

DANILOV, G.G.; POLEZHAYEV, Ya.A.; GROSHEV, M., red.; CHIZHIKOVA, V.,
tekh. red.

[Utilization of the achievements of science in the agri-
cultural practice of Mordovia] Dostizhenia nauki - v
praktiku zemledeliia Mordovii. Saransk, Mordovskoe
knizhnoe izd-vo, 1963. 119 p. (MIRA 17:3)

POLEZHAYEV, Ye.F.

Peculiarities of the conditioned reflex before and following its automatization. Trudy Vses. ob-va fiziol., biokhim. i farm. 4:63-71 '58. (MIRA 14:2)

1. Kafedra fiziologii Ryazanskogo meditsinskogo instituta imeni I.P. Pavlova (zav. kafedroy prof. P.K. Anokhin). (CONDITIONED RESPONSE)

17(1)

AUTHOR:

Polezhayev, Ye. F.

SOV/20-123-1-55/56

TITLE:

The Conditioned Postural Reflex as a Special Reaction Within the Interval Between the Application of Stimuli (Uslovnnyy poznyy refleks kak spetsial'naya reaktsiya v intervale primeneniya razdrazhitelya)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 1, pp 204 - 207 (USSR)

ABSTRACT:

The study of questions concerning the analysis of complex performance of the animal organism in individual reactions of independent significance allows to determine with which special reaction the organism is concerned in every given moment. Furthermore, the dynamics of central processes can be combined with the interrelationship between various special reactions caused by corresponding stimuli. The paper under review is concerned with the characteristics of behavior of the test animals between the application of conditioned stimuli. The author asked the question whether this behavior can be interpreted in terms of a conditioned reflex which follows the general laws of cortical activity. The investigations were carried out in a room for conditioned reflexes.

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In several dogs conditioned food reactions were developed, in others conditioned defence reactions. Secretion of saliva was recorded by a kymograph; moreover, the contraction of the left hind leg as a response to a pain stimulus and finally head movement and respiration were recorded. Also an electroencephalogram EEG was recorded, the recording mechanism of which was synchronized with the kymograph.

Results: At first the dog was accustomed to the stand to which it was tied with a harness. The EEG showed desynchronization until the dog had calmed down. During the subsequent developing of the conditioned food and defence reflexes the EEG and respiration showed similar changes as in accustoming to the stand.

Discussion of the Results: Even the fact of "accustoming" proves that it is impossible to achieve a calm behavior of the dog in the stand "at once". The dog displays the "freedom reflex" and tries to free itself. After this has been repeated every day, the "freedom reflex" is obliterated, while the complex of stimuli (appearance of the room and the stand;

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fastening of the harness; and the like) conditions a new special reaction which may be interpreted as a postural reflex. As to its conditions of origin it has many similarities to the development of a motor reaction (according to Staritsin-Petropavlovskiy). In the usual preparation of the dog for the test the postural reflex is developed in its interaction with the freedom reflex. It will still continue when other reflexes, e.g. food reflexes, are being developed. Pre-conditions for this are created intentionally. When conditioned food reflexes are developed, the organism will be occupied with various special reflexes at every given moment. In the interval between the application of stimuli the conditioned postural reflex prevails; when, for instance, a food signal is given, the corresponding conditioned reaction will be formed. In case of over-lapping (perekrytiye) the stimulus used for this purpose will be related to the focus of stimulation most intensive at the moment. This will be the food reaction inspite of feeding being finished. Therefore, the overlapping stimulus is related to the latter and

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stimulates it. As it will not be corroborated, the food reaction is obliterated. The author draws the conclusion that the special reaction which was developed during accustoming the dog to the stand, the conditioned postural reflex, dominates in the interval between the stimuli and should be drawn into consideration in the analysis of the mechanisms of cortical activity. There are 2 figures and 4 Soviet references.

PRESENTED: June 27, 1958, by L. A. Orbeli, Academician

SUBMITTED: June 23, 1958

Card 4/4

NAGORNYI, Aleksandr Vasil'yevich, prof. [deceased]; NIKITIN, V.N.; BULANKIN, Ivan Nikolayevich [deceased]; SIROTININ, N.N., prof.; MAKHIN'KO, V.I., dots.; PARINA, Ye.V., dots.; POLEZHAYEV, Ye.F., red.; LYUDKOVSKAYA, N.I., tekhn. red.

[Problems of aging and longevity] Problema starenia i dolgoletia. Moskva, Medgiz, 1963. 754 p. (MIRA 16:11)

1. Chlen-korrespondent AN Ukr.SSR (for Nagorny). 2. Akademiya nauk Ukr. SSR (for Bulankin). 3. Deystvitel'nyy chlen AMN SSSR (for Sirotinin).
(AGING) (LONGEVITY)

LAZARIS, Yakov Aronovich; SEREBROVSKAYA, Irina Alekseyevna; POLEZHAYEV,
Ye.F., red.; BASHMAKOV, G.M., tekhn. red.

[Pulmonary circulation] Legochnoe krovoobrashchenie. Moskva,
Medgiz, 1963. 242 p. (MIRA 16:9)
(PULMONARY CIRCULATION)

DIONESOV, Semen Maksimilianovich; POLEZHAYEV, Ye.F., red.;
MIRONOVA, A.M., tekhn. red.; BEL'CHIKOVA, Yu.S., tekhn.
red.

[Pain and its effect on the human and animal organism] Bol'
i ee vliianie na organizm cheloveka i zhirotnogo. 2. izd., ispr.
1 dop. Moskva, Medgiz, 1963. 358 p. (MIRA 16:5)
(PAIN)

PLATONOV, Konstantin Ivanovich; POLEZHAYEV, Ye.F., red.; ROMANOVA,
Z.A., tekhn. red.

[Word as a physiological and therapeutic factor; problems of
the theory and practice of psychotherapy based on I.P.Pavlov's
teaching] Slovo kak fiziologicheskii i lechebnyi faktor; vop-
rosy teorii i praktiki psikhoterapii na osnove uchenia I.P.
Pavlova. Izd.3. s nekotorymi dop. i izmereniami. Moskva,
Medgiz, 1962. 531 p. (MIRA 16:2)
(PSYCHOTHERAPY)

KOGAN, Aleksandr Borisovich, prof.; POLEZHAYEV, Ye.F., red.; SIDOROVA,
V.I., red.izd-va; VORONINA, R.K., tekhn.red.

[Principles of the physiology of the higher nervous activity]
Osnovy fiziologii vysshei nervnoi deiatel'nosti. Moskva, Gos.
izd-vo "Vysshiaia shkola," 1959. 542 p. (MIRA 13:4)
(NERVOUS SYSTEM)

POLEZHAYEV, Ye.F.

Initial state of the cerebral hemispheres in a chronic experiment.
Dokl. AN SSSR 153 no.2:489-492 N '63. (MIRA 16:12)

1. Tsentral'nyy institut usovershenstvovaniya vrachey. Predstavleno
akademikom A.N.Bakulevym.

POLEZHAYEV, Ye.F.

Novelty as a stimulus in special reactions. *Biul. eksp. biol. med.*
47 no.2:9-14 F '59. (MIRA 12:4)

1. Iz kafedry klinicheskoy i eksperimental'noy fiziologii (zav. -
deystvitel'nyy chlen AMN SSSR V.V. Parin) Tsentral'nogo instituta
usovershenstvovaniya vrachey (dir. - prof. V.P. Lebedeva), Moskva.
Predstavlena deystvitel'nyy chlenom AMN SSSR V.V. Parinym.

(REFLEX,

novelty as stimulus in special reflex-reactions (Rus))

AUTHOR:

Polezhayev, Ye. F.

SOV/20-126-4-61/62

TITLE:

Peculiar Features of Cortical Coordination in Case of External Inhibition (Osobennosti korkovoy koordinatsii pri vneshnem tormozhenii)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 4, pp 909 - 912 (USSR)

ABSTRACT:

A simultaneous application of irritations, each one of which has a different signal- or unconditional importance, causes an external inhibition. Its origin is determined by an antagonistic interaction between functionally incompatible reactions (Ref 5). The investigation of the said interaction is easy in case of a collision between a defensive reaction (worked out according to Petropavlovskiy) and a nutritive reaction. For it is possible to record the specific components of these two reflexes. A comparison of the electroencephalograms (EEG) of the somatic and vegetative components of the said reflexes makes it possible to determine how the interrelation of their excitability changes, i.e. the condition of the cortical coordinates can be studied. When on the background of a conditional defensive reaction (caused by a metronome) meat is shown

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External Inhibition

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to a dog, a discord appears in his behavior. He lowers his paw, strives for the meat, lifts his paw again; a flow of saliva sets in. A strained character of the respiration components is observed at the same time: an increase in the inspiratory level, a higher respiration frequency, deep breathing in and out. The intensity of the orientation reflex increases. Finally, after several repetitions of the joint application of irritations, the defensive reaction dominates: the dog strives for the meat more rarely or not at all (Fig 1 A). After several days of experiment, a new stage appears: showing the meat does not produce any change in the somatic and vegetative components of the defensive reaction. The orientation reflex loses considerably in intensity. The EEG does not change now, or the synchronization degree increases slightly (Fig 1 B). After a repeated application together with the defensive signal, the meat was shown separately without the use of the metronome. This should clarify what importance the nutritive irritation had attained. Now the dog reacted to the meat just as to a pain signal: the defensive reaction originated at once. The author investigated the antagonistic interaction between

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various special reactions: nourishment, defence, attitude, biologic caution, vomiting, seeking, liberty. In all cases, the order of phenomena and the character of change in the EEG, in respiration and the orientation reflex, were the same. This points to the fact, during the antagonistic interaction, a stage occurs in which both the competing reactions attain a high level of excitability in the cerebral cortex. 2 irritation systems act there at the same time, each one of which is characterized by a special rhythm. This explains the discord in the behavior, the desynchronization in the EEG et al. The intensive excitation of the two competing reactions, a conflict-like nature of the inhibition, the straining of the orientation reflex, and the mobilization of its central effect demand a corresponding supply of energy. This explains the straining of the vegetative components in the conflict stage. The same act is performed at normal vegetative components when the excitability of the competing reaction decreases, since in the stage of developed coordination the demand for supply of energy is reduced accordingly. There are 2 figures and 8 Soviet references.

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Peculiar Features of Cortical Coordination in Case of
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SOV/20-126-4-51/62

ASSOCIATION: Tsentral'nyy institut usovershenstvovaniya vrachey (Central
Institute for Perfection of Physicians)

PRESENTED: February 19, 1959, by A. N. Bakulev, Academician

SUBMITTED: January 5, 1959

Card 4/4

AUTHOR:

Polezhayev, Ye. F.

SOV/20-126-5-68/69

TITLE:

On Cortical Coordination in the Case of Transition to Sleep and Awakening (O korkovoy koordinatsii pri perekhode v son i probuzhdenii)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 1149 - 1152 (USSR)

ABSTRACT:

Several stimulations come in temporary relation with the sleeping state. Although the conditional somnifacient reaction is a familiar appearance the formation mechanism is not yet clear. The cortical mechanism of the formation of a temporary relation is universal for any process in the organism (Ref 11). But it is not applicable for the analysis of the conditional somnifacient reaction because the cortical cells are in state of restriction during the sleep (Ref 11). The elaboration of the said reaction, its analysis etc. (Refs 1,4,5,10,13,18,19,22-25) make the opinion of S. P. Botkin (Ref 5) and I. R. Tarkhanov (Ref 18) credible according to which the sleep is a specific reflex. Its central organisation consists (as for example the nutrition reflex) obviously of a topographic branched system of nerves formations. The elaboration of the said reaction tes-

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tifies that a cortical representation is a part of this reflex. This opinion enables to utilize the dominant mechanism common for the cortical activity in the sleep analysis which encloses at the same time the participation of the irritation and the restriction. The transition to the sleep takes place under conditions of an antagonistic alternating effect between the sleep reflex and the reflexes of the awake state. Consequently this transition is reached in consequence of a cortical coordination. The gradual alteration of the relations of the excitability of these reflexes operates in a characteristic way on the electro encephalogram (EEG). This makes possible the determination of the peculiarities of their cortical coordination (Figs 1 A-D). In the behaviour of an animal a wavelike falling asleep can be observed: once slumber, once awake state. Further stages are coming about during the slumber (which is usually accompanied by a EEG-desynchronisation) at which a weak stimulation deepens the sleep in one case but in an other it calls back the organism into the wake state. (Fig 2). But in both cases the EEG-desynchronisation is replaced by a synchronisation. Hence it follows that in the slumber a relatively high and an approx-

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imately equal excitability level exists of the sleeping reflex competing with one another and of any reflex of the awake state. This means that some cortical cells are seized by the excitation of this or that reflex of the awake state possessing a certain rhythm whilst other cells are seized by the excitation of the sleep reflex possessing quite an other rhythm. Hence the desynchronisation on the EEG follows. If the excitability of the reflexes competing with the sleep reflex decreases considerably the most cortical cells are in an excitation state of the same rhythm belonging to the sleep reflex. Therefore the synchronisation arises on the EEG. The observations described lead to the conclusion that the normal sleep is a typical signal - or warning reaction on account of the participation of the cortical level. It arises before the cortical cells are exhausted and injurious products are accumulated in the organism. The conditional sleep bringing reflex is based on the excitation, contains a coordination restriction and follows the laws of the conditional reflectoric activity representing a common rule for all cortical reactions. There are

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On Cortical Coordination in the Case of Transition to Sleep and Awakening SOV/20-126-5-68/69

2 figures and 25 references, 5 of which are Soviet.

ASSOCIATION: Tsentral'nyy institut usovershenstvovaniya vrachey (Central Institute of Perfection of the Physicians)

PRESENTED: February 9, 1959, by A. N. Bakulev, Academician

SUBMITTED: January 5, 1959

Card 4/4

TITAYEV, Aleksey Asinkritovich; DEBOV, S.S., red.; POLEZHAYEV, Ye.F.,
red.; BALDIHA, H.F., tekhn.red.

[Antisymphatin] Antisimpatin. Moskva, Gos.izd-vo med.lit-ry,
1960. 151 p. (MIRA 13:6)

(ANTISYMPATHIN)

PETROVSKIY, Vladimir Viktorovich; POLEZHAYEV, Ye.F., red.; ZUYEVA, N.K.,
tekhn. red.

[Role of the lymphatic vessels in blood circulation] O roli limfati-
cheskikh sosudov v krovoobrashchenii. Moskva, Gos. izd-vo med. lit-
ry Medgiz, 1960. 149 p. (MIRA 14:7)

(BLOOD—CIRCULATION)

(LYMPHATICS)

LETAVET, A.A., prof.; red.; KOSILOV, S.A., prof., doktor biolog.nauk, red.;
ZOLINA, Z.M., kand.biolog.nauk, red.; KRAPIVINTSEVA, S.I., kand.
med.nauk, red.; OKHNYANSKAYA, L.G., kand.med.nauk, red.; PAVLOVA,
T.N., kand.med.nauk, red. [deceased]; POLEZHAYEV, Ye.F., red.;
ZAKHAROVA, A.I., tekhn.red.

[Materials on the physiological basis of working processes] Mate-
rialy k fiziologicheskomu obosnovaniyu trudovykh protsessov. Pod
obshchey red. A.A.Letaveta i S.A.Kosilova. Moskva, Gos.izd-vo med.
lit-ry, 1960. 286 p. (MIRA 13:10)

1. Akademiya meditsinskikh nauk SSSR, Moscow. Institut gigiyeny
truda i profzabolevaniy. 2. Deystvitel'nyy chlen Akademii medi-
tsinskikh nauk SSSR (for Letavet). 3. Institut gigiyeny truda i
profzabolevaniy AMN SSSR (for Kosilov, Zolina, Krapivintseva,
Okhnyanskaya, Pavlova).

(INDUSTRIAL HYGIENE)

(PHYSIOLOGY)

MARKOSYAN, Akop Artashesovich; POLEZHAYEV, Ye.F., red.; LAUT, V.G.,
tekhn.red.

[Nervous regulation of blood coagulation] Nervnaia regulatsiia
svertyvaniia krovi. Moskva, Izd-vo Akad.pedagog.nauk RSPSR,
1960. 375 p. (MIRA 13:5)

(BLOOD--COAGULATION)

BUSHTUYEVA, K.A., dotsent; POLEZHAYEV, Ye.F., dotsent; SEMENENKO, A.D.,
assistant

Studying reflex thresholds of atmospheric pollution by electro-
encephalography. Gig.i san. 25 no.1:57-61 Ja '60. (MIRA 13:5)

1. Iz kafedry kommunal'noy gigiyeny i kafedry klinicheskoy i
eksperimental'noy fiziologii TSentral'nogo instituta usover-
shenstvovaniya varchey.

(POLLUTION)

(ELECTROENCEPHALOGRAPHY)

POLEZHAYEV, Ye.F.

Phasic changes in the EEG as an index of the formation of cortical coordination. Fiziol.zhur. 46 no.1:26-36 Ja '60.

(MIRA 13:5)

1. From the Department of clinical and experimental physiology of the central advanced training institute for doctors, Moscow.

(CEREBRAL CORTEX physiol.)

(ELECTROENCEPHALOGRAPHY)

BUSHTUYEVA, K.A.; POLEZHAYEV, Ye.F.; SEMENENKO, A.D.

Effect of subliminal olfactory stimulation on reflex activity.
Fiziol. zhur. 46 no. 4:452-457 Ap '60. (MIRA 13:10)

1. From the Department of Clinical and Experimental Physiology
and Department of Communal Hygiene, Central Institute for
Medical Improvement, Moscow.
(ELECTROENCEPHALOGRAPHY) (SMELL)

BUSHTUYEVA, K.A.; POLEZHAYEV, Ye.F.; SEMENENKO, A.D.

Changes in optic chronaxy and the electroencephalogram caused by the use of substances acting on the trigeminal nerve endings. Biol. eksp. biol. i med. 49 no.3:65-69 Mr '60. (MIRA 14:5)

1. Iz kafedry klinicheskoy i eksperimental'noy fiziologii (zav. - deystvitel'nyy cheln' AMN SSSR V.V.Parin) i kafedry kommunal'noy gigiyeny (zav. - prof. V.A.Ryazanov) Tsentral'nogo instituta usovershenstvovaniya vrachey (dir. - M.D.Kovrigina), Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.V.Parinym.
(TRIGEMINAL NERVE) (OPTIC NERVE)
(ELECTROENCEPHALOGRAPHY)

FEDOSEYEV, A.N.; POLEZHAYEV, Ye.F.

Peculiarities of cortical coordination in dogs in experimental atherosclerosis. Biul. eksp. biol. i med. 49 no. 6:47-54 Je '60. (MIRA 13:8)

1. Iz kafedry klinicheskoy i eksperimental'noy fiziologii (zav. - deystv. chlen AMN SSSR V.V. Parin) Tsentral'nogo instituta usovershenstvovaniya vrachey (dir. M.D. Kovrigina). Predstavlena deystv. chlenom AMN SSSR V.V. Parinym.
(CEREBRAL CORTEX) (ARTERIOSCLEROSIS)
(ELECTROENCEPHALOGRAPHY)

POLEZHAYEV, Ya.F.

Effect of aminazine and adrenalin in small doses on the formation of cortical coordinations. Zhur.nevr.i psikh. 60 no.5:568-576 '60.
(MIRA 13:9)

1. Kafedra klinicheskoy i eksperimental'noy fiziologii (zav. - prof. V.V. Parin) Tsentral'nogo instituta usovershenstvovaniya vrachey, Moskva.

(CHLORPROMAZINE pharmacol)
(ELECTROENCEPHALOGRAPHY)

(EPINEPHRINE)
(CONDITIONED RESPONSE)

PETUKHOVA, G.N.; PETUKHOV, B.N.; POLEZHAYEV, Ye.F.

Effect of aminazin on reflex activities of varied complexity.
Zhur.nevr.i psikh 60 no.8:994-1001 '60. (MIRA 13:9)

1. Kafedra klinicheskoy i eksperimental'noy fiziologii (zav. - prof.
V.V. Parin) Tsentral'nogo instituta usovershenstvovaniya vrachey,
Moskva.

(CHLORPROMAZINE)

(REFLEXES)

SOROKHTIN, Georgiy Nikolayevich; POLEZHAYEV, Ye.F., red.; BUL'DYAYEV, N.A.,
tekhn. red.

[Atony of the nerve center] Atonia nervnogo tsentra. Moskva,
Medgiz, 1961. 309 p. (MIRA 14:12)
(NERVOUS SYSTEM)

PLATONOV, Konstantin Konstantinovich; POLEZHAYEV, Ye.F., red.;
GABERLAND, M.I., tekhn. red.

[Psychology of labor] Voprosy psikhologii truda. Moskva,
Medgiz, 1962. 218 p. (MIRA 15:4)
(PSYCHOLOGY, INDUSTRIAL)

GAMBARYAN, Leon Sarkisovich; POLEZHAYEV, Ye.F., red.; MATVEYEVA, M.M.,
tekh. red.

[Problems of the physiology of the motor analyser; an
experimental investigation] Voprosy fiziologii dvigatel'nogo
analizatora; eksperimental'noe issledovanie. Moskva, Medgiz,
1962. 238 p. (MIRA 15:5)
(CONDITIONED RESPONSE) (MOVEMENT (PHYSIOLOGY))

LAZARIS, Ya.A.; SEREBROVSKAYA, I.A.; POLEZHAYEV, Ye.F., red.;
ROMANOVA, Z.A., tekhn. red.

[Pulmonary edema] Otek logkikh. Moskva, Medgiz, 1962. 368 p.
(MIRA 15:4)

(PULMONARY EDEMA)

CHUKHLANTSEV, V.G.; POLEZHAYEV, Yu.M.

Reaction of sodium zirconium silicate with water under
hydrothermal conditions. Zhur. neorg. khim. 9 no.6:1358-1362
Je '63 (MIRA 17:8)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

POLEZHAYEV, Yu.M.; CHUKHLANTSEV, V.G.

Interaction of sodium zirconsilicate with water. Zhur.
neorg. khim. 9 no.5:1123-1128 My '64. (MIRA 17:9)

1. Ural'skiy politekhnicheskiy institut.

CHUKHLANTSEV, V.G.; SOLEZHAYEV, Yu.M.

Products of the hydrothermal reaction of zircon with caustic
lithium. Zhur. neorg. khim. 10 no.7:1585-1587 J1 '65.
(MIRA 18:8)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.

POLEZHAYEV, Yu.M.; CHUKHLANTSEV, V.G.

Triangulation of the system $Ka_2O - ZrO_2 - SiO_2$. Izv. AN
SSSR. Neorg. mat. 1 no.11:1990-1993 N '65.

(MIRA 18:12)

1. Ural'skiy politekhnicheskii institut imeni S.M. Kirova,
Sverdlovsk. Submitted June 19, 1965.

L 58596-05 EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EPR/I/EWP(t)/EWP(b)/EWA(c) Pr-4/
Ps-4/Pu-4 IJP(c) JD/WJ/JG

ACCESSION NR: AP5016595

UR/0363/65/001/005/0784/0787

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AUTHOR: Polezhayev, Yu. M.; Chukhlantsev, V. G.

B

TITLE: Subsolidus structure of the system lithium oxide - zirconia - silica

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 5, 1965, 784-787

TOPIC TAGS: ²⁷ ²⁷ lithium oxide, oxide phase diagram, ²⁷ zirconium dioxide, ²⁷ silica, zircon, subsolidus structure, xray diffraction

ABSTRACT: For the triangulation of the system $Li_2O - ZrO_2 - SiO_2$, solid-phase interactions were studied between the following compounds:

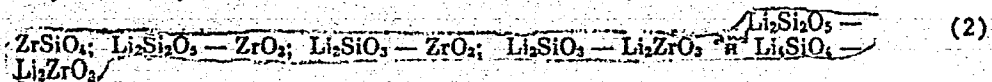
- 1) $ZrSiO_4 - Li_2ZrO_3$; 2) $ZrSiO_4 - Li_2CO_3$; 3) $ZrSiO_4 - Li_4SiO_4$; (1)
- 4) $ZrO_2 - Li_2SiO_3$; 5) $Li_2ZrO_3 - Li_2Si_2O_5$; 6) $Li_2ZrO_3 - SiO_2$
- 7) $ZrSiO_4 - Li_2SiO_3$; 8) $ZrO_2 - Li_2Si_2O_5$; 9) $ZrO_2 - Li_4SiO_4$; 10) $Li_2ZrO_3 - Li_2SiO_3$; 11) $Li_2ZrO_3 - Li_4SiO_4$; 12) $ZrSiO_4 - Li_2Si_2O_5$

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L-58696-65

ACCESSION NR: AP5016595

The products of sintering were then analyzed by x-ray diffraction. The following compatibility lines were established:



No ternary compounds were found in the system. Triangulation of the system gave the phase diagram shown in Fig. 1 of the Enclosure. It was found that Li_2O is a good mineralizer of the reaction by which zircon is formed from ZrO_2 and SiO_2 . Ordinarily, ZrO_2 begins to react with SiO_2 at about 1500C; however, if 3-5 wt. % Li_2CO_3 is added to an equimolar mixture of these two components, the formation of zircon already takes place at 900C. Orig. art. has: 3 figures, 2 tables and 12 formulas.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Ural'sk Polytechnic Institute)

SUBMITTED: 15Jan65/--May65

ENCL: 01

SUB CODE: MT, IC

NO REF SOV: , 007

OTHER: 010

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I 53696-65

ACCESSION NR: AP5016595

ENCLOSURE: 01

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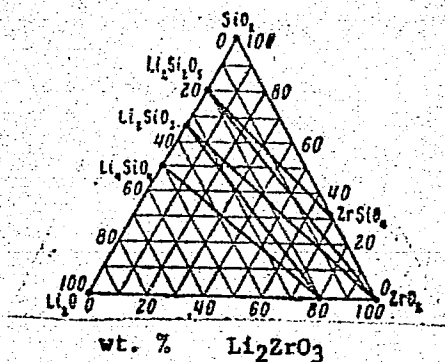


Figure 1. Subsolidus structure of the system $\text{Li}_2\text{O} - \text{ZrO}_2 - \text{SiO}_2$.

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POLEZHAYEV, Yu.M.; CHUKHLANTSEV, V.G.

Subsolidus structure of the system $\text{Li}_2\text{O} - \text{ZrO}_2 - \text{SiO}_2$. Izv. AN SSSR.
Neorg. mat. 1 no.5:784-787 My '65. (MIRA 18:10)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

CHUKHLANTSEV, V.G.; POLEZHAYEV, Yu.M.

Production of sodium zirconyl and sodium hafnyl silicate
crystals. Izv. vys. ucheb. zav.; khim. i khim. tekhn. 8
no.3:357-360 '65. (MIRA 18:10)

1. Ural'skiy politekhnicheskiy institut imeni Kirova, kafedra
radiokhimii.

L 06293-67 EWT(m)/EWP(e)/EWP(t)/ETI LJP(c) AT/WH/JD/WW/JG/GD

ACC NR: AT6027149 (N) SOURCE CODE: UR/0000/65/000/000/0217/0220

AUTHOR: Polezhayev, Yu. M.; Ust'yantsev, V. M. 33

ORG: none BT1

TITLE: Phase transformations of zirconium dioxide separating during the thermal decomposition of NaHZrSiO_5 (effect of prior pressing)

SOURCE: AN SSSR. Otdeleniye obshchey i tekhnicheskoy khimii. Issledovaniya v oblasti khimii silikatov i okislov (Studies in the field of chemistry of silicates and oxides). Moscow, Izd-vo Nauka, 1965, 217-220

TOPIC TAGS: zirconium compound, phase transition, refractory

ABSTRACT: A study of the phase transformations of ZrO_2 present in a mixture with $\text{Na}_2\text{ZrSi}_2\text{O}_7$ was carried out with aid of high-temperature x-ray phase analysis on a UR5-50I diffractometer provided with a heating attachment. The heating rate was 8 deg/min. It was found that the low-temperature tetragonal ZrO_2 which separates during the thermal decomposition of NaHZrSiO_5 on heating changes directly into the high-temperature tetragonal form, and the latter changes into the monoclinic form on cooling. As the pressure of the prior pressing of the specimens rises, the temperature at which these transformations begin drops. It is concluded that polymorphic transformations of ZrO_2 in refractories can be prevented if it is mixed with a suitable material having a small coefficient of thermal expansion and good sintering properties, such as

Card 1/2

L 06293-67

ACC NR: AT6027149

NaHZrSiO₅. Orig. art. has: 2 figures and 1 table.

SUB CODE: 07/ SUBM DATE: 05Oct64/ ORIG REF: 003/ OTH REF: 004

Card

2/2

gd

PASKONOV, V.K.; POLESCHAYEV, Ya.V.

Nonstationary melting of a viscous material near the critical
point. Sbor. rab. VTI NGU 2:123-134 '63. (MIRA 17:7)

ACCESSION NR: AP4000398

S/0294/63/001/001/0033/0038

AUTHOR: Polezhayev, Yu. V.

TITLE: Utilization of experiments in nonsteady state mass transfer for determining the thermal conductivity and other thermophysical properties of vitreous heat-shielding materials

SOURCE: Teplofizika vy*sokikh temperatur, v. 1, no. 1, 1963, 33-38

TOPIC TAGS: heat shield, quartz glass, ablation, mass transfer, rocket, missile, stagnation point, high temperature, thermal conductivity, ablative heat shield, glass, cooling, ablative heat transfer, ballistic rocket, ballistic missile

ABSTRACT: It is shown that experiments in which the nonstationary ablation of quartz glass is investigated (for the purpose of developing heat shielding materials for rockets and missiles) contradict calculations in which "low temperature" values of the thermal conductivity are used. It is pointed out that in order to determine the thermophysical properties of viscous materials with the aid of experiments on nonstationary mass removal, it is necessary to mea-

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ACCESSION NR: AP4000398

sure the time variation of the leading critical point, the stationary values of the mass velocity of fusing, and the surface temperature. A method is proposed for determining the thermophysical properties of material with the aid of a "summary" nonstationary aerodynamic experiment, which is a modification of the experiment described by Adams et al. (JASS, 27, No. 7, 1960). It is shown that, unlike thermal conductivity, the variation of the specific heat does not influence the character of the nonstationary heating and the melting of the viscous materials, which is determined completely by the arithmetic mean of the specific heat. Inasmuch as the effect of an increase in the specific heat on the stationary value of the surface temperature offsets that of an increase in viscosity, these parameters can be determined from the known thermal conductivity and measured values of the stagnation temperature and the ablation rate. The accuracy with which the specific heat and the viscosity are determined depends essentially on the accuracy with which the surface temperature is measured. The efficiency of the method can

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ACCESSION NR: AP4000398

be improved by determining one of the parameters by a different independent method (for example, by measuring the specific heat calorimetrically). "In conclusion, the author is grateful to I. V. Ashratova, who performed all the calculations with the electronic computer." Orig. art. has: 5 figures and 7 formulas.

ASSOCIATION: None

SUBMITTED: 06May63

DATE ACQ: 13Dec63

ENCL: 00

SUB CODE: AS

NO REF SOV: 003

OTHER: 004

Cord 3/3

ACCESSION NR: AP4041411

S/0179/64/000/003/0003/0008

AUTHOR: Polezhayev, Yu. V. (Moscow)

TITLE: Theoretical analysis of non-stationary heating and disintegration of fiberglass reinforced plastic near the critical point

SOURCE: AN SSSR. Izv. Mekhanika i mashinostroyeniye, no. 3, 1964, 3-8

TOPIC TAGS: plastic, reinforced plastic, fiberglass plastic, plastic ablation pattern, nonstationary disintegration, thermophysical parameter effect, heat shielding material, plastic ablation rate, plastic charring process, surface temperature pattern, resin carbon value, fused film viscosity

ABSTRACT: A schematic model is presented for the nonstationary disintegration of a complex glassine material (i. e., fiberglass plus an organic binder), taking into consideration the reaction kinetics for the thermal decomposition of the binder (see Fig. 1 in the Enclosure). The author analyzes the interaction of fusion and charring processes and demonstrates the effects of individual thermophysical parameters on surface temperature and rate of ablation of the heat shielding material. A number of expressions are formulated

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ACCESSION NR: AP4041411

for the conservation of energy, the motion of fused film, the flow of gaseous charring products, the conservation of mass, as well as initial and boundary conditions. In view of their essential non-linearity, these expressions were computer-programmed for numerical calculations. It is concluded that the carbon value of the resin and viscosity of the fused film exert significant effects on the ablation process. Changes in thermophysical parameters produced greater effects on rate of ablation than on surface temperature. Nevertheless, the determining effects were exerted by the weight concentration and carbon value of the resin and the viscosity of the fused film. The peak effect of the process of thermal decomposition on specific heat of disintegration applies to high pressure of gas in the on-rushing flow or to minor thermal fluxes. The disintegration parameters for fiberglass reinforced plastic approach the values for homogeneous glass as the stagnation temperatures increase. Orig. art. has: 5 graphs and 20 equations.

ASSOCIATION: none

SUBMITTED: 15Jan63

DATA SER. 207.001

ENCL: 01

SUB CODE: MT

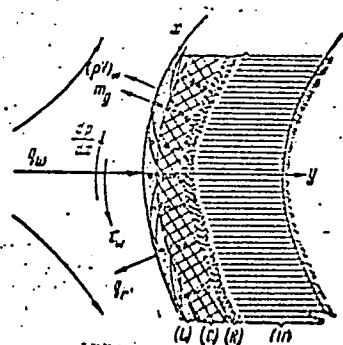
NO REF SOV: 004

OTHER: 005

Card 2/3

ACCESSION NR: AP4041411

ENCLOSURE: 01



$$\frac{P_L}{u} = \exp \frac{2.5 \Phi}{1 - 1.35 \Phi}$$

Figure 1. L - fused glass film, C - porous charred resin, R - decomposition zone,
 U - material at temperatures below phase conversion levels

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POLEZHAYEV, Yu.V. (Moskva)

Calculation of the unsteady melting of a viscous glassy material.

Izv.AN SSSR.Otd.tekh.nauk.Mekh.i mashinostr. no.3:9-15 My-Je
'63. (MIRA 16:8)

(Melting)

FOLEZHAYEV, YU.V. (Moscow)

"An analysis of non-stationary fracture of fibre glass reinforced plastics"

Report presented at the 2nd . All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.

ACCESSION NR: AP4024187

S/0294/64/000/001/0032/0038

AUTHOR: Polezhayev, Yu. V.

TITLE: Effect of non-equilibrium vaporization and dissociation of vapors on the mass erosion parameters of vitreous heat-insulating materials

SOURCE: Teplofizika vy*sokikh temperatur, no. 1, 1964, 32-38

TOPIC TAGS: silicon dioxide, quartz glass, vaporization temperature, nonequilibrium evaporation, nonequilibrium vapor dissociation, vitreous heat insulating material, erosion parameter, mass erosion parameter, vitreous material vaporization

ABSTRACT: The investigation was motivated by the disparity between the heat of vaporization of SiO_2 (9500 kJ/kg) and the amount of heat absorbed by a unit mass of quartz glass heated to the vaporization temperature (about 1/3 the heat of the silicon dioxide). If it is

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ACCESSION NR: AP4024187

assumed that vaporization is accompanied by an endothermal reaction of vapor dissociation, this study becomes of great importance to the calculation of the effective destruction of a vitreous material, and to the accuracy with which the rate of evaporation is determined. A system of 7 equations is set up for the rate of evaporation and for the various partial pressures of the components, and is solved by successive approximation on a high-speed electronic computer, using published thermodynamic data. The nonstationary erosion of quartz glass, with exact account of the evaporation kinetics, was compared with the approximate formulas and it is found that the exact calculation gives results 10--20% higher for the rate of fusion of the quartz glass and 1--2% higher for the surface temperature. With increasing pressure on the outside of the boundary layer, the temperature of the fused surface layer increases, and the difference between the approximate value of the partial vapor pressure and the exact one decreases, but the total per-unit heat of evaporation begins to deviate more from the exact values. The effect of varying

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ACCESSION NR: AP4024187

some of the parameters is discussed, as are the differences between the present calculations and earlier more approximate calculations by the author (Izv. AN SSSR. Otd. tekhn. n. Ser. "Mekhanika i mashinostroyeniye" no. 3, 1963). Orig. art. has: 4 figures and 23 formulas.

ASSOCIATION: None

SUBMITTED: 19Jul63

DATE ACQ: 16Apr64

ENCL: 00

SUB CODE: MA, PH

NR REF SOV: 004

OTHER: 001

Card 3/3

POLEZHAYEV, Yu.V. (Moskva)

Theoretical analysis of the nonstationary heating and degradation of glass reinforced plastics near the critical point. Izv. AN SSSR. Mekh. i mashinostr. no.3:3-8 My-Je '64. (MIRA 17:7)

L 24238-65 EPF(c)/EPR/EPA(s)-2/EWG(v)/EWP(j)/EWT(m)/FCS/EWP(b)/T/EWA(l)/EWP(p)
Pc-4/Pe-5/Pi-4/Fr-4/Pe-4 RM/WW
ACCESSION NR: AP5002607 S/0179/64/000/005/0157/0161

403

AUTHOR: Polezhayev, Yu. V. (Moscow)

TITLE: On the influence of the rate of thermal dissociation on the process of nonstationary fracture of fiber-glass reinforced plastics 15

SOURCE: AN SSSR. Izvestiya. Mekhanika i mashinostroyeniye, no. 5, 1964, 157-161

TOPIC TAGS: fiber glass, plastic, thermal decomposition, kinetics, viscosity

ABSTRACT: This study involves the interaction between the processes of thermal dissociation of the organic bonds and the fusion of the vitreous fillers during the fracture of fiber-glass reinforced plastics under the action of a high-temperature gas flow. The numerical solutions of the appropriate system of differential equations were used to study the influence of the kinetics of thermal dissociation on the basic parameters of fracture. A physical model similar to those of N. Beecher and R. Rosensweig (Ablation mechanisms in plastics with inorganic reinforcement. ARS Journal, 1961, 31, No. 6) and of S. M. Scala and L. M. Gilbert (Thermal degradation of a charforming plastic during hypersonic flight. ARS Journal, 1962, 32, No. 4) was developed for the theoretical study of this problem. The equation of motion of the film of the melt is given by $\frac{\partial^2 y}{\partial t^2} = \frac{1}{\mu} \left(\frac{\partial^2 v}{\partial x^2} + \frac{\partial^2 p_c}{\partial x^2} y \right)$, where v is the

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L 24238-65

ACCESSION NR: A-5002607

normal component of the velocity, x and y are the coordinates parallel to the tangent and the normal to the surface of fracture respectively, μ is the viscosity of the vitreous part of the melt, τ_w is the aerodynamic stress on the surface, and p_e is the pressure on the outside of the heated layer. The energy conservation equation is given by $(\rho c)_z \left[\frac{\partial T}{\partial t} + v \frac{\partial T}{\partial y} \right] = \frac{\partial}{\partial y} \left(\lambda_n \frac{\partial T}{\partial y} \right) - c_g m_g \frac{\partial T}{\partial y} - Q^0$, where ρ , c , and λ are

the density, specific heat, and thermal conductivity respectively. Here subscript Σ refers to the effective value in the porous medium, and subscript g refers to the volatile products resulting from the dissociation. The conservation of mass is given by $\frac{\partial h}{\partial t} + v \frac{\partial h}{\partial y} = B(\Gamma - h)^n \exp \frac{-\Delta E}{RT}$, $0 \leq h \leq \Gamma$

$h = 1 - \frac{\rho_R}{\rho_U}$, $\Gamma = 1 - t = 1 - \frac{\rho_G}{\rho_U}$, where ρ_R and ρ_U are the density in the reaction zone and the initial density respectively. These equations are solved numerically to get the coking gas concentration, the temperature of the melt, and the rate of reaction for various times. It was found that, corresponding to each coking temperature, there were two pairs of values of B and $\Delta E/k$. The effect of the kinetic constant is to set limits on the operating range of the coking temperature. Orig. art. has: 9 equations, 5 figures, and 1 table.

Card 2/3

L 24238-65

ACCESSION NR: AP5002607

ASSOCIATION: none

SUBMITTED: 14Feb64

NO REP SOV: 001

ENCL: 00

OTHER: 002

SUB CODE: MT, TD

Card 3/3

L 21986-66 EWP(e)/EWT(m)/T/EWR(j)/ETC(m)-6/EWA(1) IJP(c) IG/WW/RM

ACCESSION NR: AP5025988

UR/0294/65/003/005/0731/0739 97

536.422.1:546.284 13

AUTHOR: Polezhayev, Yu. V. (Moscow)

TITLE: The mutual effect of evaporation, combustion, and coking processes during disintegration in a high temperature stream of gas

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 5, 1965, 731-739

TOPIC TAGS: insulating material, thermal decomposition, resin, silicon dioxide, combustion, high temperature oxidation, *filler, coke, evaporation, heat effect, synthetic material*

ABSTRACT: The article considers the disintegration of a composite heat insulating material consisting of an organic binder (resin) and an inorganic filler. The article considers only processes taking place in the gaseous boundary layer directly adjacent to the surface of the body. In a first approximation, the products of the thermal decomposition of the organic binder can be considered to be solid porous carbon (coke) and gaseous carbon monoxide. Three gaseous components penetrate through the surface of the body into the boundary layer in the decomposition process: 1) volatile products of the thermal decomposition of the resin;

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ACCESSION NR: AP5025988

2) evaporating molecules of silicon dioxide; and, 3) combustion products of solid carbon (coke). The velocities of the three processes are mutually interconnected. Based on mathematical relationships established between the three processes, the article offers a sample calculation for the case of the decomposition of a glass plastic with a resin weight content of 30% and a coking number of 0.5, in a stream of high temperature air. In this case, the following components are present on the surface of the body: oxygen, atomic oxygen, nitrogen, silicon dioxide, silicon monoxide, and carbon monoxide. A special mathematical program is also given for calculation of the overall heat effect of the surface reactions and the molecular weight and partial pressure of the evaporation products. Orig. art. has: 13 formulas and 5 figures

ASSOCIATION: None

SUBMITTED: 04Sep64

NR REF SOV: 004

ENCL: 00

SUB CODE: 11, 20

OTHER: 000

Card 2/2

L 42207-66 EMP(e)/EMP(m)/EMP(v)/EMP(j)/EMP(t)/EMP... JD/WI/JI/RI/WH
ACC NR: AP6014067 SOURCE CODE: UR/0294/66/004/002/0218/0227

AUTHORS: Gorskiy, V. V. (Moscow); Polezhayev, Yu. V. (Moscow)

ORG: none

TITLE: Some characteristics connected with the flow of a film of melt

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 2, 1966, 218-227

TOPIC TAGS: melting, quartz, fluid viscosity, boundary value problem, specific heat, boundary layer, flow characteristic

ABSTRACT: The steady-state melting of a vitreous material in a high-temperature gas stream is analyzed. A simple approximate calculation method is developed for the vicinity of the critical point and for the lateral surface. The continuity equation and equation of motion of the viscous film of melt are:

$$\frac{\partial}{\partial x}(ru) + \frac{\partial}{\partial y}(rv) = 0,$$

$$\frac{\partial}{\partial y} \left(\mu \frac{\partial u}{\partial y} \right) = \frac{\partial p_e}{\partial x} + F_x = P_x(x),$$

where u and v are components of the velocity vector; μ is the coefficient of viscosity; p_e is the pressure at the external boundary of the boundary layer; and F_x are the body forces. The energy equation is:

Card 1/2

UDC: 533.601.16

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93
E

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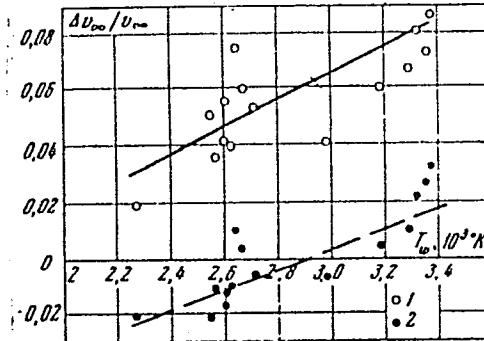
L 42207-66

ACC NR: AP6014067

$$\rho c \left[u \frac{\partial T}{\partial x} + v \frac{\partial T}{\partial y} \right] = \frac{\partial}{\partial y} \left(\lambda \frac{\partial T}{\partial y} \right),$$

where ρ is the density; c is the specific heat; and λ is the thermal conductivity coefficient. These equations, together with the boundary conditions, cover the stated problem. The error of the proposed approximate method, as compared with accurate numerical calculation, does not exceed a few per cent for the rate of carrying away of the mass or 2° in calculating the surface temperature (see Fig. 1).

Fig. 1. Relative deviations of approximate rate of fusion from corresponding accurate value as functions of surface temperature T_w and the parameter n . 1 - $n = (\alpha/T_w) \cdot (1 - T_\infty/T_w)$; 2 - $n = \alpha/T_w$.



Fusion of a blunt cone of quartz glass in a hypersonic gas stream showed rapid solidification of the film of melt striking the lateral surface of the cone from the side of spherical blunting. Orig. art. has: 21 formulas and 4 graphs.

SUB CODE: // 20 SUBM DATE: 06Feb65/ ORIG REF: 007/ OTH REF: 003

Card 2/2 af

POLEZHAYEV, Yu.V. (Moskva)

Use of experiments on unsteady mass transfer in determining the heat conductivity and other thermophysical properties of vitreous heatproof materials. Teplofiz. vys. temp. 1 no.1:33-38 J1-Ag '63. (MIRA 16:10)

POLEZHAYEV, Yu.V. (Moskva)

Effect of nonequilibrium vaporization and vapor dissociation on the mass transfer parameters for vitreous heat insulating materials. *Teplofiz. vys. temp.* 2 no.1:32-38 Ja-F '64. (MIRA 17:3)

POLEZHAYEV, Yu.V. (Moskva)

Effect of the rate of thermal degradation on the process of
nonstationary destruction of glass-reinforced plastics.

Izv. AN SSSR Mekh. i mashinostr. no.52:57-161 2-9 '64

(NWA 1811)

USSR/Medicine - Blood Coagulants May/June 53

"The Effect of Pectinic (Anhydropolygalacturonic Acid on the Coagulability of Blood," A. I. Polezhayeva, Div of Pharmacology, All-Union Sci-Res Chem-Pharmaceut Inst in S. Ordzhonikidze

Farmakol i Toksikol, Vol 16, No 3, pp 29-33

Pectinic acid (I) increases the coagulability of blood in normal animals (expts on rabbits). I accelerates coagulation of blood in exptl, syn-anthrin-produced hemophilia of rabbits. I has a low

270137

toxicity (expts on mice). When injected intramuscularly or subcutaneously, I does not exert an irritating effect on animal tissues (expts on rats).

270137

87. Investigation of the Pharmacology of Thiosemicarbazones

"Data on the Pharmacology of Thiosemicarbazones," by M. D. Mashkovskiy, A. I. Polezhayeva, and M. F. Runova, Khimiya i Meditsina. Tiosemikarbazony (Chemistry and Medicine. Thiosemicarbazones), Medgiz, Moscow, 1954, pp 98-105 (from Referativnyy Zhurnal--Biologiya, No 9, 10 May 57, Abstract No 39,149)

"The investigation of the toxicity of various thiocarbazones in mice and rats was carried out in order to establish their suitability as drugs for the control of tuberculosis. The maximally tolerated and lethal doses of the substances were determined. Cuthizone [p-isopropylbenzaldehyde thiosemicarbazone] and tibione were found to be the more toxic of the group of thiocarbazones. The maximally tolerated dose of cuthizone by mice was 7 milligrams; the absolute lethal dose for mice was 20 milligrams or 1.25 grams per kilogram body weight. Tibione was found to be approximately as toxic as cuthizone. Neither had an appreciable effect on the blood. No pathological changes in the organs were exhibited." (U)

Sum 1499

POLEZHAYEVA, A.I.

Comparative evaluation of dicoumarin and neocoumarin. Farm. i toks.
17 no.3:34-40 My-Je '54. (MLRA 7:8)

1. Otdel farmakologii (zav. prof. M.D.Mashkovskiy) Vsesoiuznogo
nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta
imeni S.Ordzhonikidze.

(COUMARIN, derivatives,

*bishydroxycoumarin & ethyl biscoumacetate, comparison)

POLEZHAYEVA, A.I.

The pharmacology of amicitazin. M. D. Mashkovskii, S. S. Liberman, and A. I. Polezhneva. *Farmakol. i. Toksikol* 18, No. 1, 14-22 (1955); *cl. C.A.* 48, 7706c (1954).
 Aminazin (I) (N-(3-dimethylaminopropyl)-2-chlorophenothiazine hydrochloride) shows an L.D.₅₀ for mice by subcutaneous administration (II) of 60 mg./kg. and intravenously 40 mg. Five to 20 min. after II clonic and tonic-clonic spasms occur. In doses of 5-10 mg./kg., I causes sedation and drowsiness, by lasting reaction on the extreme stimuli (sound, pain). No toxic effects were observed by repeated II and intravenously to rats of 5-10 mg./kg. for 10 days and to dogs 20 mg./kg. for 5 days. I decreases blood pressure of narcotized dogs and cats by 40-70 mm. The hypotensive effect of 5-10 mg./kg. lasts a short time. Parallel to decrease of blood pressure, vol. of kidney is decreased. Only 5 mg./kg. causes some decrease of pressure effect of heart. I inhibits muscle and nerve cholinergic systems in cats and intestine segment of rabbit. I counteracts acetylcholine, cytisine, and carbocholine. At 0.5 mg./kg. in narcotized cats and dogs I counteracts: adrenaline and noradrenaline (0.02 mg./kg.). In concn. 2×10^{-4} I decreases and in concn. 10^{-3} , stops action of histamine on intestine of guinea pig; 5-10 mg./kg. of I protected guinea pigs against 1 lethal dose of histamine. I administered to dogs (10-20 mg./kg.) 20 min. before II of metrazole and camphor, decreases spasms and mortality and prolongs life, but gives no protection against strychnine (III). I increases antispasmodic action of phenobarbital (IV) or Diphenin (V). I has together with IV and V some antispasmodic activity against III. I increases narcotic activity of hexenal and thiopental in rats, mice, and dogs and of nembutal in rabbits. I increases local anesthetic action of procaine. I lowers temp. of body in rats, rabbits, and dogs. Especially strong effect was observed in animals submitted to external cooling. I (5 mg./kg.) stops vomiting by dogs after 0.1 mg. apomorphine/kg.
 A. Seimensoy

POLEZHAYEVA, A.I.

POLEZHAYEVA, A.I.

Hydrocodone phosphate. Med.prom. 11 no.11:54-55 H '57. (MIRA 11:1)

1. Vseioyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy
institut imeni S.Ordzhonikidze.
(CODEINONE)

ПОЛЕЗНАЯЕВА, А. И.
POLEZHAYEVA, A.I.

Effects of aminazine on the cough reflex. Farm. i toks. 20 no.3:
55-57 My-Je '57. (MIRA 10:10)

1. Otdel farmakologii (zav. - prof. M.D.Mashkovskiy) Vsesoyuznogo
nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta
imeni S.Ordzhonikidze.

(CHLORPROMAZINE, effects,
on cough reflex (Rus))

(COUGH, experimental,
eff. of chlorpromazine on cough reflex (Rus))

POLEZHAYEVA, A.I.

Effect of esters of diphenylacetic acid and their derivatives on the cough reflex [with summary in English]. Farm. i toks. 20 no.6:56-60 N-D '57 (MIRA 11:6)

1. Otdel farmakologii (zav. - prof. M.D. Mashkovskiy) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S. Ordzhonikidze.

(COUGH, experimental

eff. of diphenylacetic acid complex esters & deriv. (Rus))

(ACETIC ACID, rel. cpds.

diphenylacetic acid complex esters, eff. on cough reflex (Rus))

(MUSCLE RELAXANTS, effects

same)

MASHKOVSKIY, M.D.; POLEZHAYEVA, A.I.

On the pharmacology of imizin (tofranil), a new neurotropic substance.
Zhur.nevr. i psikh. 59 no.8:964-971 '59. (MIRA 12:12)

1. Otdel farmakologii (zav. - prof. M.D. Mashkovskiy) Vsesoyuznogo
nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni
S. Ordzhonikidze, Moskva.

(TRANQUILIZING AGENTS pharmacol.)

POLEZHAYEVA, A.I.; GRUSHINA, A.A.

Pharmacology of dipin. *Farm.i toks.* 22 no.6:533-538 N-D '59.
(MIRA 13:5)
1. Otdel farmakologii (zav. - prof. M.D. Mashkovskiy) i labora-
toriya khimioterapii eksperimental'nykh opukholey (rukovoditel' -
kand.biolog.nauk V.A. Chernov) otdela khimioterapii (zav. - prof.
G.N. Pershin) Vsesoyuznogo nauchno-issledovatel'skogo khimiko-
farmatsevticheskogo instituta imeni S. Ordzhonikidze.
(PIPERAZINE)

POLEZHAYEVA, A.I.

Levallophan, an antagonist of morphine and its synthetic substitutes.
Med.prom. 15 no.5:45-47 My '61. (MIRA 14:6)

Y. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy
institut imeni S. Ordzhonikidze.
(MORPHINAN)

POLEZHAYEVA, A. I.: Master Biol Sci (diss) -- "On the pharmacology of preparations triggering the cough reflex". Moscow, 1959. 14 pp (Min Health USSR, All-Union Sci Res Chem-Pharmaceut Inst im S. Ordzhonikidze), 200 copies (KL, No 13, 1959, 103)

POLEZHAYEVA, A.I.

Pharmacology of 5-phenyl-2-imino-4-oxazolidineone (tradcn,
azoxodon). Farm. i toks. 25 no.5:515-519 S-0 '62

(MIRA 18:1)

1. Laboratoriya farmakologii (zav. - chlen-korrespondent
AMN SSSR prof. M.D. Mashkovskiy) Vsesoyuznogo nauchno-issle-
dovatel'skogo khimiko-farmatsevticheskogo instituta imeni
S. Ordzhonikidze.

LIBERMAN, S.S.; POLEZHAYEVA, A.I.

Analgesic and antitussive effect of some diphenylalkoxy acetates.
Farm. i toks. 26 no.6:656-661 N-D '63 (MIRA 18:2)

1. Laboratoriya farmakologii (zav. - chlen-korrespondent AMN
SSSR prof. M.D. Mashkovskiy) Vsesoyuznogo nauchno-issledova-
tel'skogo khimiko-farmatsueticheskogo instituta imeni
S. Ordzhonikidze.

KRAVCHENKO-BEREZHNOY, R.A.; POLEZHAYEVA, L.I.

Variety of microspectrophotometer with automatic spectral recording.
Izv. Kar. i Kol'.fil. AN SSSR no.2:66-72 '59. (MIRA 12:11)

1. Laboratoriya fizicheskikh metodov issledovaniya mineralov Kol'skogo
filiala AN SSSR.

(Microspectrophotometry)

DENISOV, A.P.; DUDKIN, O.B.; YELINA, N.A.; KRAVCHENKO-BEREZHNOY, R.A.;
POLEZHAYEVA, L.I.

Relationship between the physical properties of apatite and the admixture of rare earths and strontium. Geokhimia no.8:666-675 '61.
(MIRA 17:3)

1. Kol'skiy filial imeni Kirova AN SSSR.

KRAVCHENKO-BEREZHNOY, R.A.; POLEZHAYEVA, L.I.

Background factors in X-ray spectral determination of rare-earth elements. *Zav.lab.* 31 no.4:436-440 '65.

(MIRA 18:12)

1. Geologicheskii institut Kol'skogo filiala im. S.M.Kirova
AN SSSR.

POLEZHAYEVA, L.V.(Moskva)

Work of the public in assisting day nurseries. Med. sestra no.11:16-18
N '55. (MLRA 9:3)

(DAY NURSERIES)

SI(m)/EWP(b) JD/JG
NR: AP5009911

AUTHORS: Kravchenko-Berezhnoy, R. A.; Polezhayeva, L. I.

UR/0032/65/031/004/0436/0440
543.422.8

29
28

TITLE: Taking into consideration the noise during x-ray spectrographic determination of rare earth elements

SOURCE: Zavodskaya laboratoriya, v. 31, no. 4, 1965, 436-440

TOPIC TAGS: x ray spectroscopy, spectrum line, rare earth, noise analysis / DRUS 2 spectrometer, SI 3p beryllium window, PFP 09M2 potentiometer

ABSTRACT: A method is outlined for measuring the background noise in the x-ray spectroscopic analyses of rare earth materials. (Background noise means the spectral intensity distribution of radiation. In order to accomplish this, the active regions of the given rare earth spectra were investigated using the DRUS-2 spectrometer (2900-5400X) with a quartz crystal were investigated with a 500-mm radius of curvature. For pure rare earth oxides the noise intensity ratio between 5400X and 2900X is 1:3. Very weak noise lines were also observed with pure rare earth specimens. The results also showed that the noise level was independent of the atomic number of the rare

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194-65

SESSION NR: AP5009911

earth element. A table of correction factors K_{ij} for 14 rare earth elements was prepared to account for the superposition of spectral lines of several other rare earth materials on the analytic lines of the particular element under study. A second table was also prepared for the complete rare earth group where the noise intensity was listed under three headings: in the peak region of the analytic lines, noise below the lines, and the noise measured next to the lines. These tables show $H_{\alpha 1}$ superposition on $GdL \beta_1$, $SrL \delta_1$ and on $TuL \alpha_1$ to be quite significant along with several other rare earth elements. Orig. art. has: 2 tables.

ASSOCIATION: Geological Institut, Kol'skiy filial im. S. M. Kirova Akademii nauk SSSR (Geological Institute, Kol'skiy branch, Academy of Sciences SSSR)

SUB CODE: MM,OP

ENCL: 00

OTHER: 000

SUBMITTED: 00

NO REF SOV: 003

llc

Polezhayeva N.A.

VINOGRADOVA, V. S., POLEZHAYEVA, N. A., and ARBUZOV, B. A.

...the authors ...
...alpha-halogenation reactions
...in these products using conventional
...and 2,4-dinitrophenylhydrazine
...2,800 cm⁻¹ and the negative carbonyl
...acetone - sodium diethylphosphite

...the carbonyl group ...
...conventional reagents such as acetic
...Both the lack of ...
...could be explained if the ...
...are described the ...
...the ...

ARBUZOV, B.A.; VINOGRADOVA, V.S.; POLEZHAYEVA, N.A.; SHAMSUTDINOVA, A.K.

Esters of β -ketophosphinic acids. Report No.12: Structure of the products of interaction of some aromatic α -halo ketones with triethyl phosphite and sodium diethyl phosphite. Izv.AN SSSR. Ser.khim. no.8:1380-1389 Ag '63. (MIRA 16:9)

1. Nauchno-issledovatel'skiy khimicheskiy institut im. A.M.Butlerova Kazanskogo gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina. (Ketones) (Phosphorous acid)

POLEZHAYEVA, N. A.

AUTHORS: Arbuzov, B. A., Member, Academy of Sciences, USSR, Vinogradova, V. S., Polezhayeva, N. A. SOV/20-121-4-19/54

TITLE: On the Structure of the Products of the Interaction Between Some α -Haloid Ketones of the Carbocyclic Series and Triethyl Phosphite and Sodium Diethyl Phosphite (O stroynii produktov vzaimodeystviya nekotorykh α -galoidoketonov karbo-tsiklicheskego ryada s trietilfosfitom i dietilfosforistym natriyem)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 4, pp. 641 - 643 (USSR)

ABSTRACT: In the course of the past years the authors found that the reaction of regrouping according to Arbuzov of triethyl phosphite with α halide ketones proceeds in a very complicated way in the production of β -ketophosphinic acid ethers. Apart from the mentioned ethers mixed phosphoric ethers are formed (Ref 2). Thus the investigation of the first mentioned ethers was rendered more difficult and some deviations of their chemical and physical properties were explained (Ref 3). It proved true that the reaction according

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On the Structure of the Products of the Interaction SOV/20-121-4-19/54
Between Some α -Haloid Ketones of the Carbocyclic Series and Triethyl
Phosphite and Sodium Diethyl Phosphite

to Mikhaelis-Bekker in the case of the interaction between sodium diethyl phosphite and α -haloid ketones proceeds also in a complicated way and that it also leads to the formation of epoxy phosphinic acid ethers apart from the expected ethers (Ref 4). In this paper the structure mentioned in the title is shown. The ketones are: α -chloro-cyclohexanone, α -chloro- α -methyl cyclohexanone, α -chloro-cyclopentanone and ethers of bromine pyruvic acid. The investigation of the product of interaction between α -chloro-cyclohexanone and sodium diethyl phosphite revealed (in contrast to Ref 6) that it is neither an unsaturated ether of phosphoric acid nor a phosphonium cyclohexanone ether. Its spectrum of combination light dispersion does not contain the frequency of the carbonyl group. These and other data show that this product has the structure of a diethyl ether of epoxy cyclohexane phosphinic acid. This assumption was proved by the synthesis carried out by the authors (Ref 4). Thus it was proved that the last mentioned ether was concerned and no α -phosphonium cyclohexanone. Somehow surprising was the

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Between Some α -Haloid Ketones of the Carbocyclic Series and Triethyl
Phosphite and Sodium Diethyl Phosphite

similarity between the constants and the spectra of the combination light dispersion of the products of the two phosphites mentioned in the title acting upon α -chloro- α -methylcyclohexanone. The mentioned findings show the complicated process taken by this reaction. It leads to the formation of unsaturated phosphoric acid ethers, ethers of epoxy phosphinic acids, in some cases, however, even of β -ketophosphinic ethers (Ref 4); this depends on the nature of the haloid, the conditions of reaction and the substituting alkyl radicals. There are 5 references, 5 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy khimicheskiy institut im.A.M. Butlerova pri Kazanskom gosudarstvennom universitete im. V.I.Ul'yanova-Lenina (Scientific Chemical Research Institute imeni A.M.Butlerov, State University imeni V.I.Ul'yanov-Lenin, Kazan')

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5(3)

SOV/62-59-1-7/38

AUTHORS:

Arbuzov, B. A., Vinogradova, V. S., Polezhayeva, N. A.

TITLE:

Esters of β -Ketophosphinic Acids (Efiry β -ketofosfinovykh kislot) Communication III. On the Structure of Products Resulting From Interaction Between Certain Halogen Ketones With Triethyl Phosphite and Sodium Diethyl Phosphite (Soobshcheniye 3. O stroenii produktov vzaimodeystviya nekotorykh galoidoketonov s trietilfosfitom i dietilfosforistym natriyem)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 1, pp 41 - 49 (USSR)

ABSTRACT:

In the preceding papers (Refs 1-3) the authors found that the esters of β -ketophosphinic acid synthesized in various ways differ considerably as to their physical constants as well as to their behavior towards dinitro-phenyl hydrazine. The differences are particularly evident in ultra-violet spectra. The causes for these differences, however, have not yet been made clear. In order to obtain preparations as pure as possible the authors of this paper distilled preparations earlier obtained as well as new ones in rectification columns with an efficiency of 17 theoretical plates.

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On the Structure of Products Resulting From Interaction Between Certain
Halogen Ketones With Triethyl Phosphite and Sodium Diethyl Phosphit

The constants of the pure preparations are given in table 1 .
Ultraviolet absorption spectra were recorded by means of
the spectrometer SF-4 in methyl alcohol solution. Raman
spectra were recorded by means of the three-prism spectro-
graph ISP-51. The investigations carried out have shown
the following data: on the effect of triethyl phosphite
on chloro and bromo acetone (beside isopropyl ester of the
diethyl phosphoric acid) as well as on bromoethyl ketone
esters of corresponding β -ketophosphinic acids are formed.
Products of potassium derivatives of phosphonium acetone
and methyl-phosphonium acetone, which were synthesized by
methylation with methyl iodide, possess the structure of
esters of the β -ketophosphinic acid. On the effect of
sodium diethyl phosphite on chloro and bromo acetone as
well as on bromo- α -bromo-ethyl ketone esters of the epoxy
phosphinic acid are formed. Their structure was confirmed
by a synthesis carried out in another way and by Raman
spectra. Contrary to Kreutzkamp's and Kayser's data, not
the unsaturated isopropyl ester of phosphoric acid is

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Esters of β -Ketophosphinic Acids. Communication III. SOV/62-59-1-7/38
On the Structure of Products Resulting From Interaction Between Certain
Halogen Ketones With Triethyl Phosphite and Sodium Diethyl Phosphite

produced on the effect of sodium diethyl phosphite on chloro and bromo acetone, but the ethyl ester of epoxy-propyl phosphinic acid as well as phosphonium acetone. The product synthesized by the interaction of methyl- γ -chloro-propyl ketone with sodium dialkyl phosphite possesses the structure of the ester of 1-methyl-tetrahydrofuran phosphinic-1-acid. There are 1 figure, 2 tables, and 13 references, 8 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut im. A. M. Butlerova
Kazanskogo gosudarstvennogo universiteta im. V. I. Ul'yanova-Lenina (Scientific Research Institute imeni A. M. Butlerov of the Kazan' State University imeni V. I. Ul'yancv-Lenin)

SUBMITTED: May 11, 1957

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5(3)

AUTHORS: Arbuzov, B. A., Academician, SOV/20-128-1-21/58
Vinogradova, V. S., Polezhayeva, N. A.

TITLE: Diethyl Ester of Cyclohexanone-2-Phosphinic Acid

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1, pp 81-84
(USSR)

ABSTRACT: In the present paper the authors synthesized the diethyl ester of cyclohexanone-2-phosphinic acid on the basis of α, α' -dibromo cyclohexanone. By reaction of triethyl phosphite upon α, α' -dibromo cyclohexanone the diethyl phosphinic ester of the enol form of cyclohexanone-2-phosphinic ester (III) was obtained with the following constants: boiling point $172.5 - 173^{\circ}/2.5$ mm; d_4^{20} 1.1885; n_D^{20} 1.4652. This compound was converted into the diethyl ester of cyclohexanone-2-phosphinic acid by means of ethyl alcohol. The molecular refraction of cyclohexanone phosphinic ester is placed between the values which were computed for the ketone- (IV) (57.06) and for the enol form (V) (58.11). Figure 1 shows its ultraviolet absorption spectra in aqueous solution (curve 1) in methyl alcohol solution (curve 2) and in isoctane (curve 3). Figure 2

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gives the ultraviolet absorption spectrum in methyl alcohol solution with content of sodium methylate. With the example of the diethyl ester of cyclohexanone-2-phosphinic acid it was demonstrated that a ketoenol tautomerism may occur in phosphinic esters containing a group of ketones in β -position within the hydrocarbon radical present in phosphorus. There are 2 figures and 8 references, 3 of which are Soviet.

ASSOCIATION:

Nauchno-issledovatel'skiy institut im. A. M. Butlerova
Kazanskogo gosudarstvennogo universiteta im. V. I. Ul'yanova-
Lenina (Scientific Research Institute imeni A. M. Butlerov
of the Kazan State University imeni V. I. Ul'yanov-Lenin)

SUBMITTED:

June 5, 1959

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ARBUZOV, B.A.; VINOGRADOVA, V.S.; POLEZHAYEVA, N.A.

Esters of β -ketophosphonic acids. Report No.5: Structure of the products of the interaction between certain α -halo ketones of the carbocyclic series, triethyl phosphite, and sodium diethyl phosphite. Izv.AN SSSR Otd.khim.nauk no.5:832-841
My '60. (MIRA 13:6)

1. Khimicheskiy institut imeni A.M. Butlerova Kazanskogo gosudarstvennogo universiteta.
(Ketones) (Phosphorous acid)