.

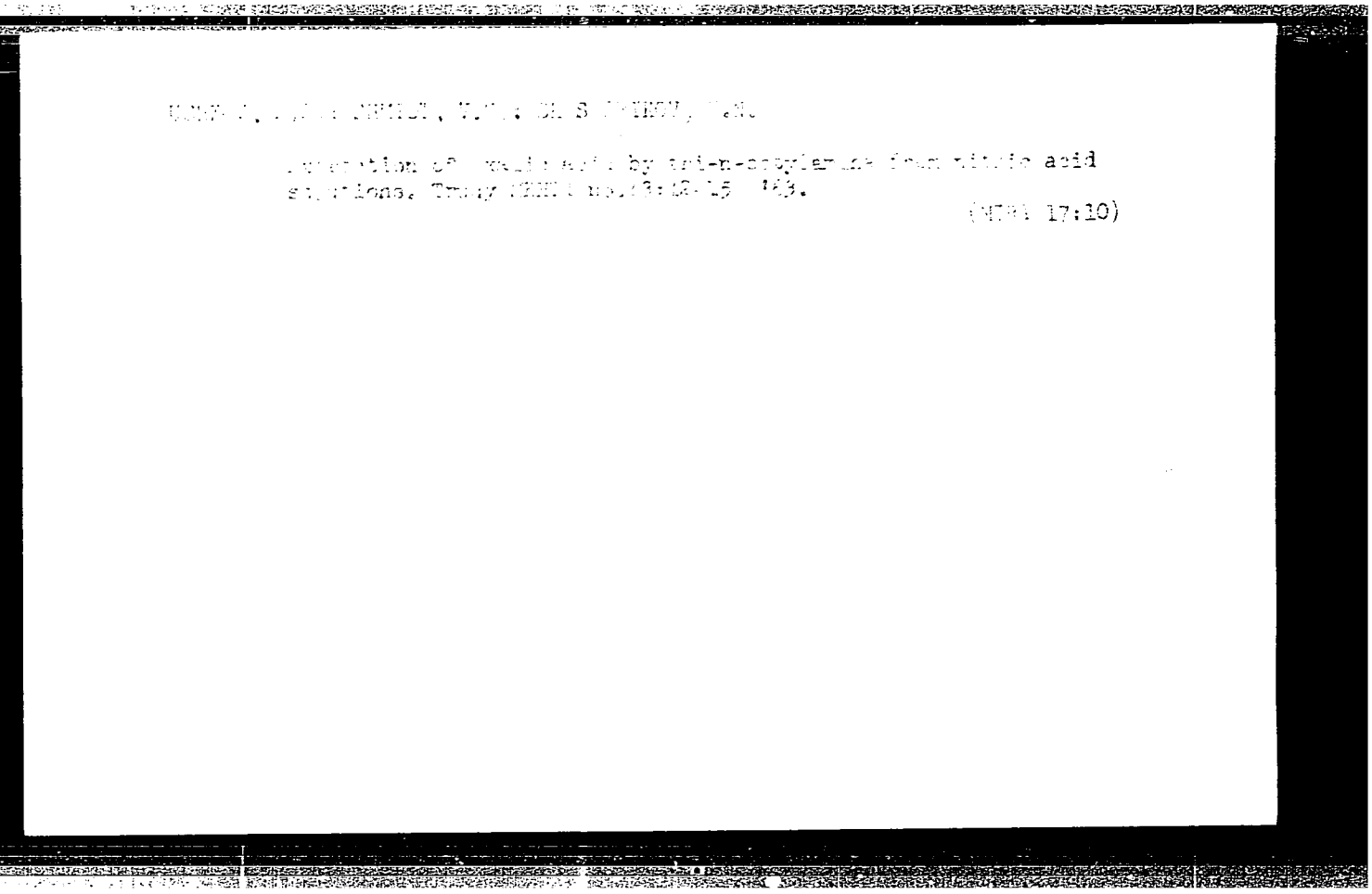
An excursion to a machine-tractor station. Geog. v shkole 21 no.2:43-44 Mr-Ap '58. (MIRA 11:2)
(Machine-tractor stations)
(School excursions)

SHESTERIKOV, S. I.

Improving methods for teaching the economic geography of foreign countries in the secondary school. Uch. zap. Perm. gos. un. 15 no.2:119-126 '60. (MIRA 14:12)
(Geography, Economic—Study and teaching)

SERYAKOV, N.I.; SHEYKINA, T.S.; PETROV, V.V.; IDBRIL', Z.Ya.; SHESTERIKOV, V.G.; PRONIN, V.M.; LYUBSKIY, G.S.; ISAKOV, I.K.; VOLODARSKAYA, V.Ye., red.

[Automated power supply guarantee systems for telecommunication apparatus] Avtomatizirovannye ustroistva garantirovannogo pitaniia apparatury sviazi; informatsionnyi sbornik. Moskva, Izd-vo "Sviaz'," 1964. 132 p. (MIRA 17:6)



[illegible]

Interaction in the systems n-octyl alcohol - [illegible]-n-octylamine
[illegible] n-octyl alcohol - tri[illegible]-octylammonium ni[illegible] Nar. Fiz.
[illegible] 39 no.2 [illegible] '65. [illegible]

L 35913-66 EWT(m)/EWP(j) RM/JW

ACC NR: AP6014897 SOURCE CODE: UR/0076/65/039/012/3007/3010

AUTHOR: Shesterikov, V. N.; Shmidt, V. S.

ORG: none

TITLE: Cryoscopic investigation of the reaction of aliphatic alcohols of different structure with tri-n-octylammonium nitrate in benzene solutions

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 12, 1965, 3007-3010

TOPIC TAGS: ammonium nitrate, aliphatic alcohol, chemical reaction, benzene, cryogenics

ABSTRACT: Chemically pure primary alcohols of normal structure were used in the investigation; their properties did not differ from those described in the literature. The tri-n-octylammonium nitrate was obtained by the reaction of equivalent amounts of 99.5% HNO_3 and tri-n-octylamine. The temperature measurements were made by the standard method. Experimental results are shown in graphic form. It was found that in the reaction of methyl, ethyl, n-butyl, n-hexyl, n-octyl, and n-decyl alcohols with tri-n-octylammonium nitrate in benzene solutions, there are formed addition compounds of the composition $(n\text{-}C_8H_{17})_3N \cdot HNO_3 \cdot 3ROH$ in the case of methyl and ethyl alcohols and

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UDC: 541.8

L 35913-66

ACC NR: AP6014897

$(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 2ROH$ in all the remaining cases. The instability constants were calculated for compounds of the composition $(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 2ROH$. The values of the instability constant at 6 ± 2^oC for compounds of buryl, hexyl, octyl, and decyl alcohols were found to be, respectively, 2.89; 2.74; 2.55; and 2.38. The instability constant for the compounds $(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 3CH_3OH$ and $(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 3C_2H_5OH$ was equal respectively to 5.25 and 3.88. There was established the existence of a linear relationship between the values of the instability constant for compounds of the composition $(n\text{-}C_8H_{17})_3N\cdot HNO_3\cdot 2ROH$ and the number of carbon atoms in the alkyl chains of the alcohol. Orig. art. has: 2 formulas and 3 figures.

SUB CODE: 07/ SUBM DATE: 13Nov64/ ORIG REF: 006/ OTH REF: 005

Card 2/2

USSR/Zooparasitology - Mites and Insects as Disease Vectors. G-3

Abs Jour : Ref Zhur - Biol., No 10, 1958, 43447

Author : Almazova, V.V., Prokopenko, L.I., Shesterikova, A.A., Levitanskaya, P.B.

Inst : -

Title : Composition by Age and Epidemiological Significance of Anopheles Maculipennis Population in Districts of the Altai Region Near Ob.

Orig Pub : Med. parazitol. i parazitarn. bolezni, 1957, 26, No1, 61-70.

Abstract : Data on composition by age and physiology of A. maculipennis in untreated settlements and settlements thoroughly treated by DDT in districts near Ob (of Pavlov region). The mosquitoes which wintered there, as well as the mosquitoes of the first summer generation during the 1953 and 1954 seasons exhibited no epidemiological significance.

Card 1/3

USSR/Zooparasitology - Mites and Insects as Disease Vectors. G-3

Abs Jour : Ref Zhur - Biol., No 10, 1958, 43447

Epidemiologically dangerous females were found only among mosquitoes of the second generation in August and September among females who went through 4-6 gonotrophic cycles. The age composition of the mosquitoes in untreated settlements was found to be comparatively low (the average physiological age of the gonoactive female was 1 gonotrophic cycle). Depending on the difference in meteorological conditions in 1953 and 1954, the proportion of epidemiologically dangerous females (on the average in one barn per season) was 9.1% and 3.2%, respectively. In a settlement treated by DDT, with a larger average number of mosquitoes, the number of potentially dangerous females was 1/4 that in the untreated settlements. The treatment was effective despite its late execution and the presence of mosquitoes outside the buildings, as well as despite an adjacent untreated settlement. Times of the possible effective

Card 2/3

SHESTERIKOVA, L.; KOZHEVNIKOVA, T., redaktor; ZHURAVLEV, A., tekhnicheskiy redaktor

[Historical dates in Soviet aviation and aeronautics] Daty istorii otechestvennoi aviatsii i vozdukhoplavaniia. Moskva, Izd-vo DOSAAF, 1953. 281 p. (MLRA 7:9)
(Aeronautics--History)

ZAPOL'SKIY, G.N.; SHESTERIKOVA, L.I.; NARYSHKIN, V.A.; LEBEDEVA, Yu.A., red.; KARYAKINA, M.S., tekhn. red.

[Means and methods of civil air defense; an album of visual aids for units of the Volunteer Society for Assistance to Army, Air Force, and Navy studying civil air defense] Sredstva i sposoby protivovozdushnoi oborony naseleniia; al'bom nagliadnykh posobii dlia kruzhkov DOSAAF, izuchaiushchikh protivovozdushnuiu oboronu. Red. IU.A. Lebedeva. Khudozh. M.P. Tumanov. Moskva, Izd-vo DOSAAF, 1958. 39 p. (MIRA 11:7)

(Air defenses)

Kolkhozniku o MPVO (To the Collective Farm Worker Concerning Local Air Defense), by Yu. A. Lebedeva and L. P. Shesterikova, edited by V. D. Moskaleva, Moscow DOSAAF, 1956, 128 pp (from a standard card of the USSR State Library imeni V. I. Lenin, No 358.5)

"A popular discussion of chemical, bacteriological, and atomic weapons, and other methods of attack and destruction from the air included in the armament of the imperialist armies. Defensive measures and methods for liquidating the consequences of the attack are also discussed. The organization and problems of local air defense (MPVO) in the rural community are described. Basic rules for the behavior of the populace under threat of air attack are given." (U)

KORABLEV, Mikhail Dmitriyevich; LEBEDEVA, Yuliya Aleksandrovna; SHESTERIKOVA, Lyudmila Pavlovna; MIROSHNIKOVA, I.P., red.; KAREVSKAYA, M.D., red.; ANDRIANOV, B.I., tekhn.red.

[Local antiaircraft defense in rural areas] MPVO v sel'skoi mestnosti. Pod red. I.P.Miroshnikova. Moskva, Izd-vo DOSAAF, 1959. 198 p. (MIRA 13:1)

(Air defenses)

CATEGORY: USSR/PHYSICAL CHEMISTRY-SURFACE PHENOMENA. ADSORPTION. CHROMATOGRAPHY. ION EXCHANGE

ABS JOUR: REFERAT ZHUR -KHIMIYA, NO 9, 1957 , 30218

AUTHOR: SAMSONOV, G.V., BRESLER, S. ye. ,VANSHEYDT, A.A., KUZNETSOVA, N.N. LAVRENT'YEVA, S.F., SHESTERIKOVA, M.P.

INST. NOT GIVEN

TITLE: SORPTION OF STREPTOMYCIN BY CARBOXYPHENOL RESINS

ORIG. PUB. ANTIBIOTIKI, 1956, 1, no5, 42-46

ABSTRACT: Trivalent cations of streptomycin (STR) are sorbed irreversibly at sulfocatienites while with purely carboxylic cathionites (KFU AND KMT) absorption capacity for Str^{3+} amounts to only 38 - 22% of their capacity for simple inorganic cations(Na^{+} AND Ca^{2+}), evidently due to steric hindrances caused by excessively close distribution of carboxly groups. It was found , in accord with the theoretical assumption, that the readily swelling, capable of ion-exchange throughout their bulk, resins of the mixed carboxy-phenol type (KRFFU, KRFU, CZECHOSLOVAK ROA RESIN) of strongly reduced general excahnge capacity (phenolic OH groups do not

participate in the exchange), exhibit considerably greater relative adsorption capacity for Str^{3+}. It is shown that the constant of Str^{3+} $-Na^{+}$ exchange at carboxy-phenolic resins differs little from the constants at purely carboxylic resins.

SHESTERIKOVA, M. P.

Statics and dynamics of the exchange of Aureomycin and Terramycin ions with hydrogen and sodium ions on cation exchangers. G. V. Samsonov, L. M. Shuvalova, M. P. Shesterikova, S. F. Lavrent'eva, V. S. Maslennikova, A. A. Konnova, and V. V. Bokareva (Inst. High-Mol. Compds., Acad. Sci. U.S.S.R., Leningrad). *Kolloid. Zhur.* 18, 474-9(1956); cf. preceding abstr.—The exchange capacity of sulfo resins for Aureomycin (I) and Terramycin (II) was greater the greater the swelling of the resin. The equation $m_1/m_2 = KC_1/C_2$ was valid if m_2 meant the no. of small ions present in the resin and capable of being exchanged for I or II; m_1 = no. of I or II ions (which are univalent) in the resin, C_1 and C_2 are the concns. of antibiotic and of small ions, resp., in the soln. The exchange const. K of I was 100–220 for Na resins and 130–425 for II resins; the K of II was less for a phosphate resin and a sulfo resin. The uptake of I and II by ion exchangers occurred with a sharp boundary, but their displacement by aq. HCl was very gradual; hence, a soln. of HCl in MeOH had to be used. J. J. Bikerman

Med 7

SAMSONOV, G.V.; LAVRENT'YEVA, S.F.; SHESTAKOVA, M.P.

Dynamics of streptomycin sorption by carboxyl resins in the presence of polyvalent metal ions [with summary in English] Antibiotiki, 2 no.2:32-35 Mr-Ap '57 (MLRA 10:5)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR i Leningradskiy khimiko-farmatsevticheskiy institut.

(STREPTOMYCIN
dynamics of sorption by carboxyl resins in presence of polyvalent metal ions)
(RESINS
carboxyl resins sorption of streptomycin, dynamics in presence of polyvalent metal ions)
(IONS, eff.
polyvalent metal ions,)

SAMSONOV, G.V.; DMITRENKO, L.V.; SIROTA, A.G.; GORYUNKOVA, A.D.; MOROZOVA, I.G.; KLIKH, S.F.; SHESTERIKOVA, M.P.

Purification of albomycin by using chromatographic method on sulfo-cationites. Antibiotiki 3 no.2:90-94 Mr-Ap '58. (MIRA 12:11)

1. Leningradskiy khimiko-farmatsevticheskiy institut, i Institut vysokomolekulyarnykh soyedineniy AN SSSR.

(ANTIBIOTICS,
albomycin, chromatographic purification with sulfo-cation exchange resistance (Rus))
(ION EXCHANGE RESINS,
sulfo-cation exchange resin SDV-3, chromatographic purification of albomycin (Rus))

SAMSONOV, G.V., DMITRIYENKO, L.V., SIROTA, A.G., SHESTERIKOVA, M.P., LAVRENT'YEVA, S.F.

Physicochemical properties of albomycin [with summary in English]
Biokhimiia 23 no.2:220-224 Mr-Ap '58 (MIRA 11:6)

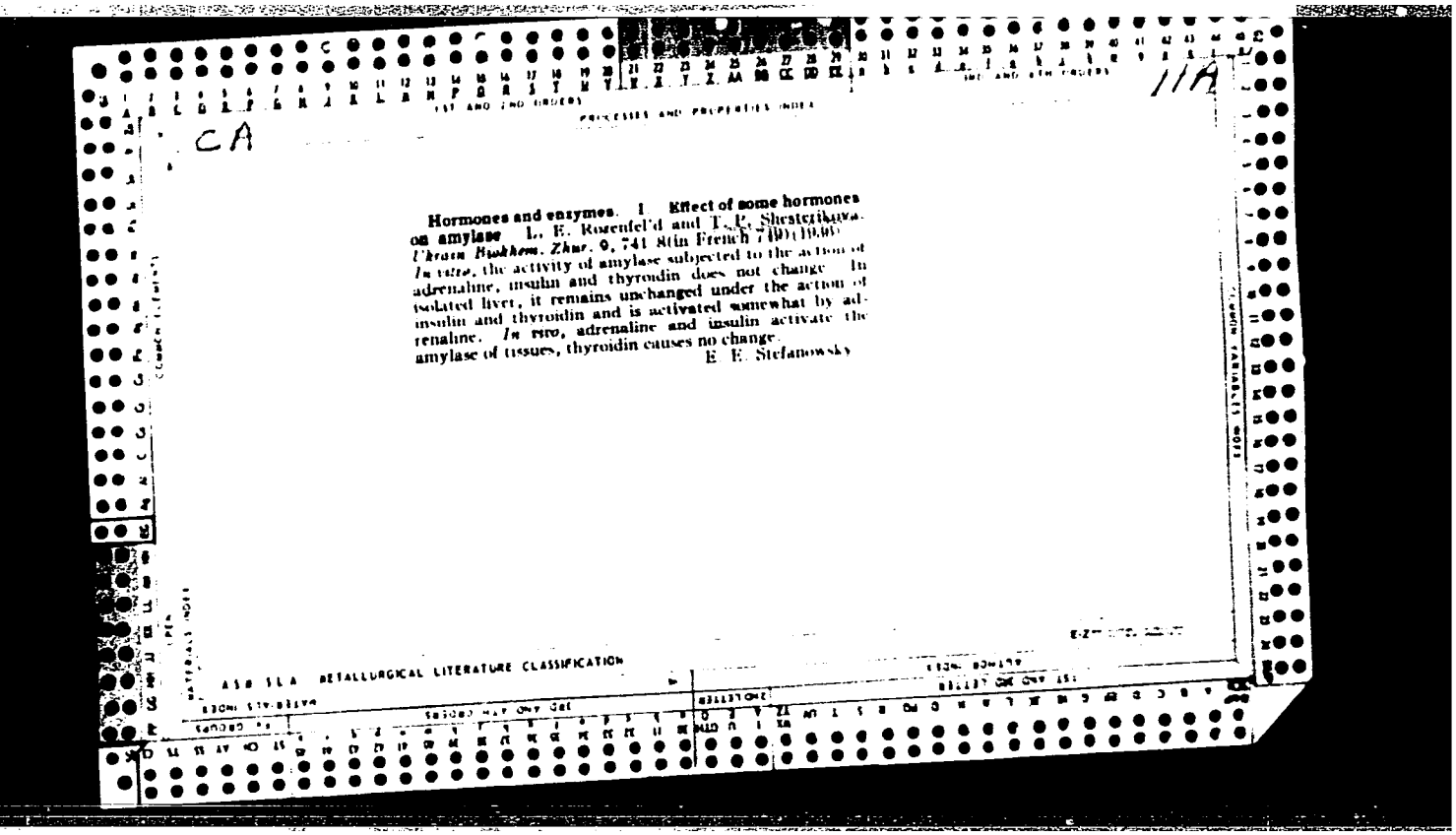
1. Institut vysokomolekulyarnykh soyedineniy AN SSSR i Khimiko-farmatsevticheskiy institut, Leningrad.
(ANTIBIOTICS,
albomycin, physicochem. properties (Rus))

ORLOVA, G.A. [Orlova, H.A.]; CHERKASOVA, L.I.; SHESTERIKOVA, O.I.; SERGEYEVA, M.M.; TARASOVA, M.Kh.; KARUNSKIY, V.G. [Karuns'kyi, V.H.]; MISHINA, Z.D.; LEBEDEVA, T.V.; ROZDYALOVSKIY, B.V. [Rozdialova'kyi, B.V.]; DYMSHITS, L.S.; ZAYTSEV, A.B., glavnyy red.; SERGEYEV, N., otv. za vypusk; SERGEYEV, M.F., red.; BERGER, F., tekhn.red.

[Economy of Volyn' Province; a statistical manual] Narodne hospodarstvo Volyns'koi oblasti; statystychnyi zbirnyk. L'viv, Derzhstatvydav, 1958. 211 p. (MIRA 12:12)

1. Volyn' (Province) Statystychne upravlinnia. 2. Statisticheskoye upravleniye Volynskoy oblasti (for all, except Sergeyev, N., Sergeyev, M.F.) 3. Nachal'nik Statisticheskogo upravleniya Volynskoy oblasti (for Zaytsev).

(Volyn' Province--Statistics)

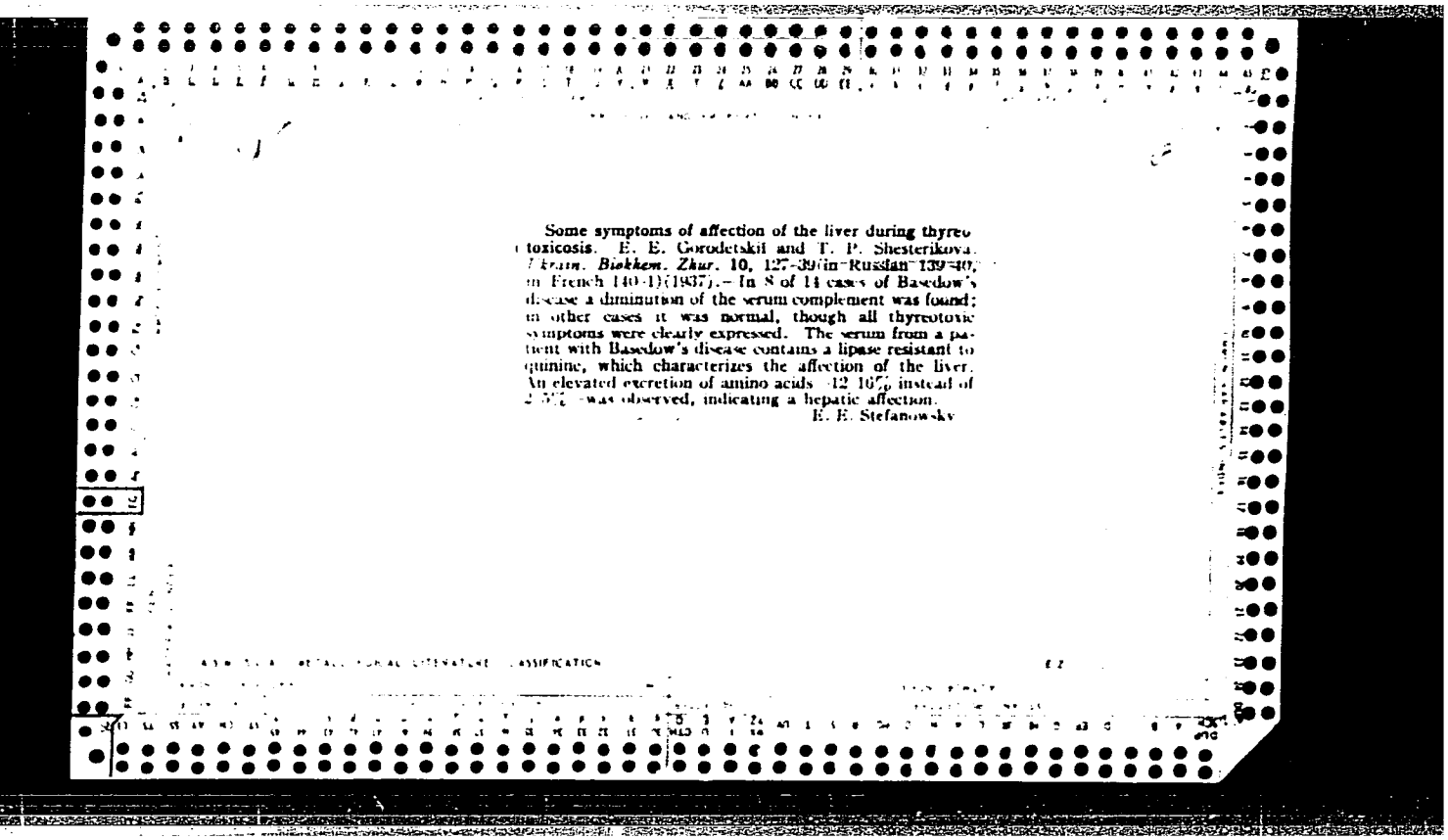


CA

11A

Hormones and enzymes. I. Effect of some hormones on amylase L. E. Rosenfel'd and T. P. Shesterikova. *Uchenye Zapiski Khar'kov. Zhur.* 9, 741-8 (in French 749) (1940). *In vitro*, the activity of amylase subjected to the action of adrenaline, insulin and thyroidin does not change. In isolated liver, it remains unchanged under the action of insulin and thyroidin and is activated somewhat by adrenaline. *In vivo*, adrenaline and insulin activate the amylase of tissues, thyroidin causes no change.
E. E. Stefanowsky

A 5 8 11 A METALLURGICAL LITERATURE CLASSIFICATION



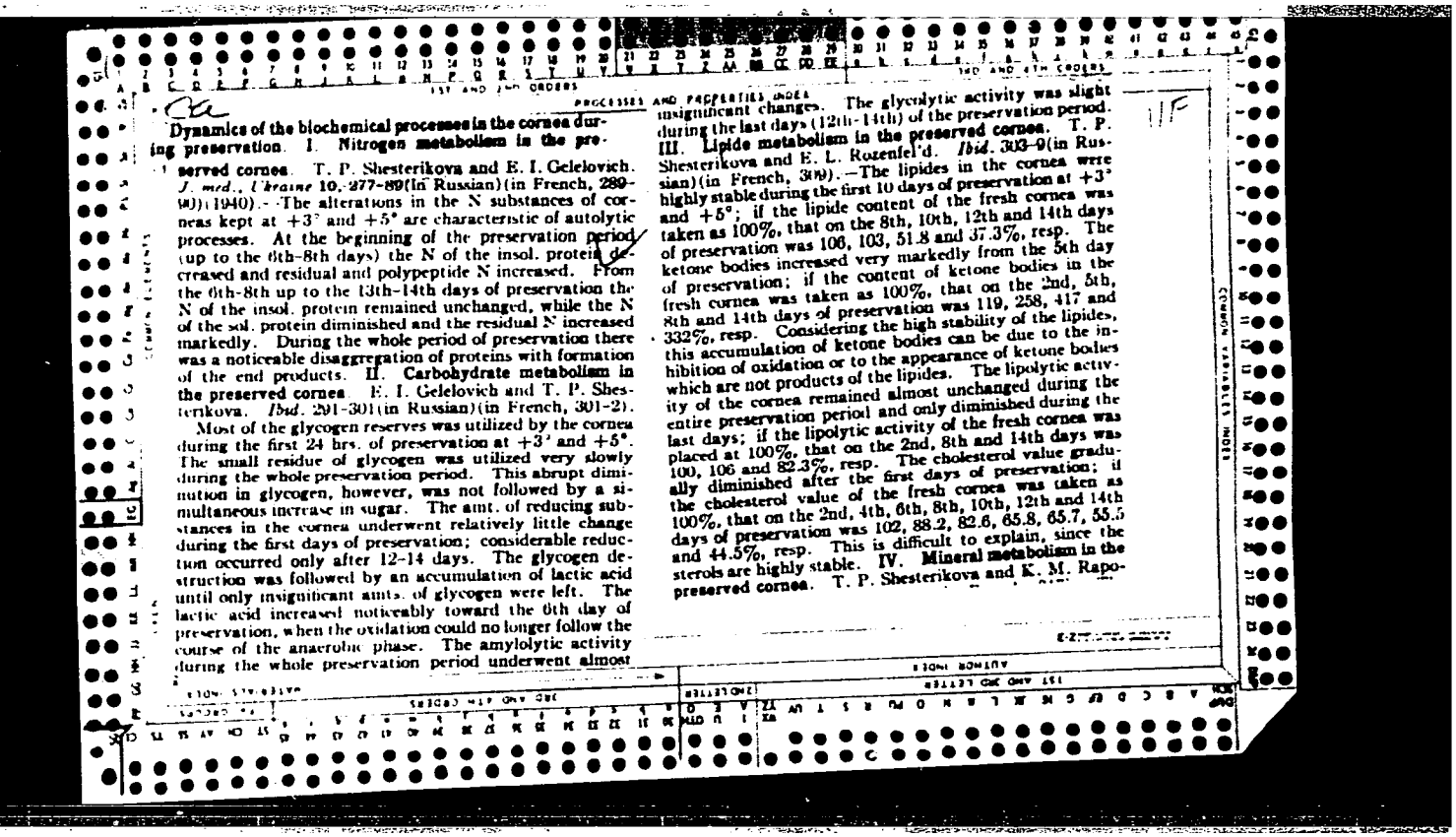
Some symptoms of affection of the liver during thyreo toxicosis. E. E. Gorodetskii and T. P. Shesterikova. *Ukrain. Biokhem. Zhur.* 10, 127–39(in Russian 139–40; in French 140–1)(1937).– In 8 of 14 cases of Basedow's disease a diminution of the serum complement was found; in other cases it was normal, though all thyreotoxic symptoms were clearly expressed. The serum from a patient with Basedow's disease contains a lipase resistant to quinine, which characterizes the affection of the liver. An elevated excretion of amino acids (12 16% instead of 2–3%) was observed, indicating a hepatic affection.

E. E. Stefanowsky

PROCESSES AND PROPERTIES INDEX

Hormones and enzymes. II. The influence of certain hormones on lipase. L. R. Rosenfel'd and L. P. Shestertikova. *Physiol.* (U. S. S. R.) 22, 480 (in English 404)(1937); cf. C. A. 31, 3081[a]. Adrenaline (I) and thyroidin (II) do not influence the activity of lipase *in vitro*, but activity is increased under the influence of insulin (III). The activity in isolated livers showed little change during passage of II and III, while I increased activity slightly. I inhibits the activity of lipase *in vitro* while II and III increase it. S. A. Karjala

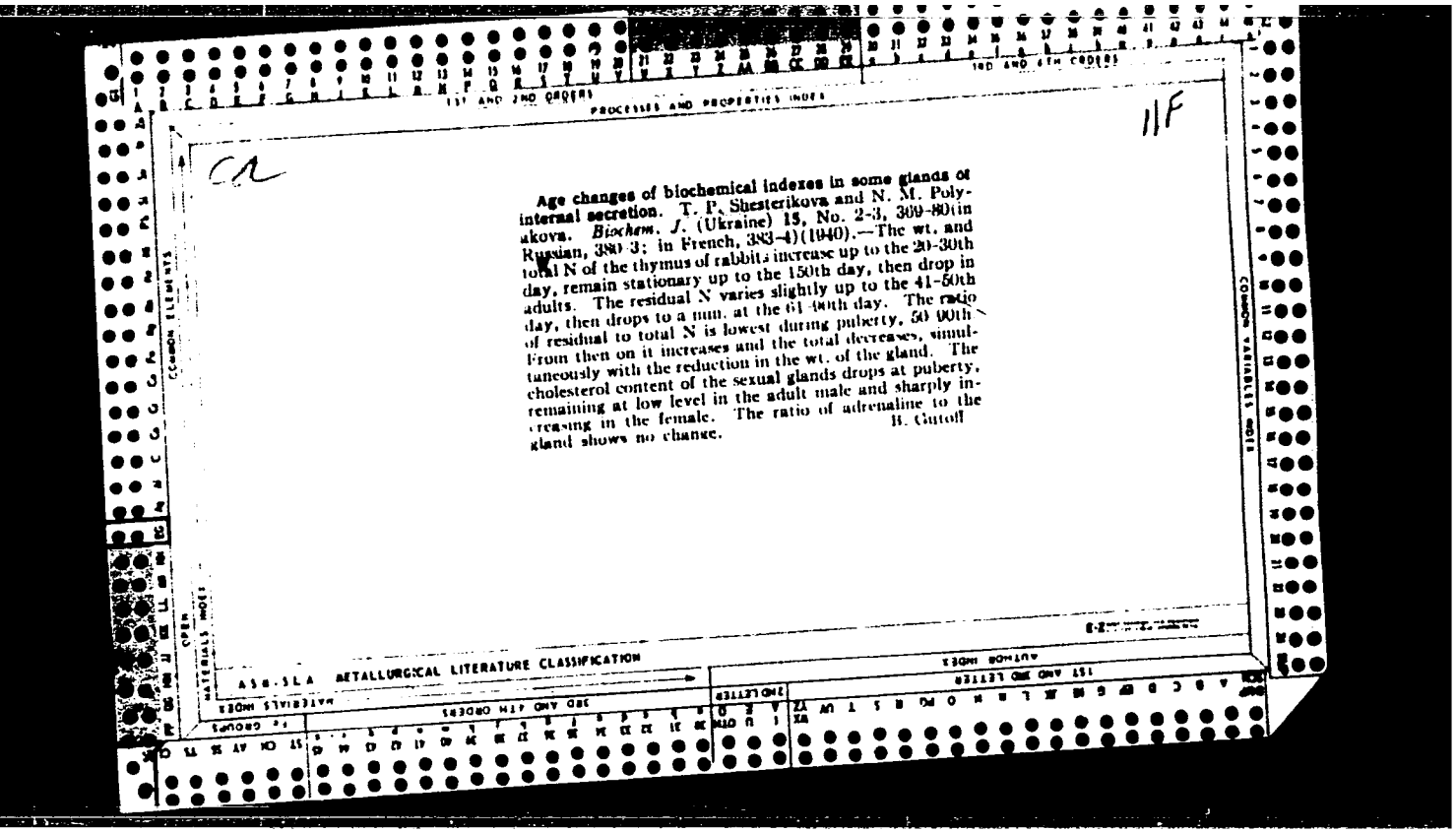
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Dynamics of the biochemical processes in the cornea during preservation. I. Nitrogen metabolism in the preserved cornea. T. P. Shesterikova and E. I. Gelelovich. *J. med., Ukraine* 10, 277–89(in Russian)(in French, 289–90)(1940).—The alterations in the N substances of corneas kept at +3° and +5° are characteristic of autolytic processes. At the beginning of the preservation period (up to the 6th–8th days) the N of the insol. protein decreased and residual and polypeptide N increased. From the 6th–8th up to the 13th–14th days of preservation the N of the insol. protein remained unchanged, while the N of the sol. protein diminished and the residual N increased markedly. During the whole period of preservation there was a noticeable disaggregation of proteins with formation of the end products. **II. Carbohydrate metabolism in the preserved cornea.** E. I. Gelelovich and T. P. Shesterikova. *Ibid.* 291–301(in Russian)(in French, 301–2).

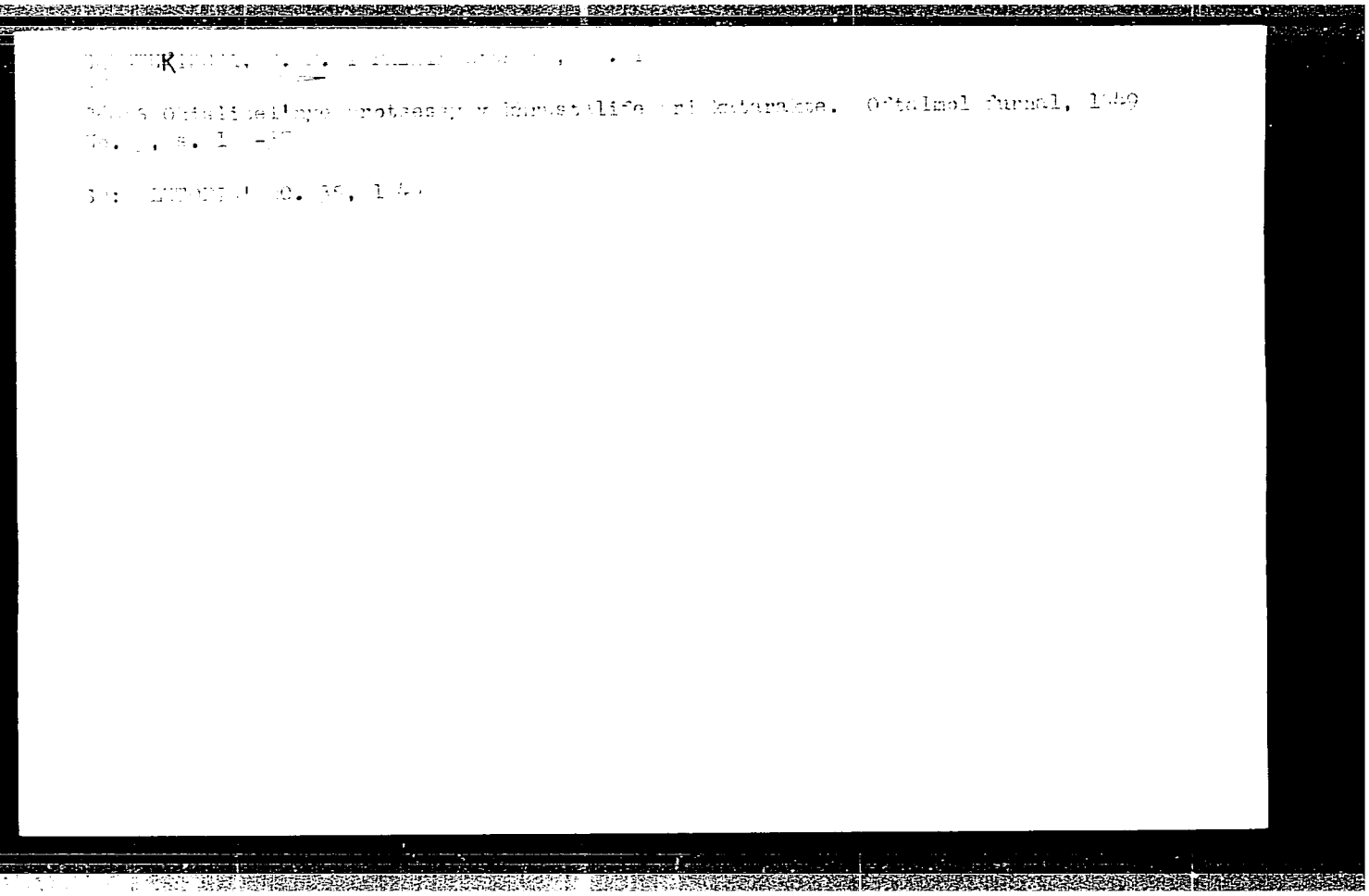
Most of the glycogen reserves was utilized by the cornea during the first 24 hrs. of preservation at +3° and +5°. The small residue of glycogen was utilized very slowly during the whole preservation period. This abrupt diminution in glycogen, however, was not followed by a simultaneous increase in sugar. The amt. of reducing substances in the cornea underwent relatively little change during the first days of preservation; considerable reduction occurred only after 12–14 days. The glycogen destruction was followed by an accumulation of lactic acid until only insignificant amts. of glycogen were left. The lactic acid increased noticeably toward the 6th day of preservation, when the oxidation could no longer follow the course of the anaerobic phase. The amylolytic activity during the whole preservation period underwent almost insignificant changes. The glycolytic activity was slight during the last days (12th–14th) of the preservation period. **III. Lipide metabolism in the preserved cornea.** T. P. Shesterikova and E. L. Rozenfel'd. *Ibid.* 303–9(in Russian)(in French, 309).—The lipides in the cornea were highly stable during the first 10 days of preservation at +3° and +5°; if the lipide content of the fresh cornea was taken as 100%, that on the 8th, 10th, 12th and 14th days of preservation was 106, 103, 51.8 and 37.3%, resp. The ketone bodies increased very markedly from the 5th day of preservation; if the content of ketone bodies in the fresh cornea was taken as 100%, that on the 2nd, 5th, 8th and 14th days of preservation was 119, 258, 417 and 332%, resp. Considering the high stability of the lipides, this accumulation of ketone bodies can be due to the inhibition of oxidation or to the appearance of ketone bodies which are not products of the lipides. The lipolytic activity of the cornea remained almost unchanged during the entire preservation period and only diminished during the last days; if the lipolytic activity of the fresh cornea was placed at 100%, that on the 2nd, 8th and 14th days was 100, 106 and 82.3%, resp. The cholesterol value gradually diminished after the first days of preservation; if the cholesterol value of the fresh cornea was taken as 100%, that on the 2nd, 4th, 6th, 8th, 10th, 12th and 14th days of preservation was 102, 88.2, 82.6, 65.8, 65.7, 55.5 and 44.5%, resp. This is difficult to explain, since the sterols are highly stable. **IV. Mineral metabolism in the preserved cornea.** T. P. Shesterikova and K. M. Rapo-

port. *Ibid* 311-16(in Russian)(in French, 317). The H_2O content of the cornea of preserved eyes underwent considerable variation owing to the imbibition of fluid from the anterior chamber. The H_2O content increased considerably during the 1st days of preservation and varied slightly during the last. The Cl content of the cornea increased considerably from the 2nd day of preservation. Ca and K were stable during the entire preservation period. The inorg. P increased gradually. The cornea removes H_2O and Cl from the fluid in the anterior chamber, while the amts. of K and Ca remain unchanged; at the same time the amt. of inorg. P increases, probably at the expense of the complex org. substances. R. Berggren



Age changes of biochemical indexes in some glands of internal secretion. T. P. Shesterikova and N. M. Polyakova. *Biochem. J.* (Ukraine) **15**, No. 2-3, 369-80(in Russian, 380-3; in French, 383-4)(1940).—The wt. and total N of the thymus of rabbits increase up to the 20-30th day, remain stationary up to the 150th day, then drop in adults. The residual N varies slightly up to the 41-50th day, then drops to a min. at the 61-80th day. The ratio of residual to total N is lowest during puberty, 50-90th day. From then on it increases and the total decreases, simultaneously with the reduction in the wt. of the gland. The cholesterol content of the sexual glands drops at puberty, remaining at low level in the adult male and sharply increasing in the female. The ratio of adrenaline to the gland shows no change.

B. Gutoff



SHESTERIKOVA, T. P; YUZEFOVICH, Ye. K;CHERNYUK, V. P.

Biochemical changes of the cerebrospinal fluid in tuberculous meningitis treated with streptomycin. Probl. tuberk., Moskva no.2:42-48 Mar-Apr 1952. (CLML 22:2)

1. Of the Department of Biochemistry (Head -- Prof. D. A. Tsuverkalov) and Clinic for Children's Diseases (Head -- Prof. A. I. Skrotskiy), Odessa Medical Institute.

SHESTERIKOVA, T. P.

(2)

Chemical Abstracts
May 25, 1954
Biological Chemistry

The influence of light and the exclusion thereof on the biochemical processes in the tissues of the eye. I. The influence of light and its exclusion on the respiratory quotient of the eye tissue. T. P. Shesterikova (Sci. Research Psychoneurol. Inst., Odessa). *Ukrain. Biokhim. Zhur.* 24, 87-94(in Russian, 94-5)(1952).—The expts. were done mostly with rabbits, a few with pigs. Some of the eyes were continuously illuminated with 200–500 lux, naturally during the day and artificially during the night. Some eyes were continually kept in darkness, and the controls were under natural conditions (bright during the day, dark during the night). The activity of the eyes was expressed as the respiratory quotient, Q_{O_2}, which was measured in a Warburg app. at 38°. The results were, under normal conditions, illumination, and in darkness, resp.: whole eye 1.055, 1.34, 1.066; iris 4.91, 5.95, 3.96; cryst. lens 0.288, 0.399, 0.293; retina 6.85, 10.17, 6.51. II. The influence of light and its exclusion on the amount of ascorbic acid in the tissues of the eye. E. V. Kresina and T. P. Shesterikova. *Ibid.* 96–100(Russian summary, 101)(1952).—Rabbits were kept for 3–5 weeks under const. illumination, or in const. darkness, or under normal conditions (controls). The results (in mg. %) were, under normal conditions, illumination, and in darkness, resp.: whole eye 25.36, 26.64, 21.62; cornea 24.91, 31.84, 27.39; cryst. lens 15.34, 18.39, 13.76; vitreous humor 8.7, 12.39, 7.67; retina 18.22, 20.14, 17.96. Werner Jacobson

1. KRESINA, E. V.; SHESTERYKOVA, T. P.

2. USSR (600)

4. Light - Physiological Effect

7. Effect of light and of shutting it off on the biochemical processes in the eye tissues. Part 2. Effect of light and of shutting it off on the content of ascorbic acid in the eye tissues, Ukr. biokhim. zhur. 24 No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953. Uncl.

SHESTERIKOVA, T. P.

MELIK-MEGRABOV, A.M., professor; SHESTERIKOVA, T. P., sekretar' dotsent

At he Ukrainian Society of Physiologists, Biochemists and Pharmacologists. Scientific sessions of the Odessa branch of the Society in 1951. Vop. fiziol. no.5:153-160 '53. (MLRA 8:1)

1. Predsedatel' pravleniya Odesskogo otdeleniya Ukainskogo obshchestva fiziologov, biokhimikov i farmakologov (for Melik-Megrabov)
(ODESSA--PHYSIOLOGY--SOCIETIES)
(ODESSA--BIOCHEMISTRY--SOCIETIES)
(ODESSA--PHARMACOLOGY--SOCIETIES)

Shesterikova, T. P.

Biochemical changes in tissues and fluids of the eye in nervous system injuries. I. Magnitude of respiration. T. P. Shesterikova and Yu. A. Petrovich (Sci. Research ~~Psychoneurol. Inst.~~, Odessa). *Ukrain. Biokhim. Zhur.* 26, 166–72(in Russian, 173–4)(1954).—Expts. were performed on 45 rabbits divided into 3 groups: (1) control (normal rabbits); (2) intracranial cutting of the trifacial nerve; (3) extirpation of the superior cervical sympathetic ganglion. The intracranial injury of the trifacial nerve leads to the development of ocular dystrophy and a lowering in the respiration of the eye tissues on the uninjured as well as on the injured side. The lowering in the Qo_2 of the cornea of both eyes is observed 5 min. after the onset of the injury and persists for 4 days. A lowering in the respiration of the iris of both eyes is manifest throughout the entire period of surgical interference. The lowering of the Qo_2 of the rete of both eyes is noted more during the first few hrs. following the operation. It is not feasible, therefore, to have the eye on the nonoperated side serve as a control. After the extirpation as in (3) respiration of the cornea of both eyes is unchanged. The Qo_2 of the iris of the normal eye only remains unaffected. The Qo_2 of the rete of both eyes is noticeably increased. Conclusion: The lowered respiration characteristic of ocular neurodystrophy cannot be primarily related to disturbances in the sympathetic innervation from the superior cervical ganglion. B. S. Levine

The biochemical constitution of saliva in unconditioned and conditioned reflex responses. T. P. Shesterikova and E. A. Sokolova (Sci. Research Psychoneurol. Inst., Odessa). *Ukrain. Biokhim. Zhur.* 26, 397-404(in Russian, 405)(1954). —Two dogs were used. Saliva was obtained from the dissected and cannulated duct of the maxillary salivary gland following nutritional stimulation of dogs with conditioned and unconditioned salivary reflexes. Detns. were made of total N, dry residue, org. and inorg. constituents of Cl and of the *n*. The development of conditioned salivary reflexes is accompanied by an increase in the salivary exudate upon strong stimulation. In cases with a well established stereotype salivary reflex reaction the values of N, Cl and of the *n* are of a lesser magnitude in the saliva obtained from the conditioned than the unconditioned dog. Quantitative N and Cl studies indicate that the greater the impact of the conditioned stimulation the greater the percentage of solid substances in the secreted saliva. B. S. Levine

SHESTERIKOVA, T.P.; SOKOLOVA, I.O.

Effect in disturbances in the higher nervous function on the secretion of salivary glands. Ukr.biokhim.zhur. 26 no.4:406-416 '54. (MLRA 8:3)

1. Odes'kiy naukovo-doslidniy psikhonevrologichniy institut.
(Nervous system)(Salivary glands)