SHTERN, L.S., akad., otv.red.; RAPOPORT, S.Ya., doktor med.nauk, red.; ROSIN, Ya.A., doktor mod.nauk, zam. otv. red.; UTEVSKAYA, L.B., kand. biol.nauk, red.; TRINCHER, K.S., red. izd-va; VOLKOVA, V.V., tekhn.red.

[Histohematic barriers; transactions of the conference] Gisto-gematicheskie bar'ery; trudy soveshchaniia. Moskva, Izd-vo Akad.nauk SSSR, 1961. 406 p. (MIRA 14:12)

1. Konferentsiya po voprosam neposredstvennogo vozdeystviya na nervnyye tsentry. 3d, Moscow, 1960. 2. Laboratoriya fiziologii pri Institute biologicheskoy fiziki AN SSSR (for Utevskaya).
(CAPILLIARIES—PERMEABILITY)

UTEVSKAYA, L.B.

Changes in the histamine content of leucocyte suspensions under the action of X rays. Trudy Inst.morf.zhiv. no.36:124-129 '61. (MIRA 14:4)

(Histamine) (Leucocytes) (X rays--Physiological effect)

ACCESSION NR: AT3011776 S/2949/63/000/000/0052/0059

AUTHOR: Goncharenko, Ye. N.; Utevskaya, L. B.

TITLE: Change in hematoencephalitic barrier permeability for free amino acids under action of ionizing radiation

SOURCE: Gisto-gematicheskiye bar'yery* i ioniziruyushchaya radiatsiya. Sbornik rabot laboratorii fiziologii. Moscow, AN SSSR, 1963, 52-59

TOPIC TAGS: ionizing radiation, amino acids, hematoencephalitic barrier permeability, nitrogen content, cerebrospinal fluid, blood plasma

ABSTRACT: Free amino acids were investigated in the cerebrospinal fluid, blood, and brain tissue of rabbits irradiated with single 700 r doses (GUBE-800 unit) to determine hematoencephalitic barrier permeability changes. Nitrogen content of free amino acids in the cerebrospinal fluid, in the blood taken from an ear vein and a hip artery, and in the brain tissue taken from the cortex after decapitation was determined by Cocking and Jemin's method. In several

Card 1/2

ACCESSION NR: AT3011776

experiments autolytic processes in the cerebrospinal fluid, blood, and brain tissue were also investigated and nitrogen accumulation was measured after 24 hr incubation of samples at 37°. Findings show that in the early periods of radiation damage nitrogen increases in the cerebrospinal fluid, decreases in the blood, and remains within its normal level in the brain tissue. Also, during this period the autolytic capacity of the brain is blocked. Thus, the increased nitrogen level of the cerebrospinal fluid can be directly attributed to increased permeability of the hematoencephalitic barrier for free amino acids. At later periods the nitrogen level of the blood decreases, but remains relatively high because of amino acids entering the bloodstream from various organs. At the same time the nitrogen level of the cerebrospinal fluid decreases to almost normal. Apparently the hematoencephalitic barrier permeability for amino acids decreases in later periods of radiation damage. Orig. art. has: 2 figures, 5 tables.

ASSOCIATION: Laboratoriya fiziologii. Moscow. AN SSSR
(Physiology Laboratory, AN SSSR)

Card 2/2

ACCESSION NR: AT3011787 S/2949/63/000/000/0209/0215

AUTHOR: Utevskaya, L. B.

TITLE: Method of finding fluorescent substances in organism tissues and biological fluids and its application to the study of histohematic barrier permeability

SOURCE: Gisto-gematicheskiye bar'yery* i ioniziruyushchaya radiatsiya. Sbornik rabot laboratorii fiziologii. Moscow, AN SSSR, 1963, 209-215

TOPIC TAGS: hematoencephalitic barrier permeability, hematoophthalmic barrier permeability, histohematic barrier permeability, fluorometric method, special fluorometer apparatus, fluorescein, biological fluids, ionizing irradiation

ABSTRACT: To determine permeability of hematoencephalitic and hematoophthalmic barriers rabbits were injected intravenously with a 5% fluorescein solution 1 hr before gamma irradiation (Co 60) with a 800 r dose. A permeability index was determined by the ratio of fluorescein content in the cerebrospinal fluid or aqueous humor and fluorescein content in the blood. To determine histohematic

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ACCESSION NR: AT3011787

barrier permeability rats were injected with a fluorescein solution 1 hr before X-irradiation with a 800 r dose (RUP-1 unit, 51.7 r/min). 1 hr, 48 hrs, and 96 hrs after irradiation animals were decapitated and blood samples were taken. Following exsanguination, brain, liver, kidneys, and spleen were removed for extract preparation. A permeability index was determined by the ratio of fluorescein content in the blood. Fluorescein content was measured by a special fluorometer with a FEU-17 photomultiplier tube, M-91 galvanometer, and 400-600 v stabilizer. It was found that fluorescein and other dyes in concentrations of 10^{-7} to 10^{-8} g/ml in biological fluids can be measured by this highly sensitive fluorometric method. Hematoencephalitic barrier permeability for fluorescein increases within the first hour after irradiation and maintains a high level after 48 and 96 hrs. Hematoophthalmic barrier permeability for fluorescein decreases slightly at later periods, but no significant shifts are observed. Histohematic barrier permeability for fluorescein increases very slightly in the kidneys, liver, lungs, and spleen in the first hr after irradiation. Change in histohematic barrier permeability is more clearly expressed 24 hrs after irradiation with significant decrease in the blood and kidneys and slight increase for other organs. Another series of experiments shows that fluorescein content

ACCESSION NR: AT3011787

in the tissues is highest when it is practically absent in the blood. The author expresses "profound gratitude to Prof. B. N. Tarusov, Head of the Biophysics Dept. at MGU, for work space and to Yu. A. Vladimirov and F. F. Litvin, Senior Scientific Associates of the Dept., for construction of the special apparatus and assistance in carrying out the work." Orig. art. has: 1 figure, 3 tables.

ASSOCIATION: Laboratoriya fiziologii. Moscow. AN SSSR (Physiology Laboratory. AN SSSR)

SUBMITTED: 00 DATE ACQ: 07Oct63 ENCL: 00

SUB CODE: AM NO REF SOV: 023 OTHER: 001

Card 3/3

VLADIMIROV, Yu.A.; LITVIN, F.F.; UTEVSKAYA, L.B.

Use of the fluorometric method in studying the permeability of histohematic barriers. Dokl. AN SSSR 148 no.1:227-230 Ja '63. (MIRA 16:2)

1. Institut biologicheskoy fiziki AN SSSR i Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. Predstavleno akademikom L.S. Shtern.

(FLUORIMETRY) (CAPILLARIES--PERMEABILITY)

PIUNOVSKIY, I.I., kand. tekhn. nauk; ZHIVOTKO, B.I., kand. tekhn. nauk; RUKTESHEL', S.V., kand. tekhn. nauk; SHTOMPEL', B.N., kand. tekhn. nauk; BUTVILOVSKIY, F.A., inzh.; KORZHENEVSKAYA, R.A., inzh.; LOGVINOVICH, I.P., inzh.; UTEVSKAYA, L.I., kand. tekhn. nauk; RUNTSO, A.A., kand. tekhn. nauk; NAGORSKIY, I.S., kand. tekhn. nauk; TERPILOVSKIY, K.F., kand. tekhn. nauk; LOSEV, V.I., kand. tekhn. nauk; YAROSHEVICH, A.A., kand. tekhn. nauk; KATSYGIN, V.V., kand. tekhn.nauk, red.; BOROVNIKOVA, R., red.

[Problems of the technology of mechanized agricultural production] Voprosy tekhnologii mekhanizirovannogo sel'skokhoziaistvennogo proizvodstva. Minsk, Izd-vo "Urozhai." Pt.2. 1964. 336 p. (MIRA 17:7)

1. TSentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva nechernozemnoy zony SSSR.

UTEVSKAYA, M.I.

Remote results in conservative and surgical therapy of hemorrhages from gastric and duodenal ulcers. Khirurgiia, Moskva No.12:22-28 Dec 51. (CLML 21:4)

1. Assistant. 2. Of the Hospital Surgical Clinic (Director--Honored Worker in Science Prof. V.S. Levit), Second Moscow Medical Institute imeni I.V. Stalin.

UTEVSKAYA, S.L., prof. (Khar'kov); DOBROVOL'SKAYA, Ye.I., assistent (Khar'kov); LICHMAN, G.A., vrach (Khar'kov)

Microflora of the gingival pouches in paradentosis. Probl. stom. 4:103-109 '58. (MIRA 13:6)
(GUMS--BACTERIOLOGY) (GUMS--DISEASES)

UTEVSKAYA, S.L.; DOBROVOL'SKAYA, Ye.I.; LICHMAN, G.A.

Study of the microflora in pyorrhea alveolaris. Probl. stom. 5: 41-45 '60. (MIRA 15:2)

1. Khar'kovskiy meditsinskiy stomatologicheskiy institut i TSentral'nyy stomatologicheskaya poliklinika.
(GUMS--DISEASES) (GUMS--MICROBIOLOGY)

UTKVSKAYA, Yevgeniya L'vovna [Utievs'ka, IE.L.]; DENISENKO, L.P., red.; MATUSEVICH, D.N., tekhn. red.

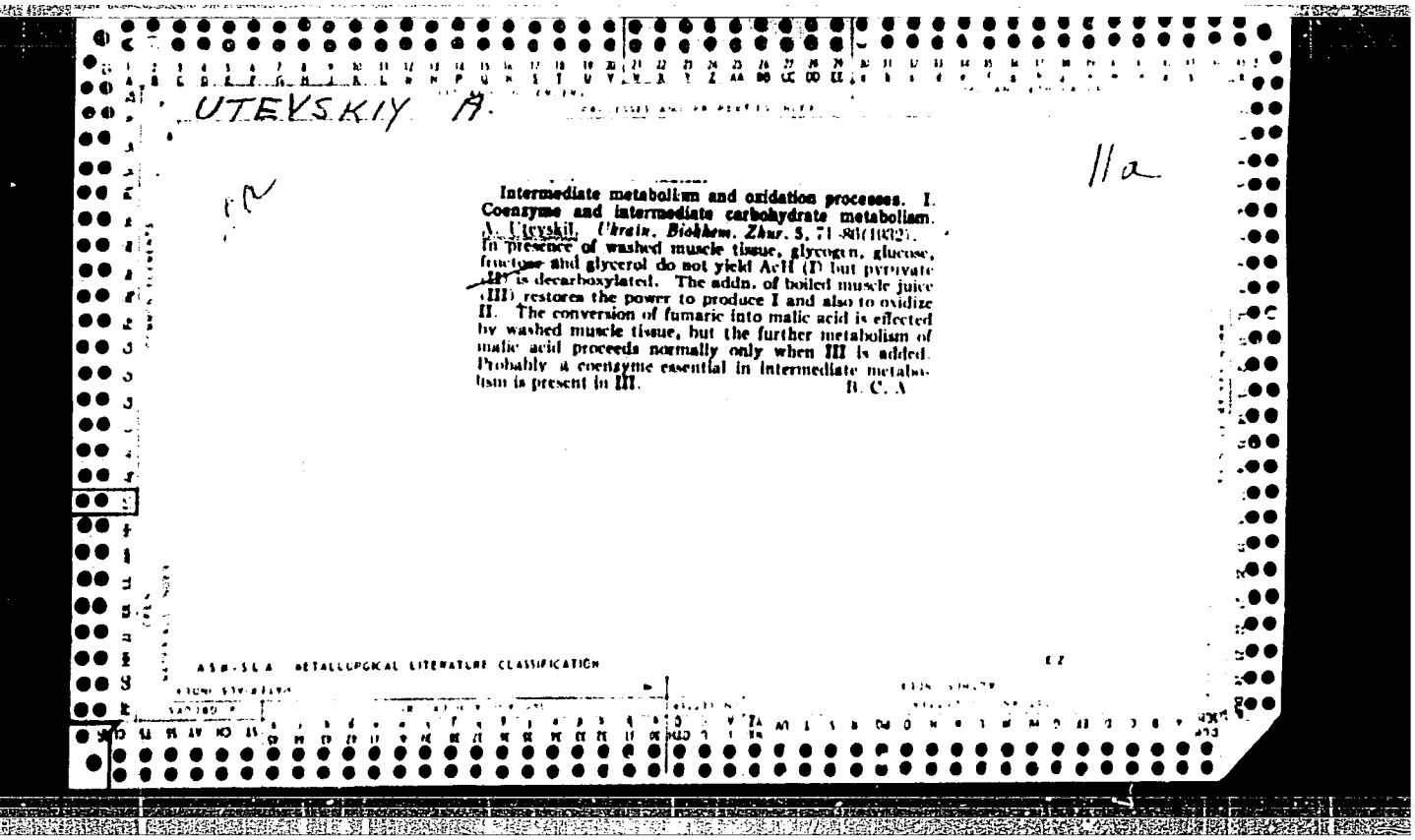
[Laboratory practice in general chemistry] Praktykum z zahal'noi khimii. Vyd. 2., vypr. i dop. Kyiv, Derzh. vyd-vo tekhn. lit-ry URSR, 1958. 350 p. (MIRA 11:8)
(Chemistry--Laboratory manuals)

PROCESSES AND PROPERTIES INDEX

11a

Formation of acetaldehyde from lactic acid. A. Ljev[illegible]ski. *Ber. Ukrain. Biokhem. Inst.* 4, 80-97(1930). Addn. of 0.05 *N* Na lactate to the minced pectoralis of the pigeon did not result in an increased formation of AcH, except in the presence of [illegible] or F. B. C. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



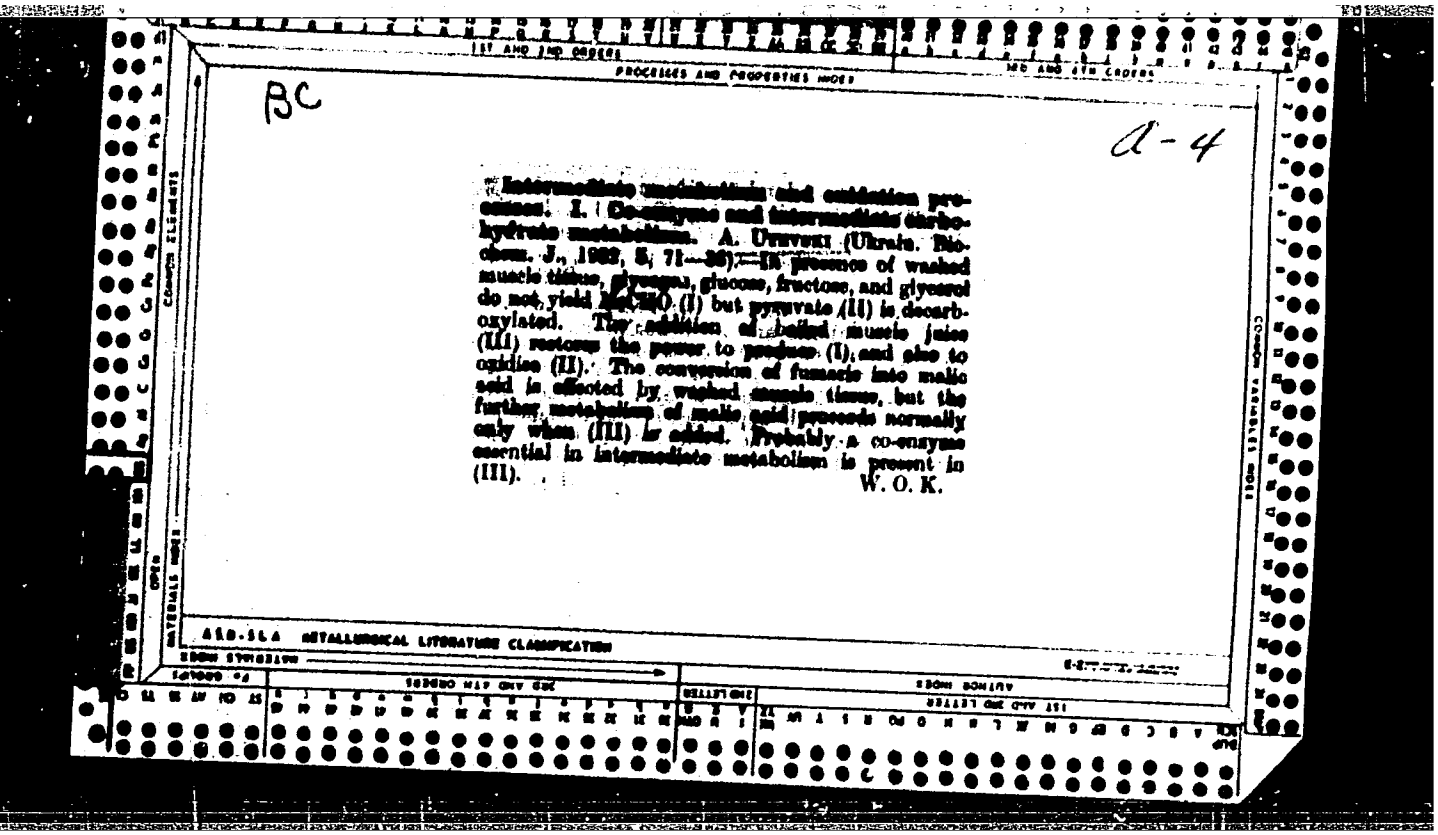
UTEVSKIY A.

IV

IIa

Intermediate metabolism and oxidation processes. I. Coenzyme and intermediate carbohydrate metabolism. A. Utevskii. *Ukrain. Biokhem. Zhur.* 5, 71-86(1932). In presence of washed muscle tissue, glycogen, glucose, fructose and glycerol do not yield AcH (I) but pyruvate (II) is decarboxylated. The addn. of boiled muscle juice (III) restores the power to produce I and also to oxidize II. The conversion of fumaric into malic acid is effected by washed muscle tissue, but the further metabolism of malic acid proceeds normally only when III is added. Probably a coenzyme essential in intermediate metabolism is present in III. B. C. A

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

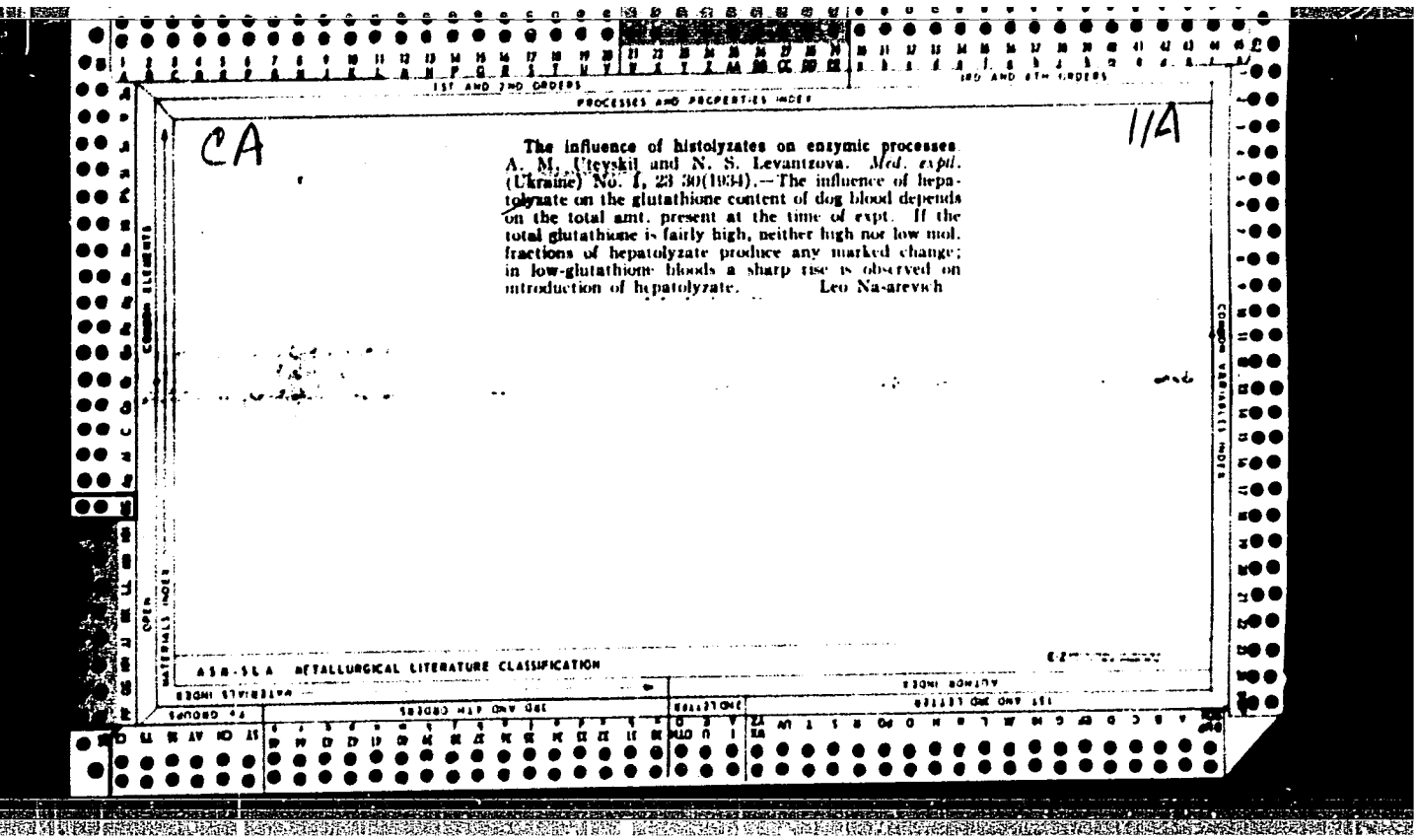


BC

A-4

Intermediate metabolism and oxidation processes. I. Co-enzyme and intermediate carbohydrate metabolism. A. Ursvezi (Ukrain. Biochem. J., 1932, 5, 71—86).—In presence of washed muscle tissue, glycogen, glucose, fructose, and glycerol do not yield H_2PO_4 (I) but pyruvate (II) is decarboxylated. The addition of boiled muscle juice (III) restores the power to produce (I), and also to oxidise (II). The conversion of fumaric into malic acid is effected by washed muscle tissue, but the further metabolism of malic acid proceeds normally only when (III) is added. Probably a co-enzyme essential in intermediate metabolism is present in (III).

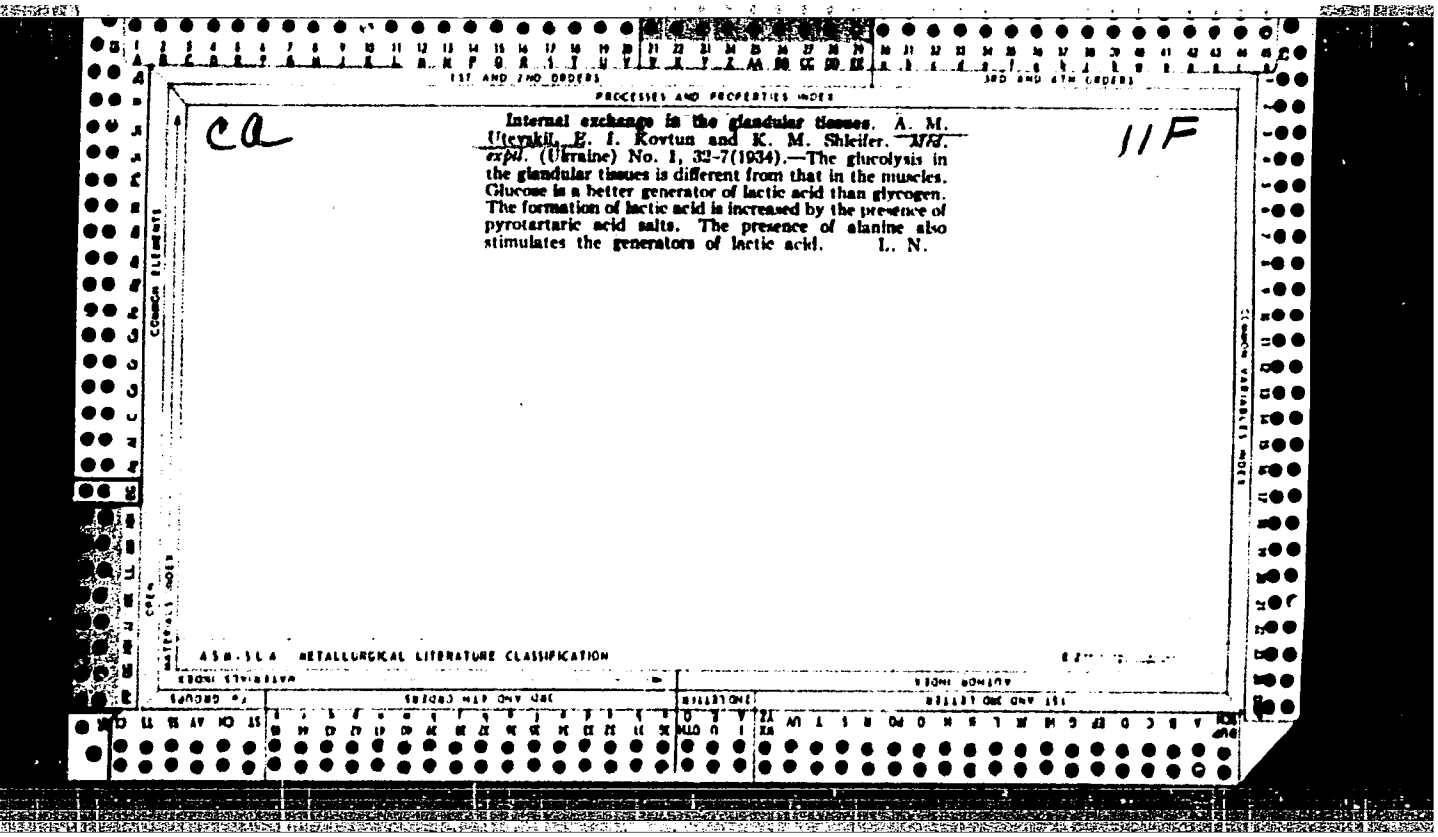
W. O. K.



CA

11A

The influence of histolyzates on enzymic processes. A. M. Cteyskil and N. S. Levantzova. *Med. expl.* (Ukraine) No. 1, 23-30(1934).—The influence of hepatolyzate on the glutathione content of dog blood depends on the total amt. present at the time of expt. If the total glutathione is fairly high, neither high nor low mol. fractions of hepatolyzate produce any marked change; in low-glutathione bloods a sharp rise is observed on introduction of hepatolyzate. Leo Na-arevsh



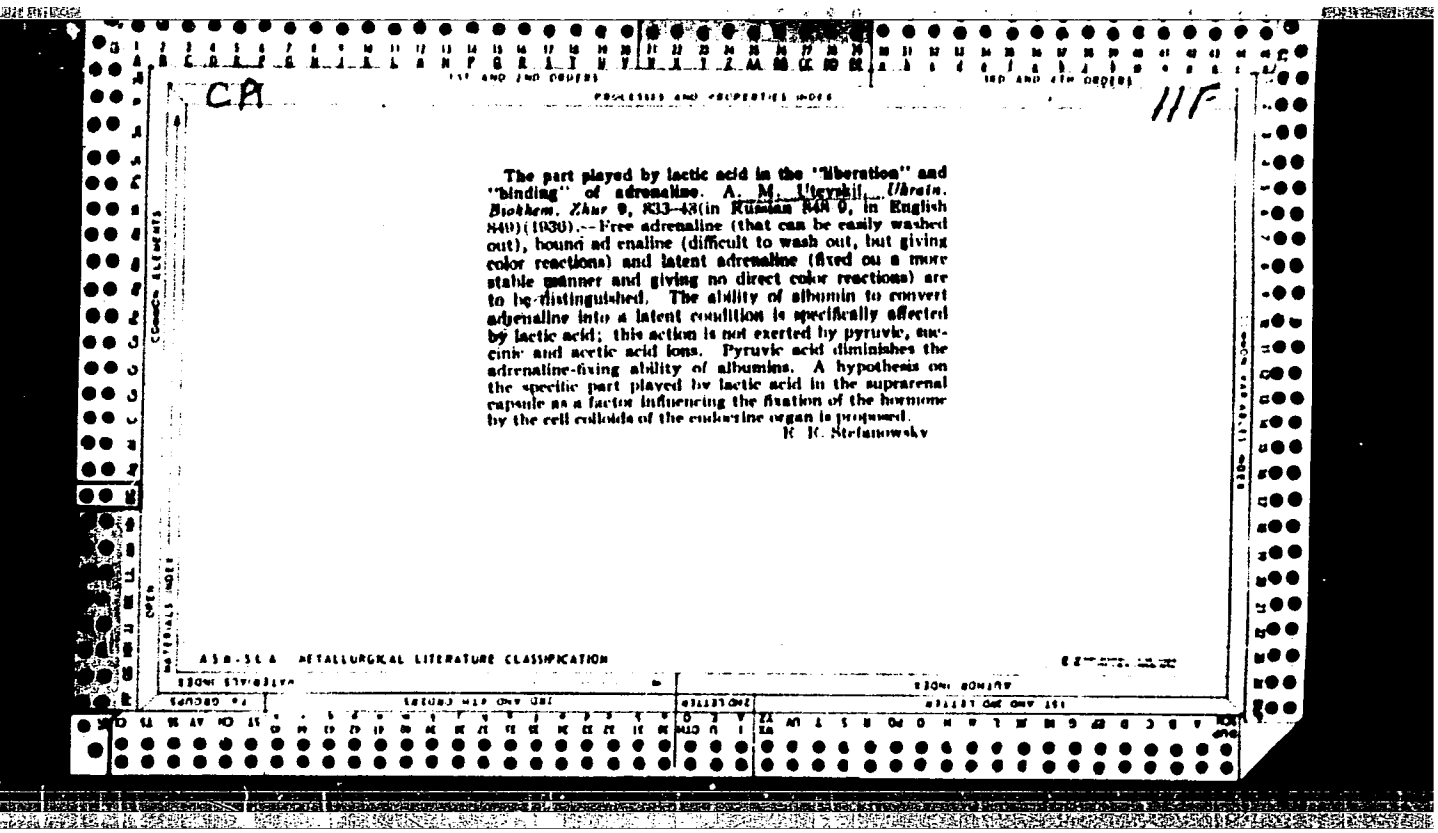
PROCESSES AND PROPERTIES INDEX

ca

Internal exchange in the glandular tissues. A. M. Utevskii, E. I. Kovtun and K. M. Shkeifer. *Mikrobiol. zhurnal* (Ukraine) No. 1, 32-7(1934).—The glucolysis in the glandular tissues is different from that in the muscles. Glucose is a better generator of lactic acid than glycogen. The formation of lactic acid is increased by the presence of pyrotartaric acid salts. The presence of alanine also stimulates the generators of lactic acid. L. N.

11F

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

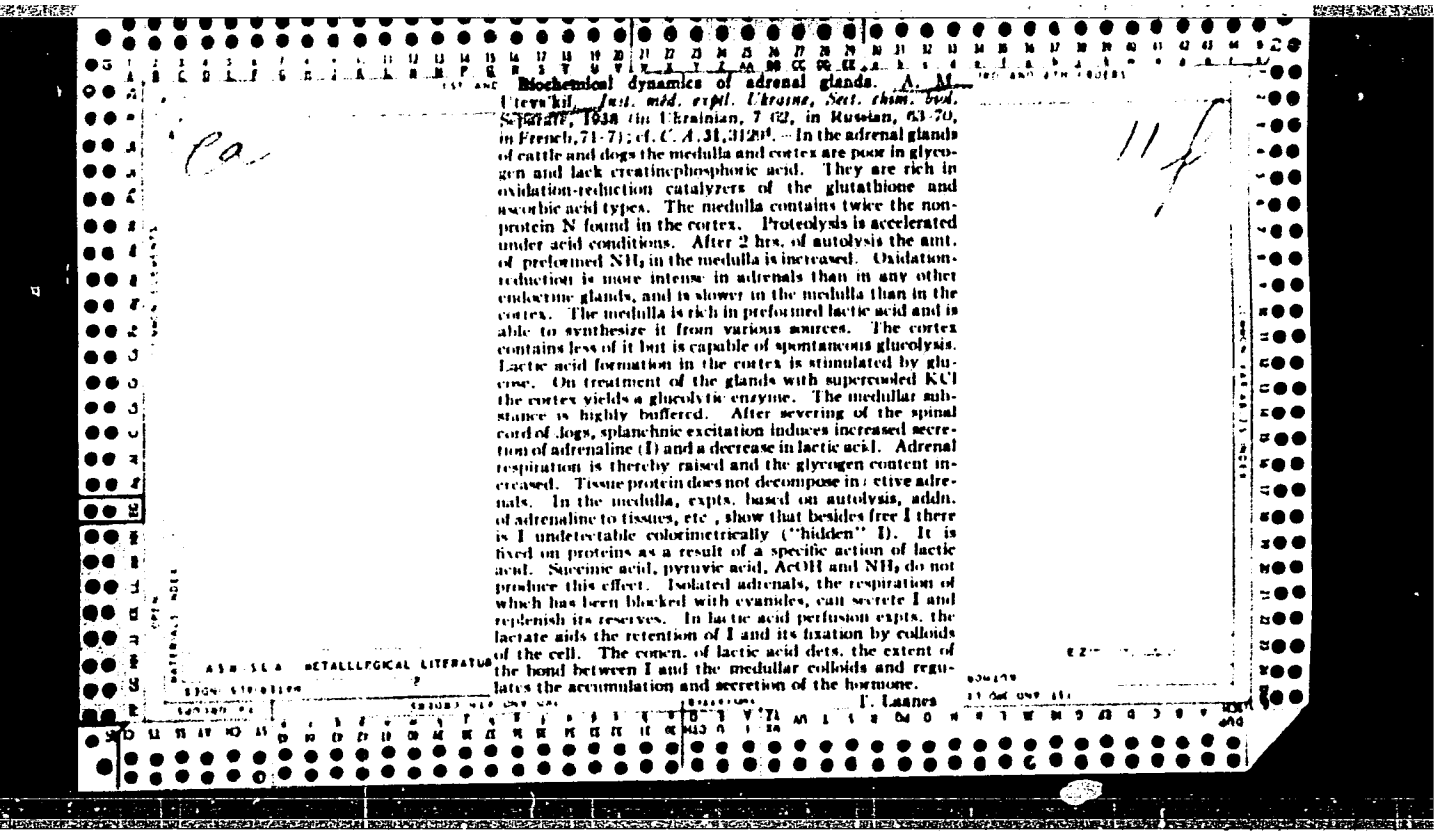


CA

11F

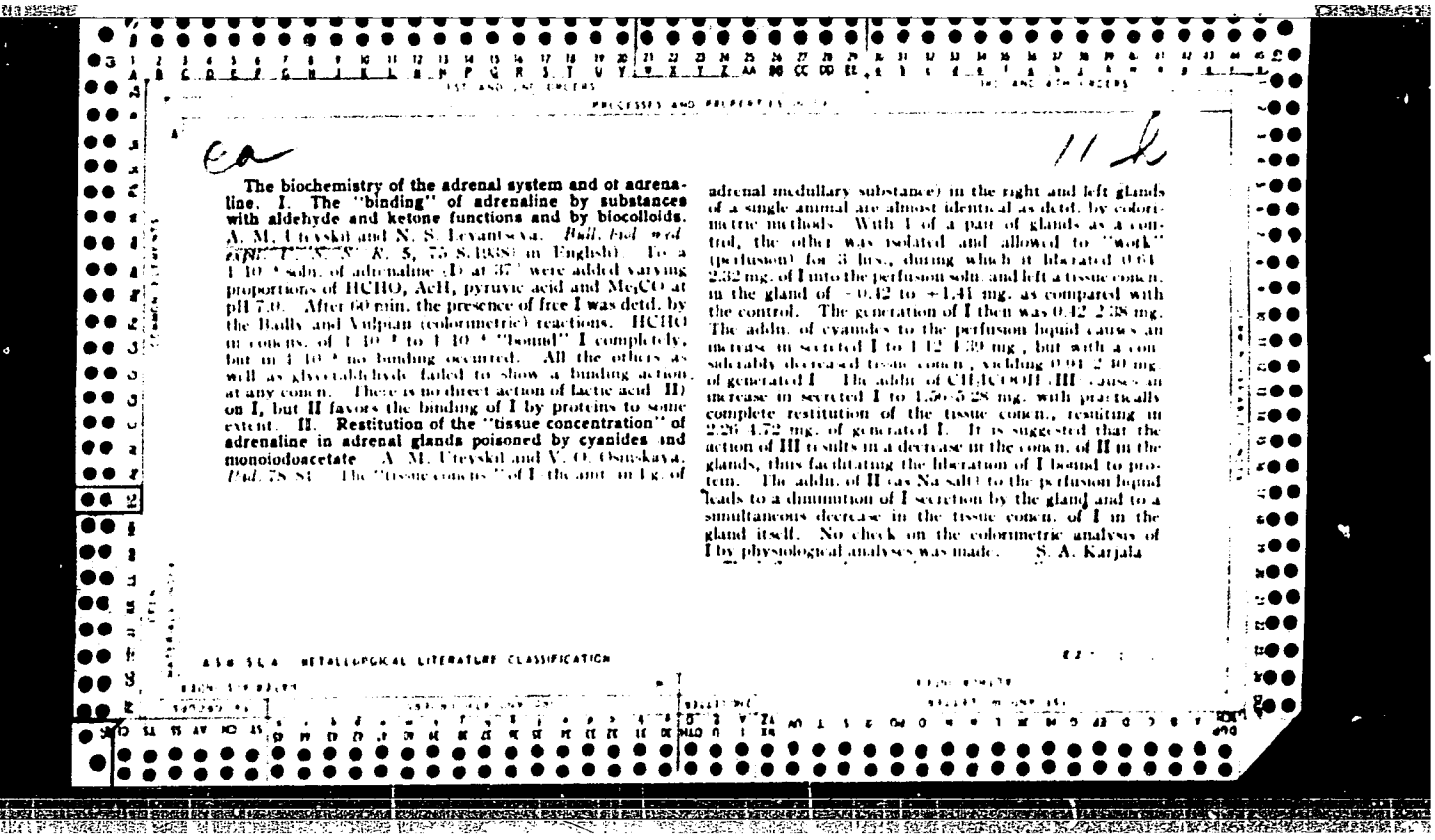
The part played by lactic acid in the "liberation" and "binding" of adrenaline. A. M. Utevskii. *Ukrain. Biokhem. Zhur.* 9, 533–48 (in Russian 548 0, in English 840) (1930).—Free adrenaline (that can be easily washed out), bound adrenaline (difficult to wash out, but giving color reactions) and latent adrenaline (fixed on a more stable manner and giving no direct color reactions) are to be distinguished. The ability of albumin to convert adrenaline into a latent condition is specifically affected by lactic acid; this action is not exerted by pyruvic, succinic and acetic acid ions. Pyruvic acid diminishes the adrenaline-fixing ability of albumins. A hypothesis on the specific part played by lactic acid in the suprarenal capsule as a factor influencing the fixation of the hormone by the cell colloids of the endocrine organ is proposed.
K. K. Stefanowsky

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

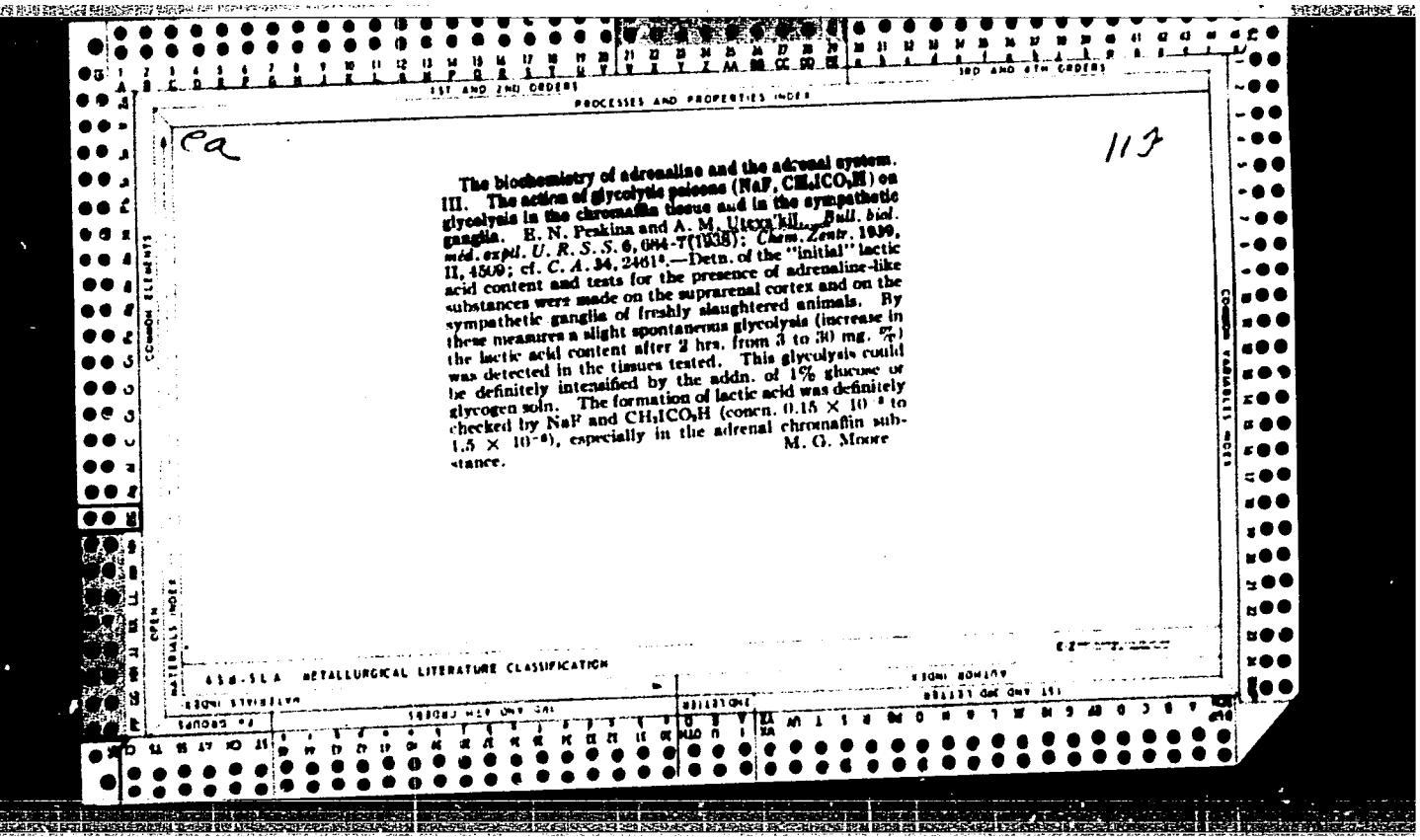


Biochemical dynamics of adrenal glands. A. M. Utevskil, *Inst. méd. expll. Ukraine, Sect. chim. biol.* Scientif., 1938 (in Ukrainian, 7-62, in Russian, 63-70, in French, 71-7); cf. *C. A.* 31, 3129[4]. — In the adrenal glands of cattle and dogs the medulla and cortex are poor in glycogen and lack creatinephosphoric acid. They are rich in oxidation-reduction catalyzers of the glutathione and ascorbic acid types. The medulla contains twice the nonprotein N found in the cortex. Proteolysis is accelerated under acid conditions. After 2 hrs. of autolysis the amt. of preformed NH_3 in the medulla is increased. Oxidation-reduction is more intense in adrenals than in any other endocrine glands, and is slower in the medulla than in the cortex. The medulla is rich in preformed lactic acid and is able to synthesize it from various sources. The cortex contains less of it but is capable of spontaneous glucolysis. Lactic acid formation in the cortex is stimulated by glucose. On treatment of the glands with supercooled KCl the cortex yields a glucolytic enzyme. The medullar substance is highly buffered. After severing of the spinal cord of dogs, splanchnic excitation induces increased secretion of adrenaline (I) and a decrease in lactic acid. Adrenal respiration is thereby raised and the glycogen content increased. Tissue protein does not decompose in active adrenals. In the medulla, expts. based on autolysis, addn. of adrenaline to tissues, etc., show that besides free I there is I undetectable colorimetrically ("hidden" I). It is fixed on proteins as a result of a specific action of lactic acid. Succinic acid, pyruvic acid, AcOH and NH_3 do not produce this effect. Isolated adrenals, the respiration of which has been blocked with cyanides, can secrete I and replenish its reserves. In lactic acid perfusion expts. the lactate aids the retention of I and its fixation by colloids of the cell. The concn. of lactic acid dets. the extent of the bond between I and the medullar colloids and regulates the accumulation and secretion of the hormone.

I. Laanes



The biochemistry of the adrenal system and of adrenaline. I. The "binding" of adrenaline by substances with aldehyde and ketone functions and by biocolloids. A. M. Utevskii and N. S. Levantseva. *Biull. Eksl. med.* [illegible] *N.* 5, 75-8(1938) (in English). To a 1:10^{5} soln. of adrenaline (I) at 37° were added varying proportions of HCHO, AcH, pyruvic acid and Me_2CO at pH 7.0. After 60 min. the presence of free I was detd. by the Badly and Vulpian (colorimetric) reactions. HCHO in concns. of 1:10^{3} to 1:10^{4} "bound" I completely, but in 1:10^{5} no binding occurred. All the others as well as glyceraldehyde failed to show a binding action, at any concn. There is no direct action of lactic acid (II) on I, but II favors the binding of I by proteins to some extent. **II. Restitution of the "tissue concentration" of adrenaline in adrenal glands poisoned by cyanides and monoiodoacetate.** A. M. Utevskii and V. O. Osnovskaya. *Ibid.* 78-84. The "tissue concn." of I (the amt. in γ of adrenal medullary substance) in the right and left glands of a single animal are almost identical as detd. by colorimetric methods. With I of a pair of glands as a control, the other was isolated and allowed to "work" (perfusion) for 3 hrs., during which it liberated 0.61-2.32 mg. of I into the perfusion soln. and left a tissue concn. in the gland of −0.42 to +1.41 mg. as compared with the control. The generation of I then was 0.42-2.38 mg. The addn. of cyanides to the perfusion liquid causes an increase in secreted I to 1.12-4.39 mg., but with a considerably decreased tissue concn., yielding 0.01-2.40 mg. of generated I. The addn. of CH_2ICOOH (III) causes an increase in secreted I to 1.56-5.28 mg. with practically complete restitution of the tissue concn., resulting in 2.26-4.72 mg. of generated I. It is suggested that the action of III results in a decrease in the concn. of II in the glands, thus facilitating the liberation of I bound to protein. The addn. of II as Na salt to the perfusion liquid leads to a diminution of I secretion by the gland and to a simultaneous decrease in the tissue concn. of I in the gland itself. No check on the colorimetric analyses of I by physiological analyses was made. S. A. Karjala



PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

COMMON ELEMENTS

OPEN

MATERIALS INDEX

AUTHOR INDEX

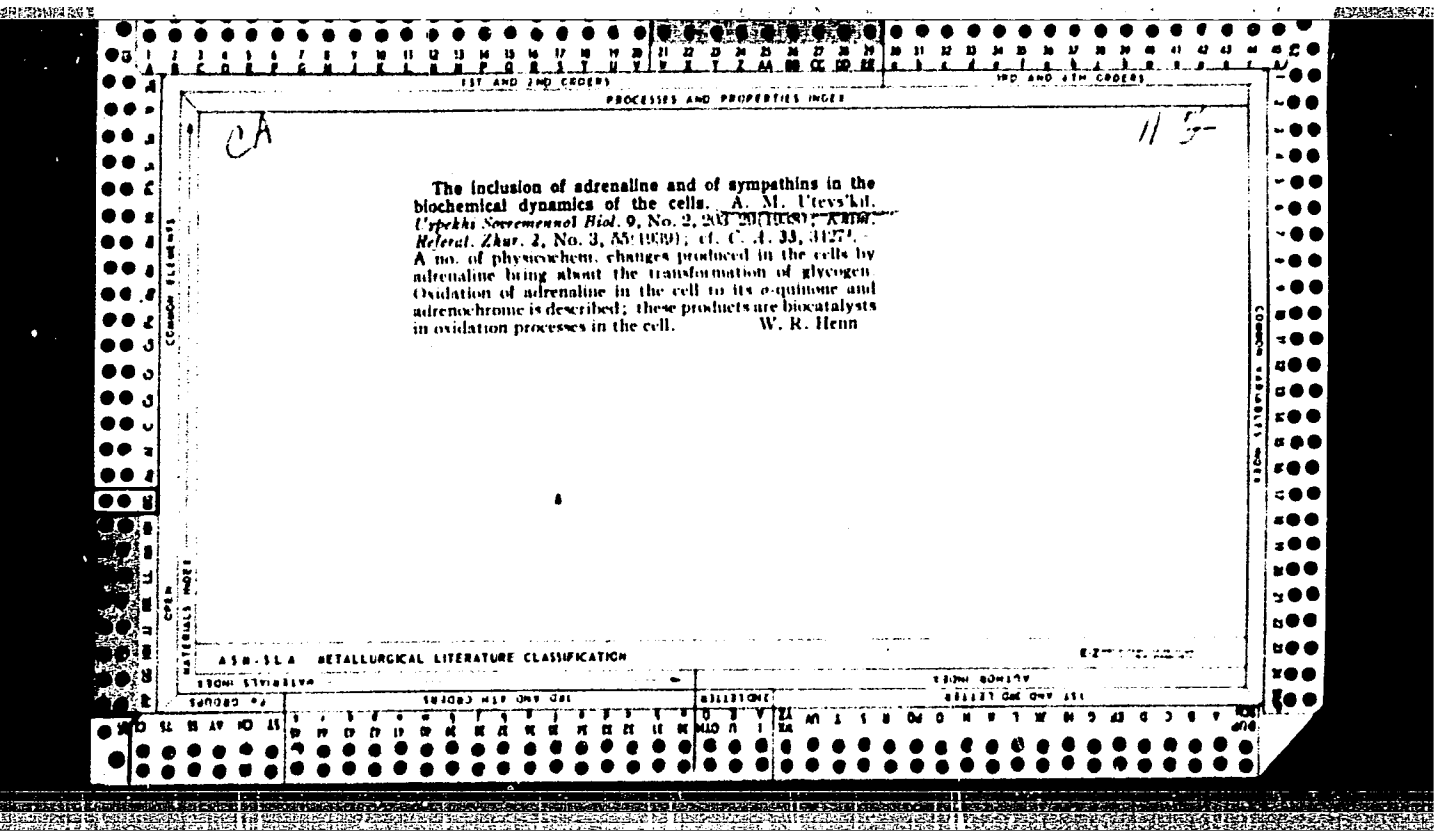
658-SLA METALLURGICAL LITERATURE CLASSIFICATION

ca

117

The biochemistry of adrenaline and the adrenal system. III. The action of glycolysis poisons (NaF, CH_3ICO_2H) on glycolysis in the chromaffin tissue and in the sympathetic ganglia. E. N. Peskina and A. M. Utevskii. *Bull. biol. méd. exptl. U. R. S. S.* 6, 044-7(1938); *Chem. Zentr.* 1939, II, 4509; cf. *C. A.* 34, 2461[8].—Detn. of the "initial" lactic acid content and tests for the presence of adrenaline-like substances were made on the suprarenal cortex and on the sympathetic ganglia of freshly slaughtered animals. By these measures a slight spontaneous glycolysis (increase in the lactic acid content after 2 hrs. from 3 to 30 mg. %) was detected in the tissues tested. This glycolysis could be definitely intensified by the addn. of 1% glucose or glycogen soln. The formation of lactic acid was definitely checked by NaF and CH_3ICO_2H (concn. 0.15×10^{-3} to 1.5×10^{-3}), especially in the adrenal chromaffin substance.

M. G. Moore



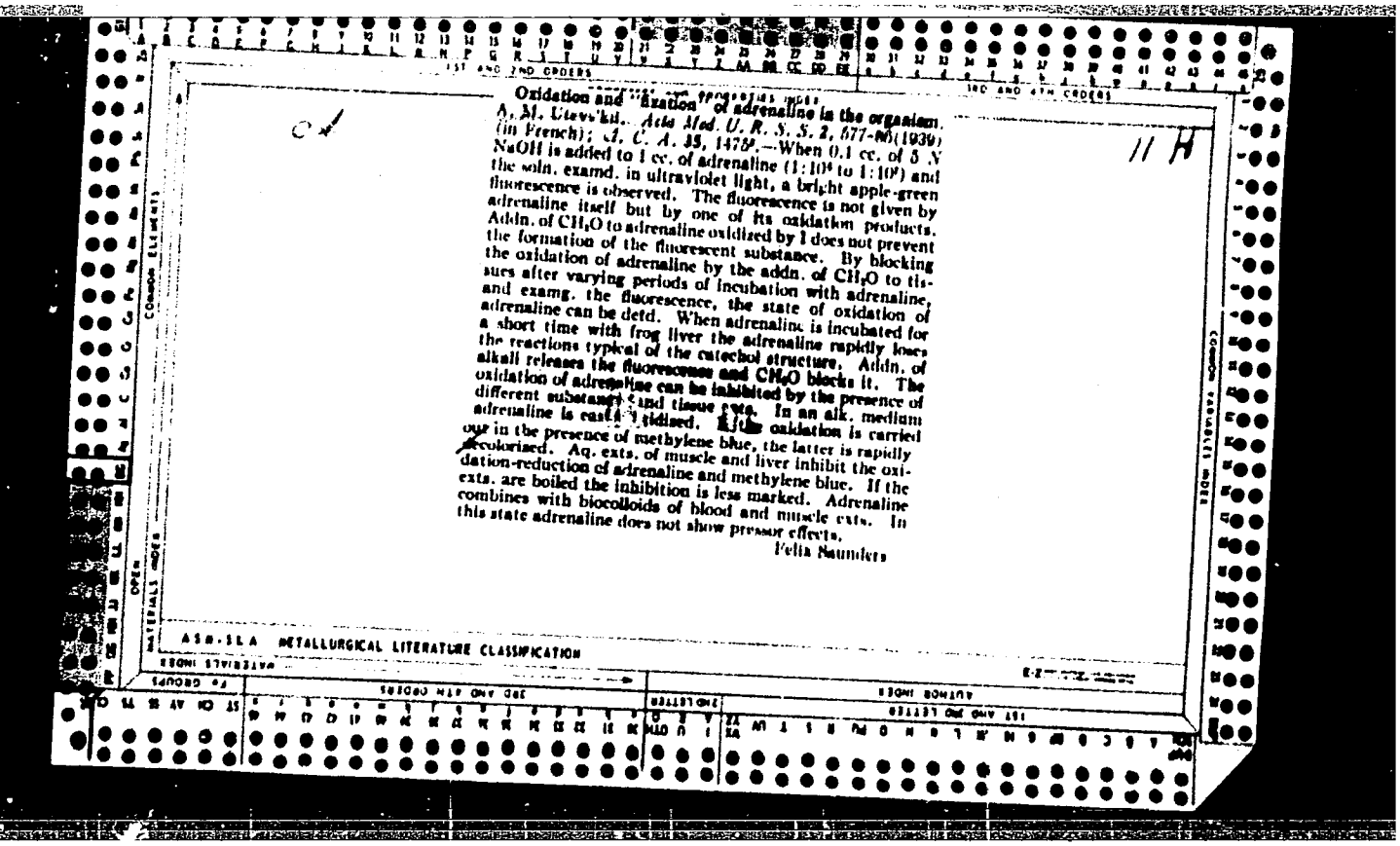
PROCESSES AND PROPERTIES INDEX

CA

11 5-

The inclusion of adrenaline and of sympathins in the biochemical dynamics of the cells. A. M. Utevs'kil. *Uzbekhs. Sovremennol Biol.* 9, No. 2, 203-20(1938); *Khim. Referat. Zhur.* 2, No. 3, 55(1939); cf. C. A. 33, 3127[1]. A no. of physicochem. changes produced in the cells by adrenaline bring about the transformation of glycogen. Oxidation of adrenaline in the cell to its *o*-quinone and adrenochrome is described; these products are biocatalysts in oxidation processes in the cell. W. R. Henn

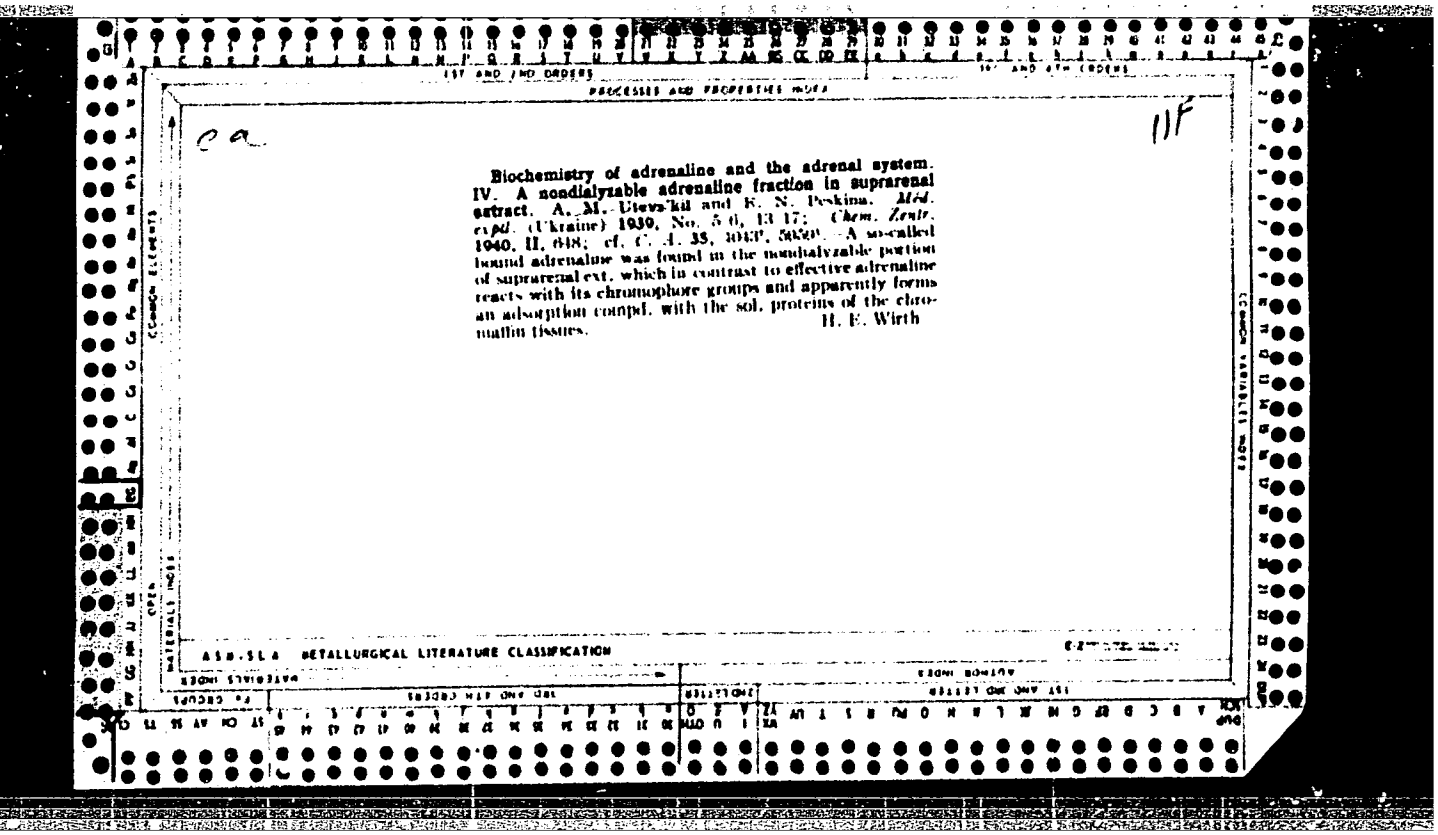
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



Oxidation and fixation of adrenaline in the organism.

A. M. Utevskii. *Acta Med. U. R. S. S.* 2, 677-86 (1939) (in French); *C. A.* 35, 1478⁹.—When 0.1 cc. of 5 *N* NaOH is added to 1 cc. of adrenaline (1:10⁴ to 1:10⁵) and the soln. examd. in ultraviolet light, a bright apple-green fluorescence is observed. The fluorescence is not given by adrenaline itself but by one of its oxidation products. Addn. of CH_2O to adrenaline oxidized by I does not prevent the formation of the fluorescent substance. By blocking the oxidation of adrenaline by the addn. of CH_2O to tissues after varying periods of incubation with adrenaline, and examg. the fluorescence, the state of oxidation of adrenaline can be detd. When adrenaline is incubated for a short time with frog liver the adrenaline rapidly loses the reactions typical of the catechol structure. Addn. of alkali releases the fluorescence and CH_2O blocks it. The oxidation of adrenaline can be inhibited by the presence of different substances and tissue exts. In an alk. medium adrenaline is easily oxidized. If the oxidation is carried out in the presence of methylene blue, the latter is rapidly decolorized. Aq. exts. of muscle and liver inhibit the oxidation-reduction of adrenaline and methylene blue. If the exts. are boiled the inhibition is less marked. Adrenaline combines with biocolloids of blood and muscle exts. In this state adrenaline does not show pressor effects.

Felix Saunders

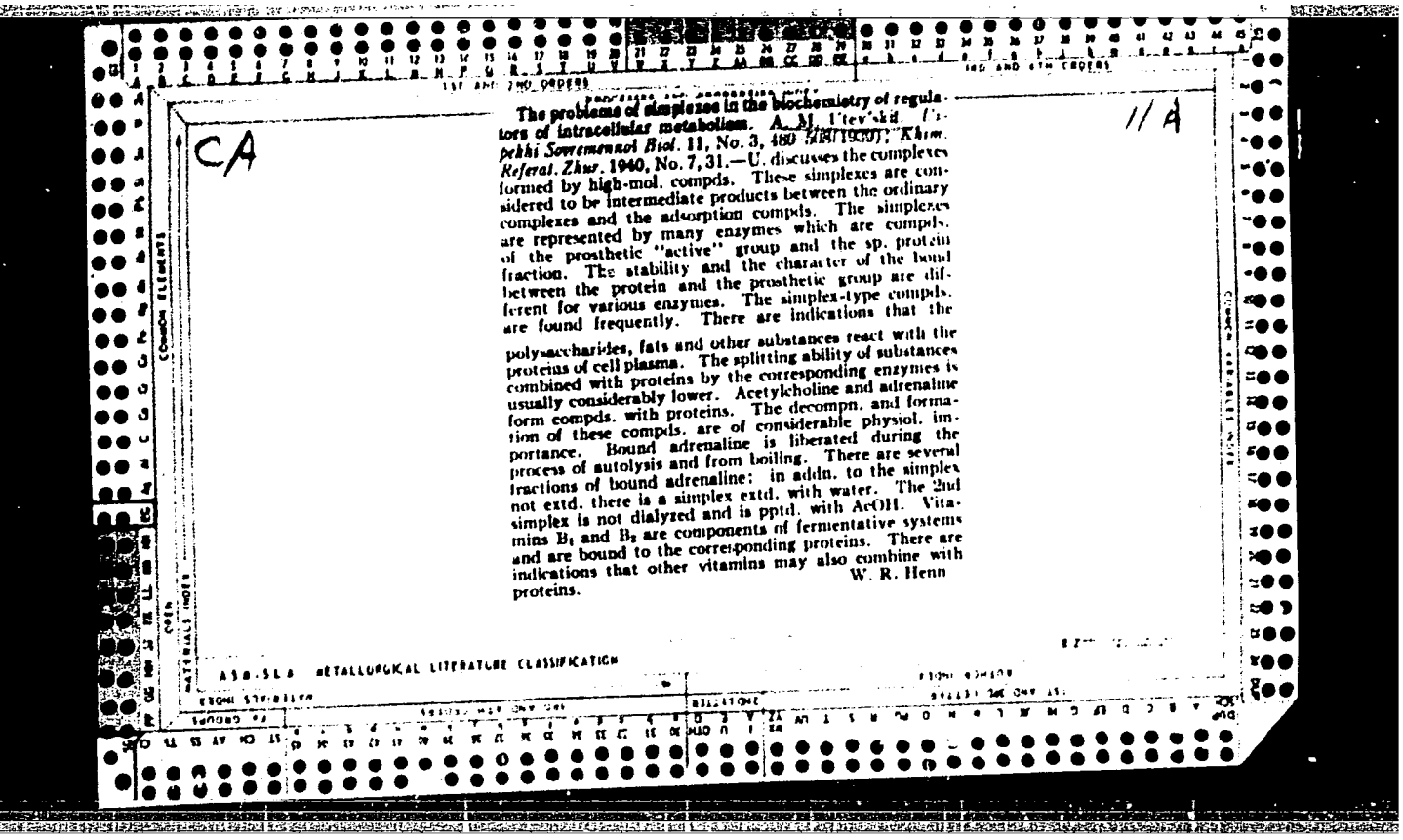


ca

11F

Biochemistry of adrenaline and the adrenal system. IV. A nondialyzable adrenaline fraction in suprarenal extract. A. M. Utevskiĭ and E. N. Peskina. *Med. zapil.* (Ukraine) 1930, No. 5-6, 13-17; *Chem. Zentr.* 1940, II, 648; cf. *C. A.* 35, 3043⁸, 5859⁹. A so-called bound adrenaline was found in the nondialyzable portion of suprarenal ext. which in contrast to effective adrenaline reacts with its chromophore groups and apparently forms an adsorption compl. with the sol. proteins of the chromaffin tissues.

H. F. Wirth



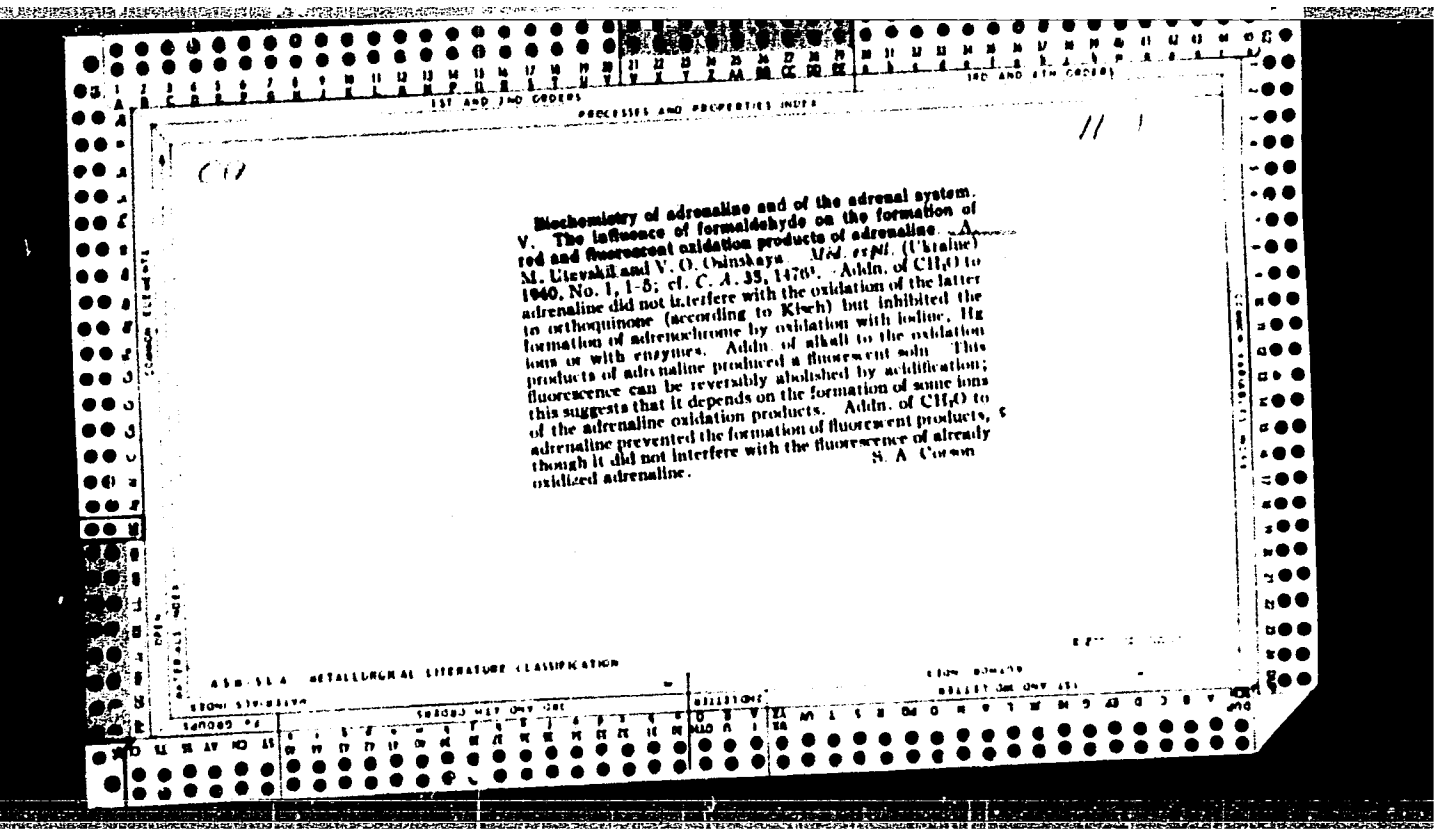
CA

11 A

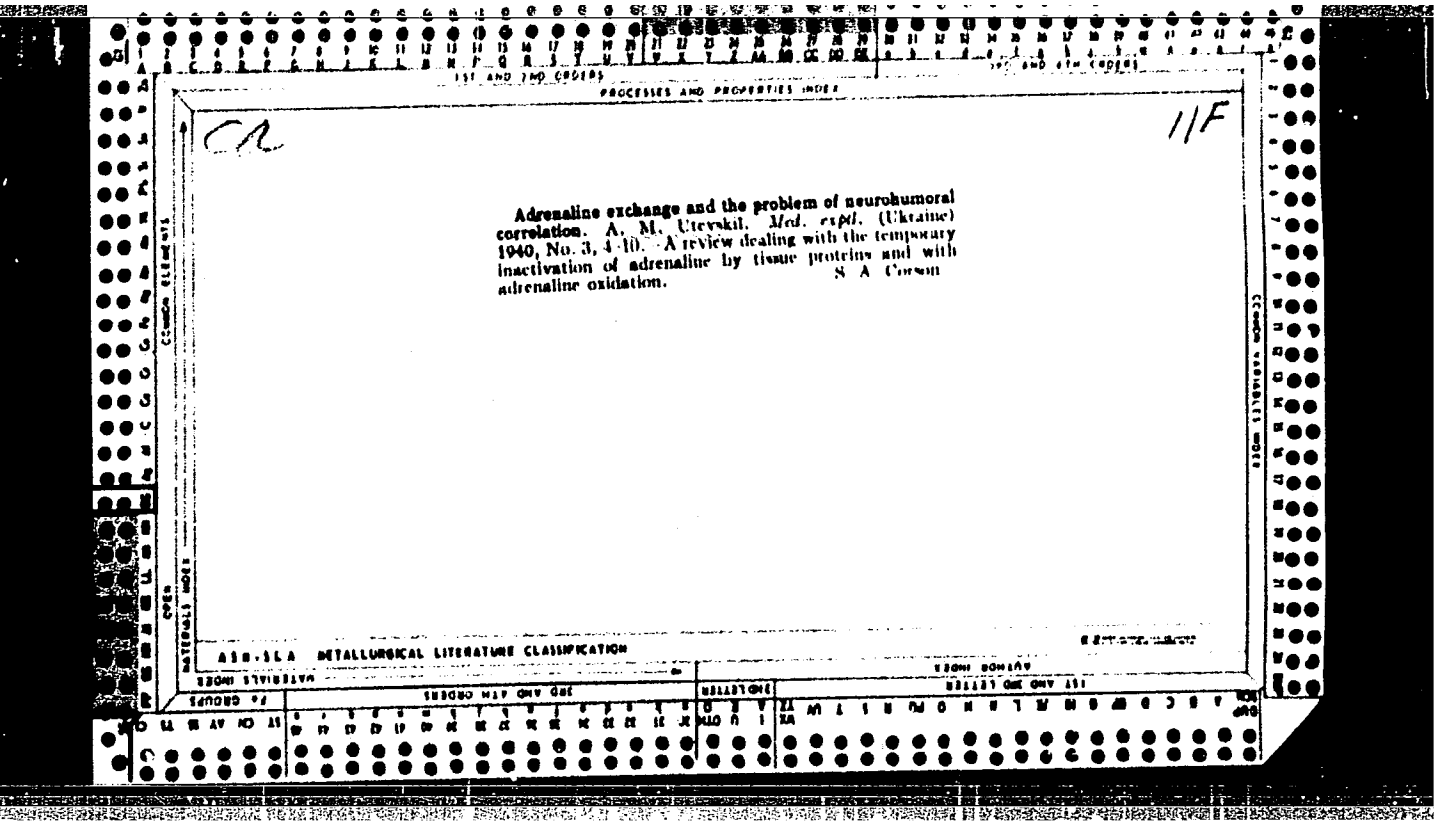
The problems of simplexes in the biochemistry of regulators of intracellular metabolism. A. M. Utev'skii. *Uspekhi Sovremennoi Biol.* 11, No. 3, 480 (1940); *Khim. Referat. Zhur.* 1940, No. 7, 31.—U. discusses the complexes formed by high-mol. compds. These simplexes are considered to be intermediate products between the ordinary complexes and the adsorption compds. The simplexes are represented by many enzymes which are compds. of the prosthetic "active" group and the sp. protein fraction. The stability and the character of the bond between the protein and the prosthetic group are different for various enzymes. The simplex-type compds. are found frequently. There are indications that the polysaccharides, fats and other substances react with the proteins of cell plasma. The splitting ability of substances combined with proteins by the corresponding enzymes is usually considerably lower. Acetylcholine and adrenaline form compds. with proteins. The decompn. and formation of these compds. are of considerable physiol. importance. Bound adrenaline is liberated during the process of autolysis and from boiling. There are several fractions of bound adrenaline: in addn. to the simplex not extd. there is a simplex extd. with water. The 2nd simplex is not dialyzed and is pptd. with AcOH. Vitamins B_1 and B_2 are components of fermentative systems and are bound to the corresponding proteins. There are indications that other vitamins may also combine with proteins.

W. R. Henn

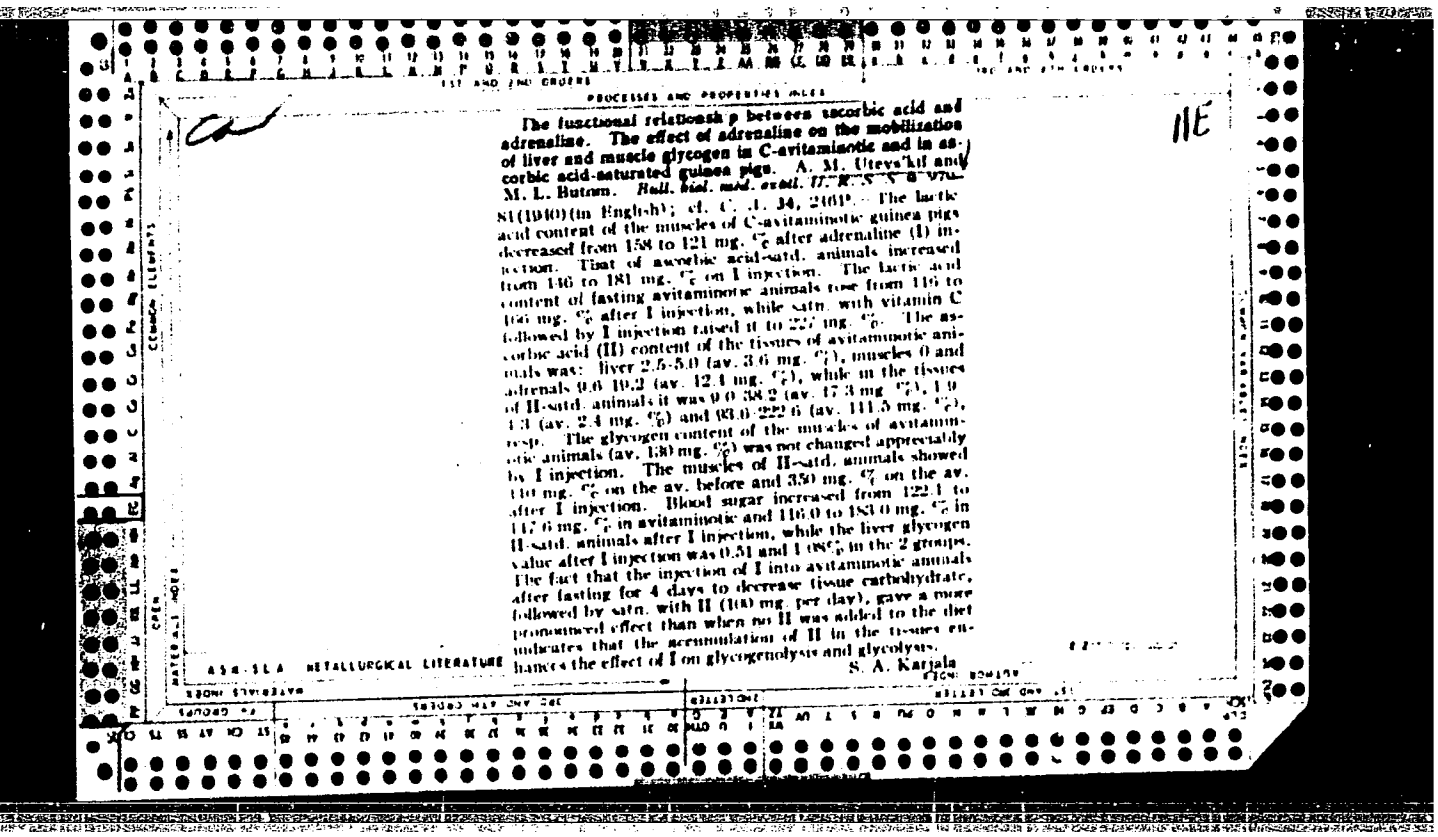
A58-5L8 METALLURGICAL LITERATURE CLASSIFICATION



Biochemistry of adrenaline and of the adrenal system. V. The influence of formaldehyde on the formation of red and fluorescent oxidation products of adrenaline. M. Utevskii and V. O. Chinshaya. *Med. zapiski* (Ukraine) 1940, No. 1, 1-5; cf. *C. A.* 35, 1470⁶. Addn. of CH_2O to adrenaline did not interfere with the oxidation of the latter to orthoquinone (according to Kisch) but inhibited the formation of adrenochrome by oxidation with iodine, Hg ions or with enzymes. Addn. of alkali to the oxidation products of adrenaline produced a fluorescent soln. This fluorescence can be reversibly abolished by acidification; this suggests that it depends on the formation of some ions of the adrenaline oxidation products. Addn. of CH_2O to adrenaline prevented the formation of fluorescent products, though it did not interfere with the fluorescence of already oxidized adrenaline. S. A. Cowan

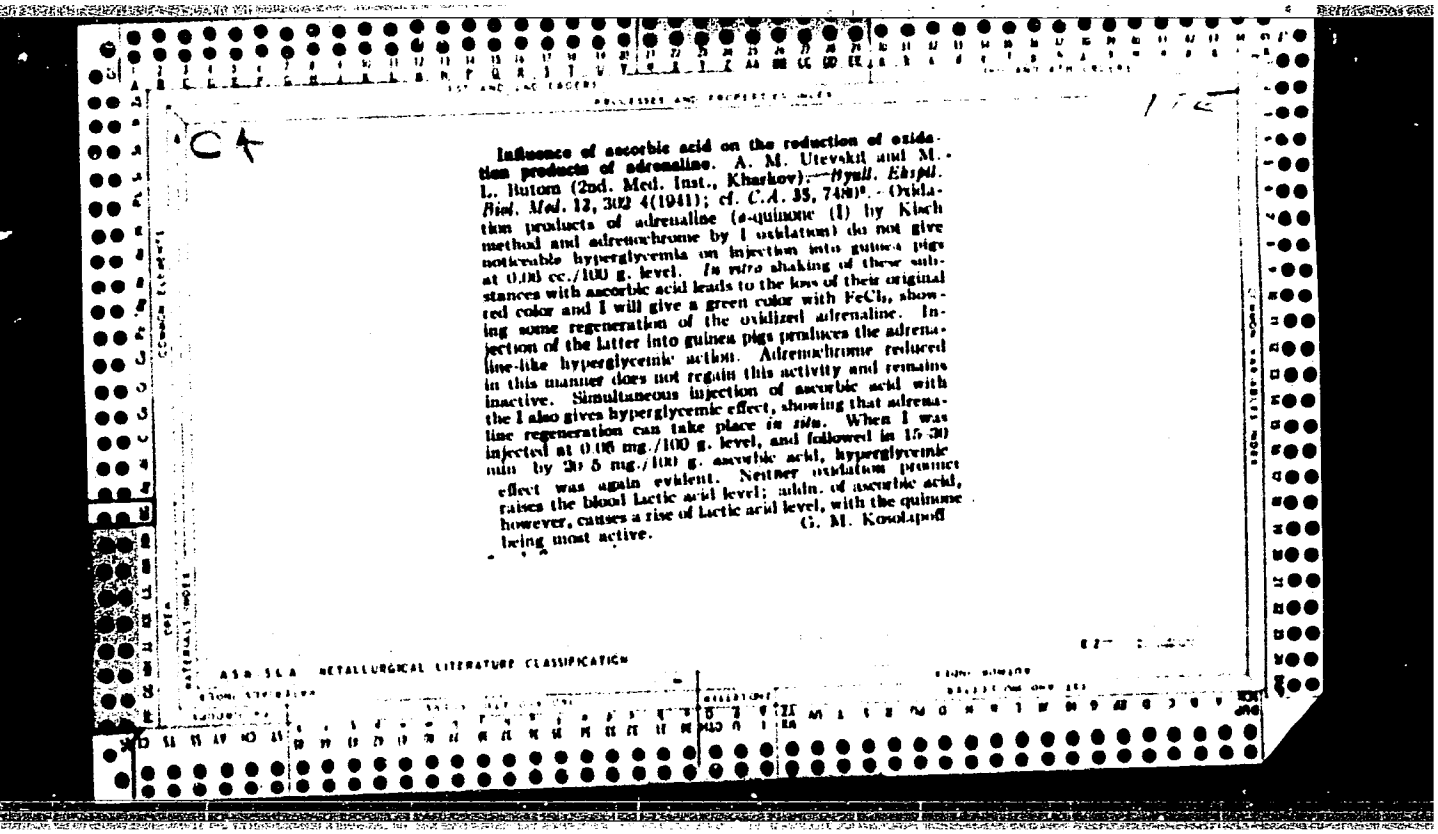


Adrenaline exchange and the problem of neurohumoral correlation. A. M. Utevskil. *Med. exptl.* (Ukraine) 1940, No. 3, 4-10. A review dealing with the temporary inactivation of adrenaline by tissue protrins and with adrenaline oxidation. S A Cowan



The functional relationsh p between ascorbic acid and adrenaline. The effect of adrenaline on the mobilization of liver and muscle glycogen in C-avitaminotic and in ascorbic acid-saturated guinea pigs. A. M. Utevs'kil and M. L. Butsun. *Bull. biol. med. exptl. U.R.S.S.* 8 No. 8 81(1940)(in English); cf. C. A. 34, 2601⁹. The lactic acid content of the muscles of C-avitaminotic guinea pigs decreased from 158 to 121 mg. % after adrenaline (I) injection. That of ascorbic acid-satd. animals increased from 146 to 181 mg. % on I injection. The lactic acid content of fasting avitaminotic animals rose from 119 to 166 mg. % after I injection, while satn. with vitamin C followed by I injection raised it to 237 mg. %. The ascorbic acid (II) content of the tissues of avitaminotic animals was: liver 2.5-5.0 (av. 3.6 mg. %), muscles 0 and adrenals 0.6-10.2 (av. 12.4 mg. %), while in the tissues of H-satd. animals it was 9.0-38.2 (av. 17.3 mg. %), 1.0-4.3 (av. 2.4 mg. %) and 93.0-222.6 (av. 111.5 mg. %), resp. The glycogen content of the muscles of avitaminotic animals (av. 130 mg. %) was not changed appreciably by I injection. The muscles of H-satd. animals showed 110 mg. % on the av. before and 350 mg. % on the av. after I injection. Blood sugar increased from 122.1 to 147.6 mg. % in avitaminotic and 116.0 to 183.0 mg. % in H-satd. animals after I injection, while the liver glycogen value after I injection was 0.51 and 1.08% in the 2 groups. The fact that the injection of I into avitaminotic animals after fasting for 4 days to decrease tissue carbohydrate, followed by satn. with H (100 mg. per day), gave a more pronounced effect than when no H was added to the diet indicates that the accumulation of H in the tissues enhances the effect of I on glycogenolysis and glycolysis.

S. A. Kariala

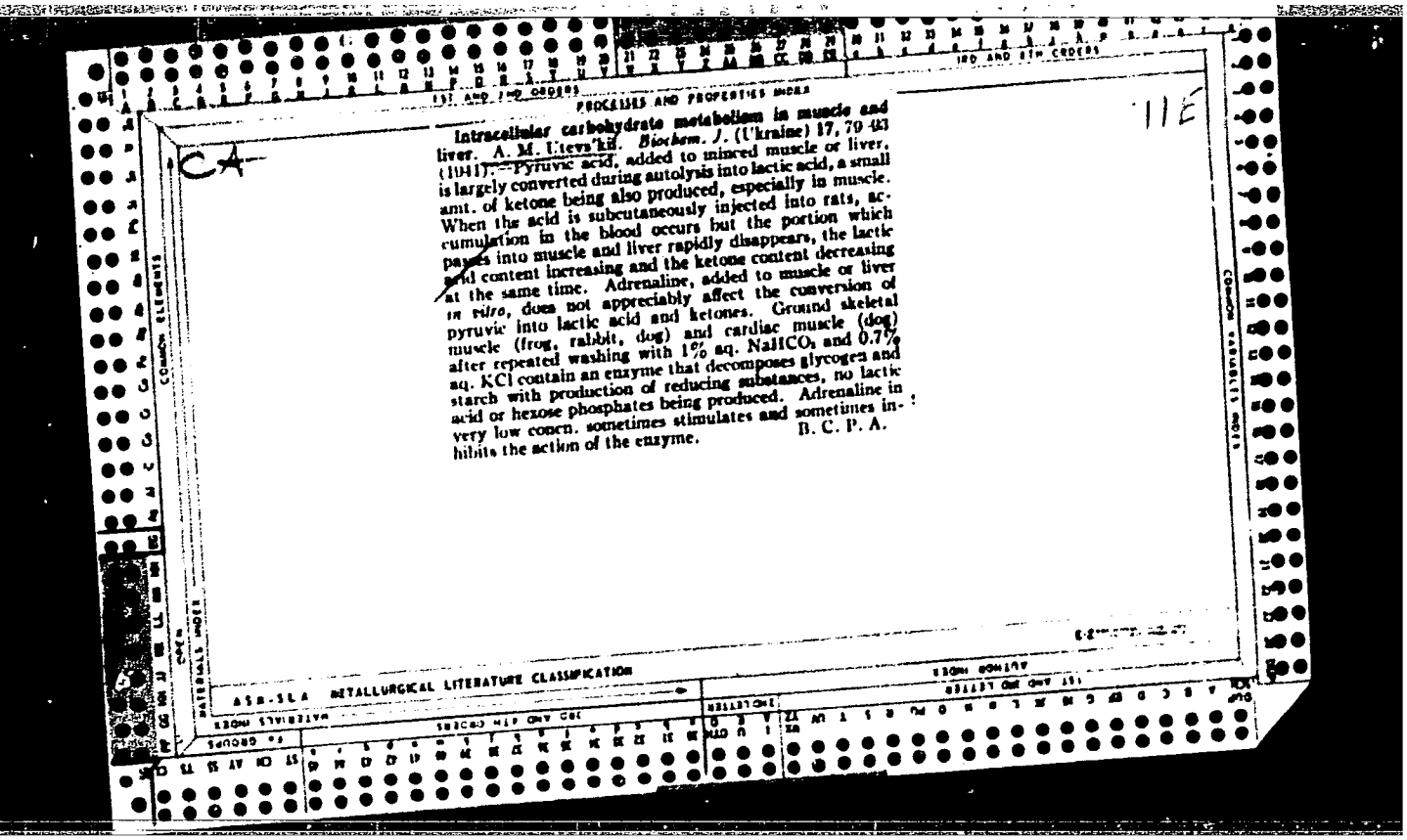


CA

Influence of ascorbic acid on the reduction of oxidation products of adrenaline. A. M. Utevskii and M. L. Butom (2nd. Med. Inst., Kharkov). *Ukrain. Biokhim. Zhur. Med.* 12, 302 4(1941); cf. *C.A.* 35, 7480[9]. - Oxidation products of adrenaline (*o*-quinone (I) by Kisch method and adrenochrome by I oxidation) do not give noticeable hyperglycemia on injection into guinea pigs at 0.05 cc./100 g. level. *In vitro* shaking of these substances with ascorbic acid leads to the loss of their original red color and I will give a green color with $FeCl_3$, showing some regeneration of the oxidized adrenaline. Injection of the latter into guinea pigs produces the adrenaline-like hyperglycemic action. Adrenochrome reduced in this manner does not regain this activity and remains inactive. Simultaneous injection of ascorbic acid with the I also gives hyperglycemic effect, showing that adrenaline regeneration can take place *in vivo*. When I was injected at 0.05 mg./100 g. level, and followed in 15-30 min. by 20-5 mg./100 g. ascorbic acid, hyperglycemic effect was again evident. Neither oxidation product raises the blood Lactic acid level; admin. of ascorbic acid, however, causes a rise of Lactic acid level, with the quinone being most active.

G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



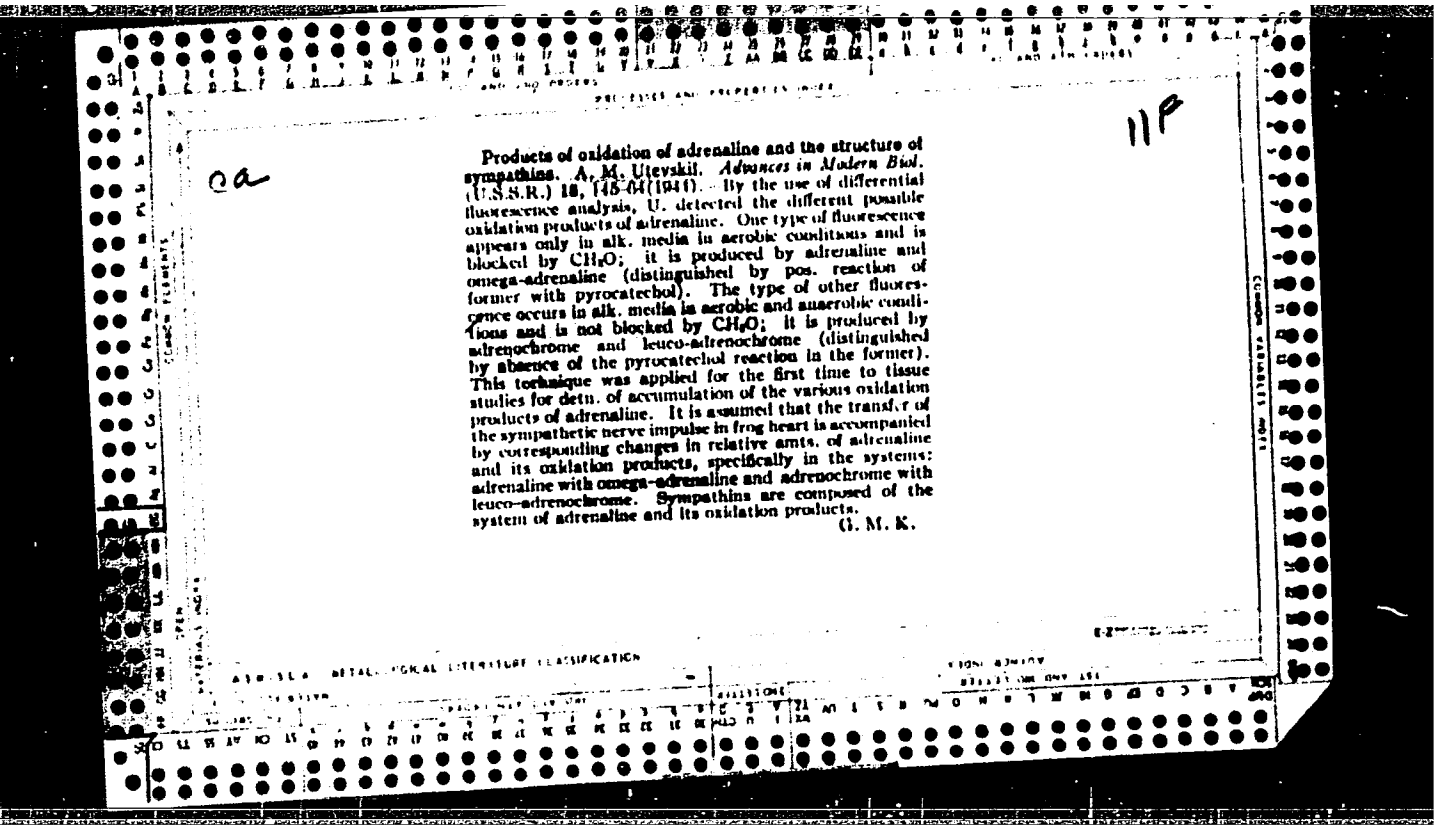
PROCESSES AND PROPERTIES INDEX

C4

11E

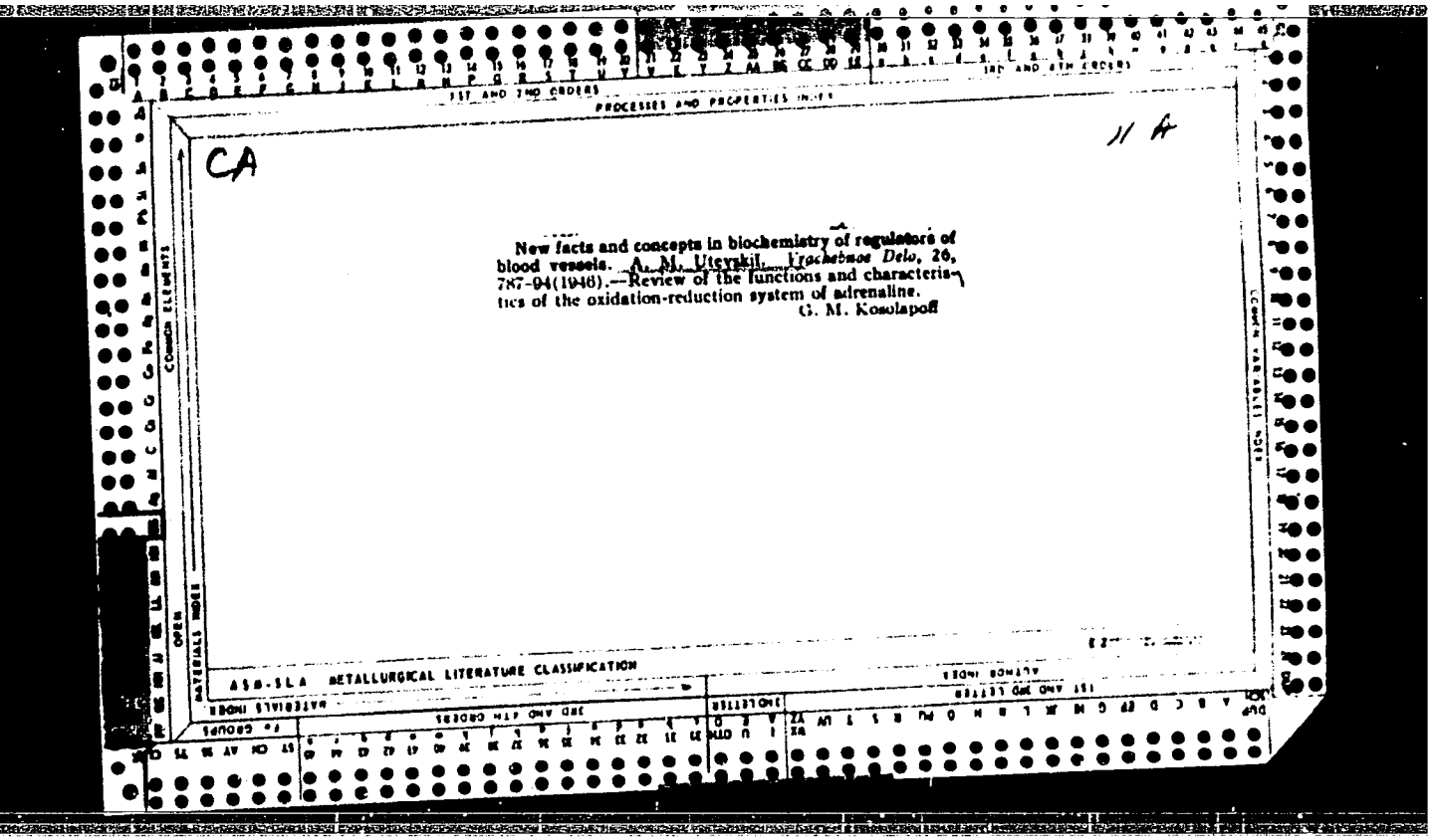
Intracellular carbohydrate metabolism in muscle and liver. A. M. Utevs'kiĭ. *Biochem. J.* (Ukraine) 17, 79-83 (1941).—Pyruvic acid, added to minced muscle or liver, is largely converted during autolysis into lactic acid, a small amt. of ketone being also produced, especially in muscle. When the acid is subcutaneously injected into rats, accumulation in the blood occurs but the portion which passes into muscle and liver rapidly disappears, the lactic acid content increasing and the ketone content decreasing at the same time. Adrenaline, added to muscle or liver *in vitro*, does not appreciably affect the conversion of pyruvic into lactic acid and ketones. Ground skeletal muscle (frog, rabbit, dog) and cardiac muscle (dog) after repeated washing with 1% aq. $NaHCO_3$ and 0.7% aq. KCl contain an enzyme that decomposes glycogen and starch with production of reducing substances, no lactic acid or hexose phosphates being produced. Adrenaline in very low concn. sometimes stimulates and sometimes inhibits the action of the enzyme. B. C. P. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Products of oxidation of adrenaline and the structure of sympathins. A. M. Utevskil. *Advances in Modern Biol.* (U.S.S.R.) 18, 145-64(1944). By the use of differential fluorescence analysis, U. detected the different possible oxidation products of adrenaline. One type of fluorescence appears only in alk. media in aerobic conditions and is blocked by CH_2O; it is produced by adrenaline and omega-adrenaline (distinguished by pos. reaction of former with pyrocatechol). The type of other fluorescence occurs in alk. media in aerobic and anaerobic conditions and is not blocked by CH_2O; it is produced by adrenochrome and leuco-adrenochrome (distinguished by absence of the pyrocatechol reaction in the former). This technique was applied for the first time to tissue studies for detn. of accumulation of the various oxidation products of adrenaline. It is assumed that the transfer of the sympathetic nerve impulse in frog heart is accompanied by corresponding changes in relative amts. of adrenaline and its oxidation products, specifically in the systems: adrenaline with omega-adrenaline and adrenochrome with leuco-adrenochrome. Sympathins are composed of the system of adrenaline and its oxidation products.

(J. M. K.



PA 12/49T81

UTEVSKIY, A. M.

USSR/Medicine - Nervous System Jul/Aug 48
Medicine - Adrenal Preparations

"Action of the Motor and Sympathetic Nerve Impulses on the Adrenaline ⟷ Dehydroadrenaline System," A. M. Utevskiy and M. L. Butom, Ukr Inst of Experimental Endocrin, Khar'kov, 4½ pp

"Biokhimiya" Vol XIII, No 4

Part of the adrenaline found in tissues is in an oxidized quinone form, which can be reduced to adrenaline. The reduction of this oxidized form into an active hormone can be accomplished by the introduction of ascorbic acid into animals which

12/49T81

USSR/Medicine - Nervous System(Contd) Jul/Aug 48

do not synthesize vitamin C. Nerve impulses are also capable of producing an active hormone from its oxidized form, as is shown by experiments on frogs. Submitted 2 Feb 48.

12/49T81

UTEVSKIY, A. M.

Utevskiy, A. M. - "The role of biochemical factors in the pathogenesis of hypertonia", Vracheb. delo, 1949, No. 5,paragraphs 391-400.

SO: U-4630, 16 Sept. 53, (Letopis 'Zhurnal 'nykh Statey, No. 23, 1949).

30937. UTEVSKIY, A. M.

Uchenie Pavlova O troficheskoy Innervatsii i hekotory-ye voprosy-i Biolotichesкoy klimii. Vracheb. delo, 1949, No. 10 stb. 911-18

CA

Role of the sympathetic nervous system in the metabolism of adrenaline during muscle irritation under various conditions. A. M. Utevskii and M. I. Buton. *Bio* [illegible] 14, [illegible]; cf. C.A. 42, [illegible]. Sympathetic nerve impulses in the frog cause the [illegible] in muscle tissue of the reversibly oxidized form of adrenaline (dehydroadrenaline), and its reduction to adrenaline; bound adrenaline is also liberated in the process. These changes are unaffected by curare, but the effects are cancelled by ergotamine. Motor nerve impulses are without influence on the adrenaline-dehydroadrenaline systems and on bound adrenaline. H. Priestley

UTEVSKIY, A.M.

Aspects of adrenaline metabolism in the light of experimental and clinical data. Uspekhi Biol. Khim. 1, 423-55 '50. (MLRA 5:8)
(CA 47 no.14:7069 '53)

BA

ATE

Adrenaline and dehydroadrenaline in walls of blood-vessels of the rabbit. A. M. Utevsky and M. L. Butom (*Biochimia*, 1951, **16**, 146—149).—Both adrenaline and dehydroadrenaline were identified and estimated in the walls of arteries and veins of the rabbit. The amount (as total adrenaline) varied from 150—800 μg./100 g., the arteries usually containing more than the veins. The dehydroadrenaline varied from 0—50% of the total adrenaline present.

D. H. SMYTH.

Dept. Biochem., Ukr. Inst. Experimental Endocrinology, Kharkov

1. UTEVSKIY, A.M.

2. USSR (600)

4. Koshtoiants, khachatur sedrakovich, 1900-

7. "Protein bodies, metabolism, and nerve regulation." Kh.S. Koshtoyants. Reviewed by A.M. Utevskiy. Sov. kniga no. 12, 1952

9. Monthly list of Russian Accessions, Library of Congress, March 1953, Unclassified

11-F

CA

Action of the central nervous system on the fixation and reduction of adrenaline in the walls of blood vessels. A. M. Utevskil and M. L. Butom (Ukr. Inst. Exptl. Endocrinol., Kharkov). *Biokhimiya* 17, 139–44(1952).—The subcutaneous injection of adrenaline (I) into rabbits increased the content of I in the arterial walls. The introduction of dehydroadrenaline did not increase the amt. of I in the arterial vessels. During urethan narcosis, when the central nervous system was depressed, the injection of I increased the content of I in the arterial walls, whereas dehydroadrenaline under these conditions did not increase the amt. of I. Injection of I and dehydroadrenaline increased the amt. of I in the suprarenals. During urethan narcosis, the injection of I increased the content of I in the adrenals. Dehydroadrenaline did not bring about an increase of I in the adrenals during the depression of the central nervous system. The central nervous system thus affects the fixation of adrenaline in the vascular walls and the reduction of dehydroadrenaline to adrenaline in the adrenals. H. Priestley

UTEVSKIY, A.M.

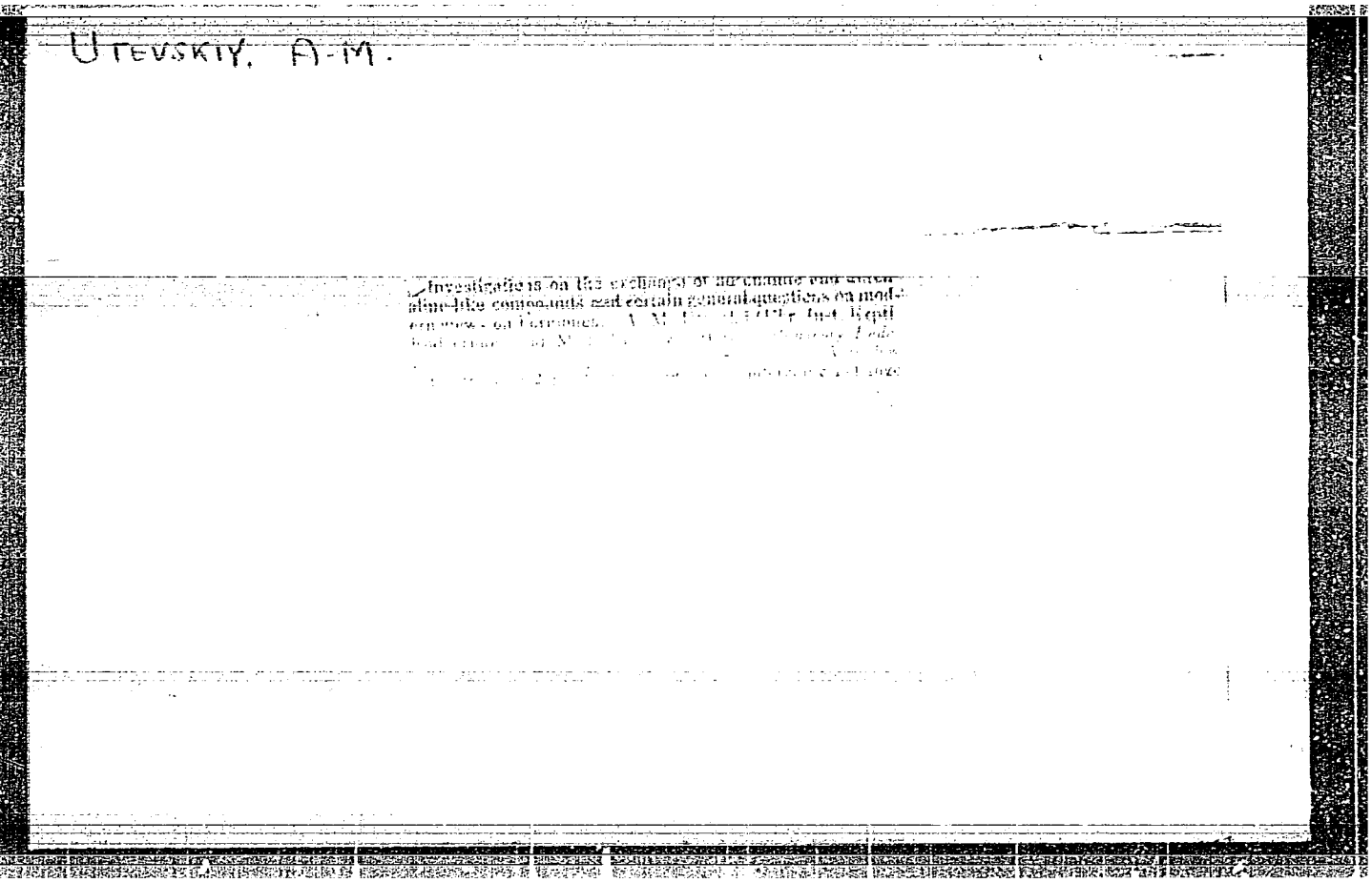
Studies on the neural regulation of ascorbic acid metabolism.
Vitaminy no.1:185-196 Je '53 (MIRA 11:6)

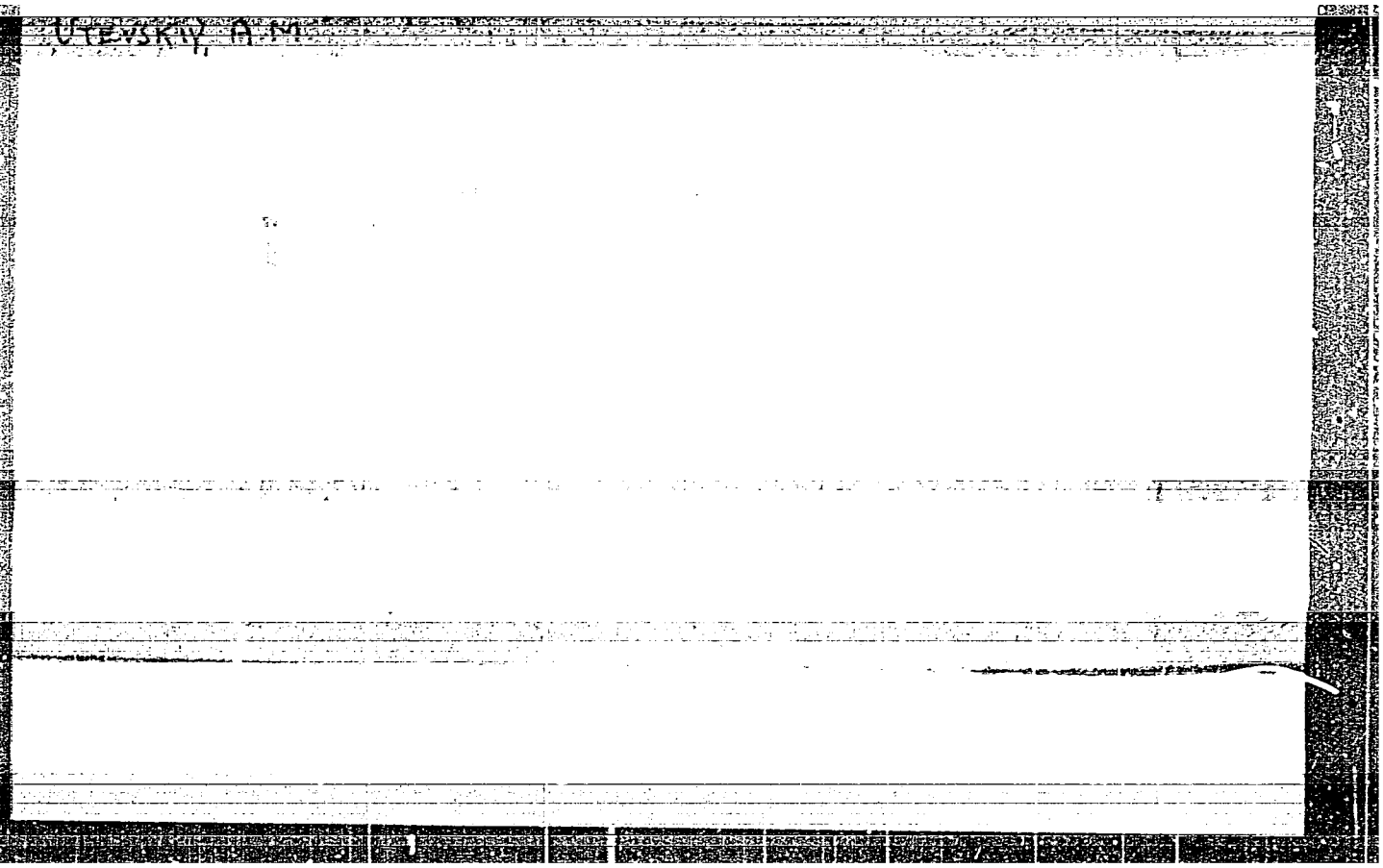
1. Ukrainskiy institut eksperimental'noy endokrinologii i Kafedra biokhimii Khar'kovskogo meditsinskogo instituta, Khar'kov.
(ASCORBIC ACID)

UTEVSKIY, A.M.; BUTOM, M.L.

Influence of excitation of the central nervous system on some metabolic processes of adrenaline in the walls of blood vessels and in the adrenals. Biokhmiya 18, 195-200 '53. (MLRA 6:4)
(CA 47 no.18:9502 '53)

1. Inst. Exptl. Endocrinol., Kharkov.





APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001858220020-3"

UTEVSKIY, A.M.

Category: USSR/General Division. History. Classics. Personalities. A-2

Abs Jour: Referat Zh -Biol., No 6, 25 March, 1957, 21285

Author : Bulankin, I.N., Utevskiy, A.M.
Inst : not given
Title : An Outline of the Development of Biological Chemistry in the A.M. Gorky Kharkov State University and in the Medical Institute.

Orig Pub: Uch. zap. Kharkovsk. un-ta, 1955, 59, 41-79

Abstract: A chronological historical description of biochemistry at Kharkov University. The first teacher of physiological chemistry and the author of the first textbook on biochemistry was A.I. Khodnev. The first teacher of medical chemistry was F V. Tikhonovich, famous for his research on glycogen and "muscle sugar". The research of A. Ya. Danilevsky on chemistry of protein and protein metabolism is described in detail: the determination of molecular weight of the protein molecule,

Card : 1/4 -5-

Category: USSR/General Division. History. Classics. Personalities. A-2

Abs Jour: Referat Zh.-Biol., No 6, 25 March 1957, 21285

the study of its amphoteric character, the protein buffering properties, the three forms of protein nitrogen and the peptid bonds in the protein molecule. He studied proteins in the living cell and the interrelation is pointed out, the concepts of lipoproteid complex are developed, of muscular proteins and the structural cell proteins in general. He conducted studies of brain chemistry and biochemistry and the study of enzymes--their purification by methods of adsorption. He worked out a concept of protein synthesis as a conversion hydrolysis, and accomplished the synthesis of plastein under the influence of digestive juices. The studies are noted of V.S. Gulevich, who discovered extractive substances (carnosine and others), and who studied, among other substances, mucins. The work of D.I. Kuraev on Plasteins and of R.P. Krimberg on extractive substances is reported. In the department of plant physiology, V.I. Palladin conducted biochemical studies on the mechanism of oxi-

Card : 2/4 -6-

dation processes in the cell and their dependence on carbohydrates and constitutional proteins, and on the enzymatic mechanism of respiration. V.K. Zalesskiy studied the transformation of proteins and phosphorus compounds and oxidation-reduction enzymes. The first studies of A.V. Palladin were dedicated to the investigation of creatine and creatinine in muscles. He also conducted studies on vitamins and avitaminosis. A special place is occupied by studies on the biochemistry of the nervous system and functional biochemistry of the brain. Further development of the Kharkov school of Palladin is described; the study of biochemistry of sleep, nucleotides and the phosphorus metabolism of muscles and nervous system (D.L. Ferman), the biochemistry of nutrition and vitamins (S.I. Vinokurov), the changing forms of metabolism, metabolism of hormones, especially of adrenalin and "sympathines" (A.M. Utevskiy), biochemistry and mechanism of action of antibiotics (O.I. Fajnschmidt), the effect of castration on metabolism and the nature of muscle proteins

Category: USSR/General Division. History. Classics. Personalities. A-2

Abs Jour: Referat Zh.-Biol., No 6, 25 March 1957, 21285

and fats and on activity of enzymes (E.S. Savron). A.V. Nagorni conducted experiments on colloid aging, protein denaturation, their gelation (?) isoelectric point (I.N. Bulankin and coworkers). Together with physiologists a study of organisms' aging and the problem of longevity was made (a monograph, "Problems of aging and longevity", (1940). They studied organic physiology in ontogenesis, protein synthesis and ATP in ontogenesis and utilization of dissimilation energy of ATP in ontogenesis. A study was accomplished of ontogenesis of liponucleoproteid metabolism -- the building material for cellular organelles, particularly in the brain.

Card : 4/4 -8-

Utevskiy, Aron

UTEVSKIY, Aron Mikhaylovich; FERDMAN, D.L., otvetstvennyy redaktor; SNEZHIN, M.I., redaktor izdatel'stva; ROZENTSVEYG, Ye.N., tekhnicheskiy redaktor

Aleksandr Vladimirovich Palladin. Kiev, Izd-vo Akademii nauk USSR, 1956. 66 p. (MIRA 9:12)

1. Chlen-korrespondent AN USSR (for Utevskiy). 2. Chlen-korrespondent AN SSSR i AN USSR (Ferdman)
(PALLADIN, ALEKSANDR VLADIMIROVICH, 1885-)

USSR/Human and Animal Physiology. Circulation

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65262

Author : Utevskiy
Inst : The Institute of Cardiology of the Academy of Sciences of the Georgian SSR in Collaboration with the Institute of Physiology of the Academy of Sciences of the Ukrainian SSR.
Title : Nervous Regulation of Epinephrine Metabolism and its Significance for the Cardiovascular System Under Normal Conditions and with Experimental Hypertension.

Orig Pub : V sb.: Stenogr. otchet nauchn. sessii In-ta kardiol. AN GruzSSR s uchastiyem In-ta fiziol. AN USSR. Tbilisi, AN GruzSSR, 1956, 51-58

Abstract : Epinephrine is oxidized comparitively easily and gives a number of reversibly and irreversibly oxidized compounds; norepinephrine is oxidized with considerably more difficulty and can therefore be determined by a fluorescent method worked out in the author's laboratory. Epinephrine is used by the organism as a source of quinones which play a role

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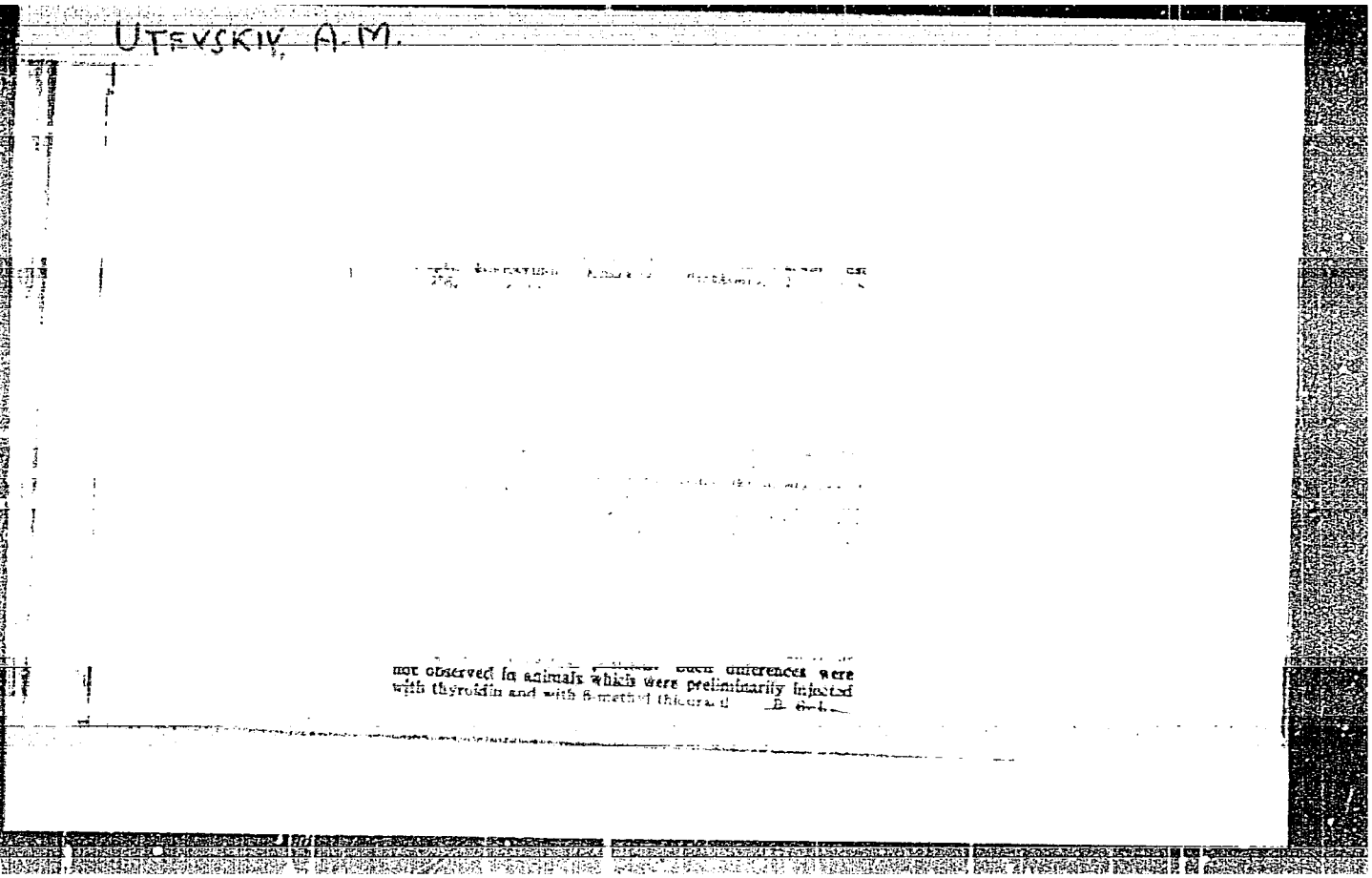
— adrenals.



UTEVSKIY, A. M.

"Certain Metabolic Processes of the Mediator Hormone in the Presence of Various Influences on the Organism and of the State of "Stress"."

Theses

Theses of the Proceedings of the Annual Scientific Sessions 23-26 March 1959 (All-Union Institute of Experimental Endocrinology)

From the Department of Biochemistry of the Ukrainian Institute of Experimental Endocrinology and the Chair of Biochemistry (Head--Professor A. M. Utevskiy, Corresponding Member of the Academy of Sciences UkrSSR) of theKhar'kov Medical Institute

UTEVSKIY, A.M.; BARTS, M.P.; BUTOM, M.L.; GAYSINSKAYA, M.Yu.; OSINSKAYA, V.O.; TSUKERNIK, A.V.; EYDEL'MAN, M.M.

Research on neural regulation of the metabolism of adrenaline and adrenalinelike substances. Sbor. nauch. trud. Ukr. nauch.-issl. inst. eksper. endok. 15:62-72 '59. (MIRA 14:11)
(ADRENALINE IN THE BODY) (NERVOUS SYSTEM)

UTEVSKIY, A. M. (USSR)

"Some Facts and Aspects of the Biochemistry of Catecholamines."

Report presented at the 5th Int'l. Biochemistry Congress, Moscow, 10-16 Aug 1961.

UTEVSKIY, Aron Mikhaylovich; SERDYUK, O.P., red.izd-va; KADASHEVICH, O.A., tekhn.red.

Aleksandr Vladimirovich Palladin. 2.,dop.izd. Kiev, Izd-vo Akad.nauk USSR, 1961. 74 p. (MIRA 15:2)

1. Chlen-korrespondent AN USSR (for Utevskiy).
(PALLADIN, ALEKSANDR VLADIMIROVICH, 1885-)

MALAYA, L.T., prof.; UTEVSKIY, A.M., prof.; KALIMAN, P.A., kand. biologicheskikh nauk; LOGINOVA, G.A.

Study of some processes of catechol amine metabolism in rheumatic fever (Sokol'skii - Bouillaud's disease). Vop. revm. 1 no.3:52-57 Jl-S '61. (MIRA 16:4)

1. Iz kafedry fakul'tetskogospital'noy terapii sanitarno-gigiyenicheskogo i pediatricheskogo fakul'tetov (zav. - prof. L.T.Malaya) i kafedry biokhimii (zav. - chlen-korrespondent AN UkrSSR prof. A.M.Utevskiy) Khar'kovskogo meditsinskogo instituta (dir. - dotsent B.A.Zadordzhnyy).
(RHEUMATIC HEART DISEASE) (ADRENALINE)

NIKITIN, V.N.; UTEVSKIY, A.M.

In memory of Ivan Nikolaevich Bulankin (February 9, 1901 -- October 31, 1960). Biokhimiia 26 no.6:1122-1123 N-D '61. (MIRA 15:6)

(BULANKIN, IVAN NIKOLAEVICH, 1901-1960)

UTEVSKIY, A.M., prof.

Problems of and ways for introducing contemporary biochemistry into medical science and practice. Vrach.delo no.10:3-11 O '62. (MIRA 15:10)

1. Khar'kovskiy meditsinskiy institut. Chlen-korrespondent AN UkrSSR.

(MEDICINE) (BIOCHEMISTRY)

GAYSINSKAYA, M.Yu. [Haisyns'ka, M.IU]; UTEVSKIY, A.M. [Utievs'kyi, A.M.]

Effect of catochol amines on oxidative processes under normal conditions and in experimental hypertension. Ukr. biokhim. zhur. 34 no.2:237-243 '62 (MIRA 16:11)

1. Department of Biochemistry of Kharkov Medical Institute.

UTEVSKIY, A.M., prof.

Third All-Union Conference on the Biochemistry of the Nervous System. Ukr.biokhim.zhur. 34 no.5:791-796 '62. (MIRA 16:4)

1. Chlen-korrespondent AN UkrSSR.
(NEUROCHEMISTRY--CONGRESSES)

MALAYA, L.T., prof.; UTEVSKIY, A.M., prof.; KALIMAN, P.A., kand.biol.nauk; LOGINOVA, G.A.

Study of some processes of catecholamine metabolism in collagenosis. (MIRA 16:5)
Vrach.delo no.2:10-16 F '63.

1. Kafedra gospital'noy terapii (zav. - prof. L.T. Malaya) i kafedra biokhimii (zav. - chlen-korrespondent AN UkrSSR, prof. A.M. Utevskiy) lechebnogo fakul'teta Khar'kovskogo meditsinskogo instituta.
(ADRENALINE) (COLLAGEN DISEASES)

UTEVSKII, A.M.

"Biochemistry" by B.L. Feriman. Reviewed by A.M. Utevskii.
Usp. sovr. biol. 56 no.3:468-469 '63. (MIRA 17:5)

UTEVSKIY, A. M.

On 4 October 1946, at the Power Engineering Institute imeni Molotov, defended his dissertation on "The Theory and Methods of Calculating P-Phase Rectifiers with Capacitance Filters". Official opponents - Doctor of Technical Sciences Professor G. I. Babat, and Candidate of Technical Sciences Docent V. V. Yasinskiy.

So: Elektrichestvo, No 4, April 1947, pp 90-94 (U-5677, 18 February 1954)

[redacted]

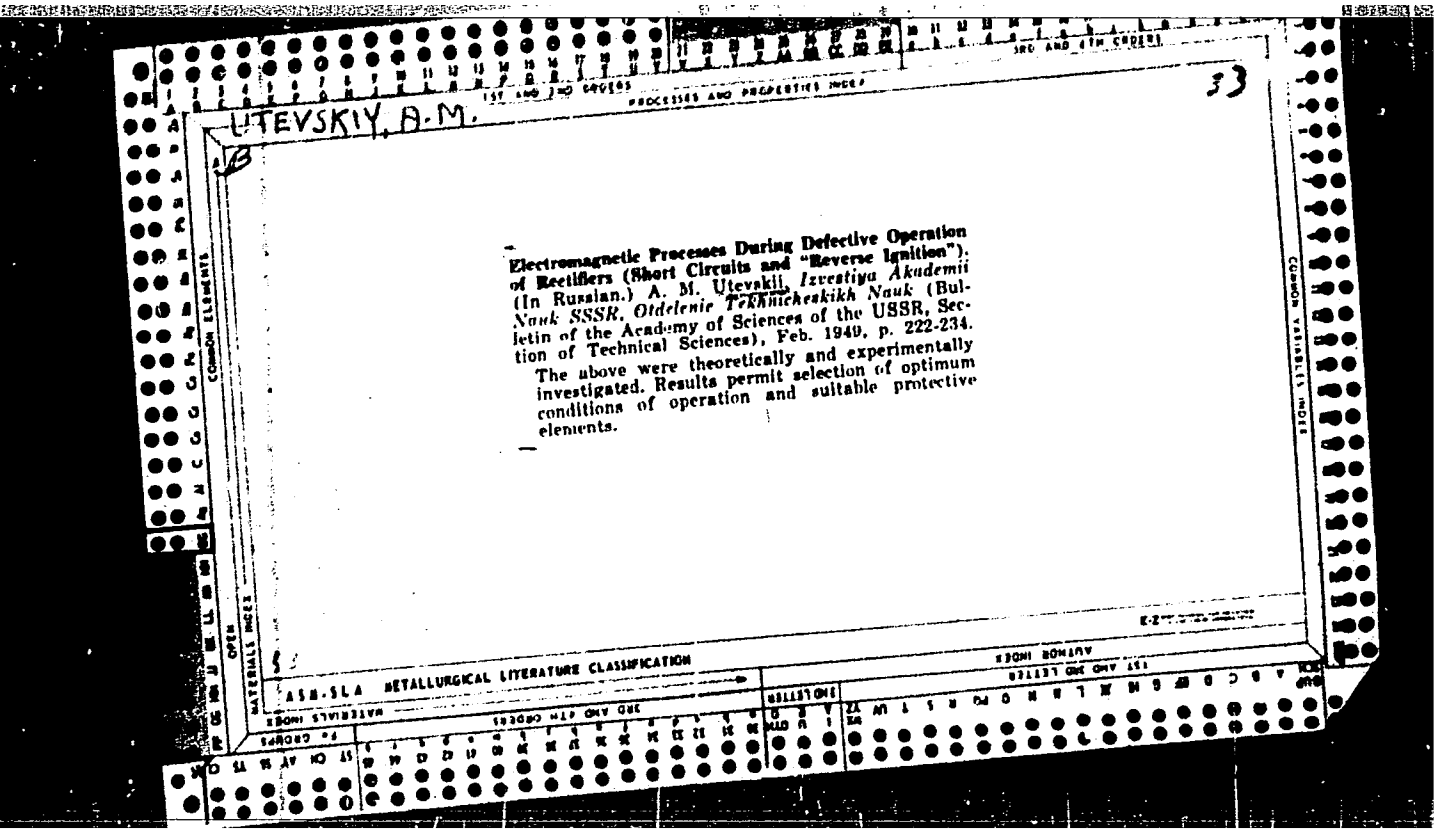
A method was presented for calculating rectifiers with capacitance filters used to supply plate circuits, grid-mixer circuits, peak voltmeters, detectors, and other radio-engineering and radio direction-finding instruments. The theoretical and experimental foundations of the method worked out were presented, and the unsuitability was pointed out of using simplified methods of calculation which ordinarily overlook the effect of the resistance of the transformer and the rectifier.

So: IBID

UTEVSKIY, A. M.

The theory and calculation method of T-phase electric current rectifiers with capacity filters. Moskva, Gos. energ. izd-vo, 1940. 46 p. (50-1?040)

TK2798.U8



UTEVSKIY, B.M.

33

Electromagnetic Processes During Defective Operation of Rectifiers (Short Circuits and "Reverse Ignition"). (In Russian.) A. M. Utevskii, *Izvestiya Akademii Nauk SSSR, Otdelenie Tekhnicheskikh Nauk* (Bulletin of the Academy of Sciences of the USSR, Section of Technical Sciences), Feb. 1949, p. 222-234.

The above were theoretically and experimentally investigated. Results permit selection of optimum conditions of operation and suitable protective elements.

UTEVSKIY, A. M.; OSINSKAYA, V. O; MOGILEVSKIY, A. M. (Khar'kov)

Dannyye o prirode i lokalizatsii katekholaminov v morfologicheski i funktsional'no razlichnykh uchastkakh golovnogo mozga zhivotnykh (sobak)

report submitted for the First Moscow Conference on Reticular Formation, Moscow, 22-26 March 1960.

UTEVSKIY, A.M.; VINTER, A.V., akademik.

Methods of study of electromagnetic processes in transformer installations. Iav. AN SSSR Otd.tekh.nauk. no. 3:424-431 Mr '53. (MLRA 6:5)
(Electric transformers)

UTEVSKIY, A.M.; BAKO, V.N.

Investigation of electromagnetic processes in three-phase "star-sig-zag" rectifier circuit in normal and emergency conditions. Izv.AN SSSR Otd.tekh.nauk. no.11:1561-1576 N '53. (MLRA 6:12)

1. Predstavleno akademikom G.M.Krzhizhanovskim. (Electric current rectifiers)

BAKHAREVSKIY, V.P. (Moskva); UTKIN, A.M. (Moskva).

Examination of two-step forced commutation circuits used in inverters. Izv. AN SSSR Otd.tekh.nauk no.3:15-27 Mr '56. (MLRA 9:7)
(Electric current converters)

Lutevskiy, A.M.

14(6),8(0) PHASE I BOOK EXPLOITATION SOV/3072

Akademiya nauk SSSR. Energeticheskiy institut

Elektroenergetika, vyp. 1 (Electric Power Engineering, Nr 1) Moscow, Izd-vo AN SSSR, 1959. 159 p. Errata slip inserted. 2,800 copies printed.

Eds. of Publishing House: P. F. Ogarkov and Ye. M. Grigor'yeva Tech. Ed.: Ye. V. Zelenkova; Editorial Board: Yu. G. Tolstov, Doctor of Technical Sciences (Resp. Ed.), I. M. Markovich, Doctor of Technical Sciences, I. S. Stekol'nikov, Doctor of Technical Sciences, I. I. Zubkov, Candidate of Technical Sciences, V. I. Lavitov, G. V. Nikmovich, Candidate of Technical Sciences, V. I. Lavitov, Candidate of Technical Sciences, and M. D. Bol'shov (Secretary)

PURPOSE: This collection of articles is intended for specialists in the various fields of electric power engineering treated in it.

COVERAGE: The first issue of the collection of articles, Elektroenergetika, appeared in April 1959. It is published by ENIN imeni G. M. Krzhizhanovskiy of the Academy of Sciences, USSR. The articles in this issue are on research and work by the authors under the auspices of ENIN. The articles are on a high theoretical and technical level and represent original contributions to various present-day problems in electrical engineering. References are given after most of the articles.

Zirkus, V. V. Problem of Designing Saturable Reactors for Low-Voltage Contact Rectifiers 31

The author considers the problem of designing saturable reactors for d-c low-voltage supply for electrochemical and electrometallurgical industries, which has not been adequately treated in the current literature. He aims at presenting a systematic survey of existing methods and suggests certain concrete recommendations on methods of calculating saturable reactors. There are 10 references: 2 Soviet, 6 German and 2 English.

Utevskiy, A. M. Theory and Method of Designing Voltage-Doubling Rectifiers With a Capacitive Filter 44

The method suggested by the author was tested experimentally and found to satisfy engineering requirements. There are 11 references: 7 Soviet, 2 German and 2 English.

Gorelkin, N. V., Sh. I. Lutidze and P. M. Shpileva. Electronic Excitation of Synchronous Generators Using a Six-phase Circuit With a Buffer Rectifier 54

The authors credit Academician K. I. Shafer with the first studies in 1933 on the problems of electronic excitation. Recent investigations on this subject were conducted in the USSR by D. A. Gavrilkin, Ye. A. Glebov, Ye. L. Ettinger and by the electromechanical laboratory of ENIN. The authors made a number of investigations of different circuit combinations. All of the methods using buffer rectifiers were introduced by the laboratory. The methods and results of investigations are presented. There are 3 references, all Soviet.

Lutidze, Sh. I. Analysis of an Electronic Exciter Connected Through a Three-phase Circuit With a Buffer Rectifier. 67

The author investigates simple and reliable three-phase electronic exciter systems with buffer rectifiers and applies the method of symmetrical components to obtain expressions for currents and voltages. This article is a continuation of the previous one. There are 3 references, all Soviet.

Gorelkin, N. V. and P. M. Shpileva. Application of Germanium Rectifiers in Excitation Circuits of Synchronous Generators 93

The electromechanics laboratory of ENIN developed in 1954 an experimental installation of a synchronous generator equipped with a rotating germanium rectifier in a bridge circuit with germanium diodes of the DGe-2A type. Results of experiments are presented. There are 5 references: 4 Soviet and 1 English.

UTEVSKIY, B S

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ISTORIYA UGOLOVNOGO PRAVA BURZHUAZNYKH GOSUDARSTV (HISTORY OF CRIMINAL LAW IN THE BOURGEOIS STATES) MOSKVA, GOSYURIZDAT, 1950.

422 P. TABLES.

AT HEAD OF TITLE: MOSCOW. VSESOYUZNYY INSTITUT YURIDICHESKIKH NAUK.

INCLUDES BIBLIOGRAPHIES.

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UTEVSKIY, Boris Samoylovich, professor; LOKHOV, N.A., redaktor; MAKAROVA, A.N., tekhnicheskiy redaktor

[Criminal responsibility for the production of shoddy, deficient and substandard goods] Ugolovnaia otvetstvennost' za vypusk nedobrokachestvennoi, nekomplektnoi i nestandartnoi produktsii. Moskva, Gos.izd-vo iurid. lit-ry, 1955. 102 p. (MLRA 9:2)
(Criminal law) (Russia--Industries)

UTEVSKIY, I.S., inzhener.

Foundations under steam-powered hammers and heavy presses made of prestressed reinforced concrete (Abstracted from foreign periodicals). Bet.i zhel.-bet. no.6:225-227 Je '56. (MLRA 9:8)
(Hammers) (Foundations)

UTEVSKIY, I.S., inzhener.

Cement mortar for filling reinforcement canals in prestressed reinforced concrete structures. Bet.i zhel.-bet. no.11:409-411 N '56. (MLRA 9:12)

(Mortars) (Prestressed concrete)

UTEVSKIY, Iosif Samuilovich; KRYUGER, Yu.V., red.izdatel'stva; EL'KINA, E.M., tekhn.red.

[Structural elements of buildings] Chasti zdanii. Moskva, Gos. izd-vo lit-ry po stroit. i arkhit., 1957. 167 p. (MIRA 10:12)
(Building)

UTK/SKIY, I.S.

Mechanized parking garages. Biul. tekh.-ekon. inform. no.1:94-95 '57. (MIRA 11:4)
(Garages)

SOV/97-58-12-12/13

AUTHOR: Utevskiy, I.S., Engineer

TITLE: Unreinforced Prestressed Concrete Reservoirs for Naphtha (Nearmirovannyye predvaritel'no napryazhennyye betonnyye rezervuary dlya nefti).

PERIODICAL: Beton i Zhelezobeton, 1958, Nr.12, pp.474-475 (USSR)

ABSTRACT: Flat jacks (see Fig.1), designed by the French Engineer, E. Freycinet can in some cases be used to effect prestressing of concrete without the help of reinforcement, thus saving labour and cost in constructions which have the properties of prestressed reinforced concrete. An example of the use of such a method of construction may be found in the large underground reservoirs for storing Naphtha and its derivatives, which have been constructed 200 m deep in the rock at Mers-el'-Kebir in Algeria (Alzhir). A detailed description of this French method is given. There are 2 figures.

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-UTEVSKIY, L.M.

RIZOL', A.I.; UTEVSKIY, L.M., kand.tekhn.nauk

New type of specimen for the electron microscope investigation of dispersed, two-phase alloys. Probl. metalloved. i fiz. met. no.4:302-308 '55. (MLRA 11:4)
(Alloys--Metallography) (Electron microscopy)

UTEVSKIY, L.M

RIZOL', A.I., SAKVARELIDZE, L.G., UTEVSKIY, L.M.

Nature of the temper brittleness of steel. Dokl. AN SSSR 105 no.2: 268-270 '55. (MLRA 9:3)

1. Institut metallovedeniaya i fiziki metallov TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii. Predstavleno akademikom G.V. Kurdyumovym.
(Steel--Brittleness)

RIZOL', A.I., UTEVSKIY, L.M.

Copying the structure of metals by means of a titanium film. Zav. lab. 22 no.5:567-569 '56. (MLRA 9:8)

1. Institut fiziki metallov TSentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii.
(Metallography) (Titanium)

Utevskiy, L.M.

70-5-25/31

AUTHORS: Sakvarelidze, L.G. and Utevskiy, L.M.

TITLE: On Methods of Investigating the Structures and Phase Compositions of Grain Boundaries (K metodike issledovaniya struktury i fazovogo sostava granits zeren)

PERIODICAL: Kristallografiya, 1957, Vol.2, No.5, pp. 695-699 (USSR)

ABSTRACT: A combined electron-diffraction electron microscope technique for examining material in the boundaries between grains in iron alloys is described. By etching a steel for 1-5 min. in Popov's etch, the matrix material can be removed for a depth of 0.2 - 0.4 μ leaving the less soluble boundary phase standing proud of the surface in ridges. If the electron beam is then inclined to the surface at a glancing angle of 1^{0}, then a satisfactory electron diffraction picture can be obtained even if the boundary material has only 10^{-4} to 10^{-3} of the total volume of the specimen. For example, cementite, occupying only 0.4% of the specimen volume in 0.035% carbon steel, can be detected. By using the X-ray fluorescent radiation excited the elements present in grain boundaries and they can be detected. Lines of a face-centred cubic phase ($a = 3.62 \pm 0.01$ A) found by some authors in electronograms of annealed specimens of various low-carbon steels have been attributed to austenite.

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On Methods of Investigating the Structures and Phase Compositions of Grain Boundaries.

The authors have tested, with the above technique, alloys of iron with 0.05% to 2% of Mn, Ni, Cr, Mo and up to 0.01% P, C or Sn after annealing or tempering at 800 °C and found no sign of "austenite". Nor did austenite appear after cementation or nitriding these alloys, but only after the addition of less than 0.1% Cu. The copper layer seems to be deposited on commercial steels while etching is in progress and comes from the iron of technical quality. If the Cu is deposited on the anode, its period is 3.65 A and if on the cathode its period is 3.62 A. A series of chrome-manganese and chrome-nickel steels, some with very low carbon content, and possessing reversible tempering brittleness, were examined. The study confirmed that brittle fracture of steels in the condition of tempering brittleness proceeds along the grain boundaries. This is shown from electron micrographs, the grain boundary particles being shown to be Fe_3C and Cr_7C_3. There are 7 plates and 5 references, 3 of

Card 2/2 which are Slavic.

ASSOCIATION: TsNIIChERMET
SUBMITTED: April, 22, 1957.
AVAILABLE: Library of Congress

[illegible], L. M., Cand. Tech. Sci.,

"Basic Structural Characteristics of "Nimonik" Alloy," page 266.

"Electron Microscope Investigation of Fracture Surfaces in Steel in Connection with the Phenomena of Temper Brittleness," with Orlov, L. G., page 277.

"An Investigation of the Surface Layers of Ferrite Grains in Steel," with Orlov, L. G.; Sakvarelidze, L. G., page 287.

In book Problems of Physical Metallurgy, Moscow, Metallurgizdat, 1958, 603p. (Its: Sbornik trudov, v. 5)

The articles in the book present results of investigations conducted by the issuing body, Inst. of Physical Metallurgy, a part of the Cent. Sci. Res. Inst. of Ferrous Metallurgy, located in Dnepropetrovsk. The investigations were concerned with phase transformations in alloys, strengthening and softening processes, diffusion processes (studied with the aid of radioactive isotopes), and certain other questions.

SOV/120-58-4-11/30

AUTHORS: Orlov, L. G., Sakvarelidze, L. G., Utevskiy, L. M.

TITLE: Local X-Ray Analysis by Photographing [Taking spectrogram of] Reflected [X-Rays] (Lokal'nyy rentgenospektral'nyy analiz pri elektronograficheskoy s"yemke "na otrazheniye")

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 4, pp 61-62 (USSR)

ABSTRACT: A method is described for the analysis of the chemical composition of very thin surface layers. Simultaneously with this the structural phase pattern may be obtained "by reflection" in the EM-4 electronograph, using a specially designed spectral camera. The X-ray radiation which appears when an electron beam grazes the surface of the specimen is studied. In electron diffraction studies "by reflection" the diffraction pattern is produced by a surface layer about 10^{-6} cm thick. The X-ray radiation which results during this process may be used for the X-ray analysis of the chemical composition of the surface of a specimen under investigation. The geometrical conditions in the "by reflection" case (grazing electron beam) make it possible to carry

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Local X-Ray Analysis by Photographing [Taking Spectrogram of] Reflected [X-Rays]

out not only a general but also a local analysis of the structural components of the specimen for various states of its surface. The chamber used for this purpose is shown in Fig.1. The X-ray spectrum is analysed by a fixed calcite crystal. The method has been used to study changes in the chemical composition of surface layers of ferrite and various kinds of steel. There are 2 figures and 9 references, of which 5 are Soviet and 4 English.

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNIIChermet (Institute of Metallography and Physics of Metals of TsNIIChermet)

SUBMITTED: October 25, 1957.

137-58-6-13261

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 298 (USSR)

AUTHORS: Bagaryatskiy, Yu.A., Petrova, Z.M., Utevskiy, L.M.

TITLE: Phase Diagram of the Ni-Cr-NiAl Alloy System (Diagramma sostoyaniya sistemy Ni-Cr-NiAl)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsentr. n.-i. in-ta chernoy metallurgii, 1958, Vol 5, pp 235-240

ABSTRACT: The alloys were smelted in a high-frequency furnace in an Ar atmosphere, homogenized at 1400-1430°C in an Ar atmosphere for 2-4 hr, and examined by microstructural and X-ray analyses. The eutectic temperature of the quasi-binary section Cr-NiAl was 1450°, the solubility of NiAl in Cr at 1150-1250° was 6-7 atom %, the maximum solubility of NiAl in Cr at the eutectic temperature is 27-28 atom %, the eutectic point lies about 60-62 atom % NiAl. Also investigated were a number of alloys rich in Cr, and the borders of the region of solid α solution at 1250, 1150, and 950° were plotted. Refer also RzhMet, 1956, Nr 1, abstract 644. L.V.

1. Nickel alloys--Phase studies 2. High frequency heating--Applications

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SOV/137-58-8-17964

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 252 (USSR)

AUTHOR: Utevskiy, L. M.

TITLE: On Basic Structural Peculiarities of Nimonik Alloys (Ob osnovnykh strukturnykh osobennostyakh splava nimonik)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsentr. n.-i. in-ta chernoy metallurgii, 1958, Vol 5, pp 266-271

ABSTRACT: Methods of semi-direct electron-microscope and electron-diffraction study of heterophase alloys were employed together with methods of X-ray diffraction analysis in order to determine the structure of the Nimonik alloy. It was established that decomposition of the solid solution, in the course of aging of an alloy at temperatures of 700-900°C, is observed at exposures of several tens of hours. In the process of growing, particles of α' phase preserve their cubic form even at extremely long exposures at temperatures of 700 and 850°; in the course of this process, identical orientation of crystal lattices of both phases is preserved within single grains. It is shown that the order of the crystal lattice of the α' phase is analogous to that of Ni_3Al, the Ti and Al atoms occupying the position

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SOV/137-58-8-17964

On Basic Structural Peculiarities of Nimonik Alloys

(000). The constant of the α' -phase lattice was determined on the basis of X-ray photographs as 3.573kX while the constants of the solid-solution lattice are 3.555kX. It is shown that particles of the α' phase which had separated out at high temperatures are under omnidirectional compression at room temperature, the magnitude of elastic deformation corresponding to a stress of 100 kg/mm^2.

V. R.

1. Alloys—Structural analysis

Card 2/2

SOV/137-58-7-15772

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 7, p 267 (USSR)

AUTHORS: Orlov, L.G., Utevskiy, L.M.

TITLE: Electron-microscopic Investigation of the Surface of Fractures in Relation to the Phenomenon of Anneal Brittleness of Steel (Elektronnomikroskopicheskoye issledovaniye poverkhnosti izlomov v svyazi s yavleniyem otpusknoy khrupkosti stali)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov Tsentr. n.-i. in-ta chernoy metallurgii, 1958, Vol 5, pp 277-286

ABSTRACT: In connection with the phenomenon of anneal brittleness an electron-microscopic investigation of unetched surface of fractures in Mesnager impact test specimens of three types of steel was carried out. Impact tests were carried out at temperatures of -196 to + 150°C. 03KhG2 and 20Kh2N2 steels exhibited a high susceptibility towards annealed brittleness in contrast to the 20KhNZM steel. It was established that the brittle fracture in steels brought to the state of anneal brittleness is practically always intercrystalline, whereas a low-temperature brittle fracture of the same steels reduced to a "ductile" condition (High annealing with a rapid cooling) has

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SOV/137-58-7-15772

Electron-microscopic Investigation of the Surface (cont.)

the character of a mixed one. The brittle fracture of high-annealed 2KhN2M steel in which anneal brittleness is not manifest is always transcrystalline (intracrystalline). Bibliography: 16 references.

T. F.

1. Steel--Fractures 2. Heat--Metallurgical effects 2. Electron microscopes--Applications

Card 2/2

SOV-137-58-8-17776

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 226 (USSR)

AUTHORS: Orlov, L.G., Sakvarelidze, L.G., Utevskiy, L.M.

TITLE: A Study of the Surface Layers of Ferrite Grains in Steel (Izucheniye poverkhnostnykh sloyev zeren ferrita v stali)

PERIODICAL: Sb. tr. In-t metalloved. i fiz. metallov. Tsentr. n.-i. in-ta chernoy metallurgii, 1958, Vol 5, pp 287-293

ABSTRACT: A presentation of certain data obtained during studies on surface phenomena in Fe alloys and low-carbon steel performed by means of electron-diffraction study and electron microscopy. It established that the surface layers of ferrite grains differ from their central regions only with regard to their chemical composition and not in their phase composition. After high tempering or annealing, no austenite interlayers were observed in Fe or in structural steels. Statements made by other researchers to the effect that such layers are present are erroneous and were, apparently, caused by the presence of Cu impurities which produce their own diffraction patterns upon the electron-diffraction picture. T.F. 1. Iron alloys--Surface properties 2. Steel alloys--Surface properties 3. Grains (Metallurgy)--Analysis 4. Electron diffraction analysis 5. Electron microscopes

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SOV/126-6-4-31/34

AUTHORS: Koshelevskiy, R. M., Orlov, L. G. and Utevskiy, L.M.

TITLE: On the Causes of Appearance of "Austenite" Lines on Electron Diffraction Patterns of Ferritic Specimens (O prichinakh poyavleniya liniy "austenita" na elektronogrammakh ferritnykh obraztsov)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 4, pp 764-765 (USSR)

ABSTRACT: To establish the causes of this phenomenon a series of heats were produced using electrolytic iron which was preliminarily purified in hydrogen. In a vacuum high frequency furnace pure iron and binary, ternary and quaternary alloys of iron with (up to 2%) Cr, (up to 2%) Mn, (up to 2%) Ni, (up to 1%) Mo, 0.4% Si, 0.1% P, 0.1% Sn were used. It can be seen from the reproduced photographs, Fig.1, that none of the obtained electron diffraction patterns contained "austenite" lines, not even after carburising and nitriding. Only introduction into the alloys and into the pure iron of 0.1% Cu resulted in an appearance on the electron diffraction patterns of continuous, bright, slightly blurred lines of the face centred cubic lattice with a

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On the Causes of Appearance of "Austenite" Lines on Electron Diffraction Patterns of Ferritic Specimens

period of 3.62 Å, Fig.2. The authors assume that copper, from the section of the specimens dissolved during etching, deposits on the specimen and covers it a thin layer. To verify this assumption, a specimen of a pure alloy of iron (without copper addition), for which electron diffraction patterns show only the lines of the α-phase, were etched electrolytically under conditions which were standard for the given case in an electrolyte of a 1N solution of KCl saturated with citric acid; preliminarily copper was etched with the same solution. The electron diffraction pattern from the surface of the specimen showed, in addition to the lines of α-iron, very clear characteristic (austenite) lines. If the etching is prolonged with such a copper saturated electrolyte, the specimen becomes coated with a reddish layer of copper which can be seen by the naked eye and the electron diffraction pattern will show only copper lines, Fig.3. Deposition of copper onto the specimen will take place even if a positive potential of 10 to 12 V is applied to it and

On the Causes of Appearance of "Austenite" Lines on Electron Diffraction Patterns of Ferritic Specimens

the more so in the case of chemical etching. Spectral analysis of specimens of pure iron and of alloys, the electron diffraction patterns of which do not show copper lines, show only traces (less than 0.01%) of "austenite". Thus, it was established that during etching of iron specimens containing even slight quantities of copper (hundredths of a percent) it can deposit on the surface of the specimen and then show up on the electron diffraction pattern at a rate depending on the content of copper in the specimen and in the etching solution. The lattice period, determined by electron diffraction, for copper deposited on the specimen surface, equalled in every case 3.62 Å. Massive specimens of copper have a period of 3.65 Å, which is in agreement with the data of Shishakov and Pinsker (Refs 6 and 7), although they differ from the values determined by X-ray diffraction. It can be considered proved that there are no inter-layers of austenite (except for the ordinary residual austenite) in specimens of low carbon steel. Even if as a result

On the Causes of Appearance of "Austenite" Lines on Electron Diffraction Patterns of Ferritic Specimens

of internal adsorption above Ac_3 the inter-crystallite zones become enriched with alloying elements, they do not become enriched to a sufficient extent to conserve inter-layers of high alloy austenite during subsequent slow cooling (or in the case of high temperature tempering) along the boundaries of the original austenitic grains. There are 3 figures and 7 references, 2 of which are Soviet, 5 English.

(Note: This is a condensed translation)

ASSOCIATION: Institut metallovedeniya i fiziki metallov TsNIIChM (Institute of Metallography and Metal Physics TsNIIChM)

SUBMITTED: May 9, 1957

AUTHOR: Utevskiy, L. M. 2o-119-1-21/52

TITLE: On the Connection Between the Process of Carbide Formation in Tempering Steel and the Occurrence of a Revisible Temper Brittleness (O svyazi protsessa karbidoobrazovaniya pri otpuske stali s yavleniyem obratimoy otpusknoy khrupkosti)

PERIODICAL: Doklady Akademii Nauk, SSSR, 1958, Vol. 119, Nr 1, pp. 79-82(USSR)

ABSTRACT: The following particularity of the disintegration of supersaturated solid solutions at the grain boundaries is known: The separation of the second phase here occur earlier and grow faster, than inside the grains. This is valid for most of the ageing alloys and for steels. From the beginning until the complete disintegration the difference of the concentrations of the solid solution between the superficial layers and the inside of the grains is maintained. The change of the composition of the carbide phase (i.e. its enrichment with carbide-forming elements) during the tempering at 650°C even lasts for 100 hours and more. In case of a reduction of the tempering temperature the process becomes much slower and practically cannot be terminated. If

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the carbide-forming elements influence the solubility of the other elements in the ferrite, then the inhomogeneity of the concentration of the carbide-forming elements must cause a corresponding new distribution of the other elements in the solid solution, which is caused by diffusion. Details on this are discussed. In tempering a steel, which contains chromium or manganese, all conditions for the new distribution of phosphorus between the surface and the inside of the grain are satisfied. The lower the tempering temperature, the lower is also the solubility of phosphorus. The enrichment of the surface layers of the grains with phosphorus must, in case of a reduction, increase, reach a maximum, and then decrease again. The reversible brittleness in tempering of alloyed structural steels seems to be possible only in case of simultaneous presence of carbon, phosphorus, and any carbide-forming element in the alloy. The existing data speak for the fact that the viscosity, which occurs in tempering, is caused by an increase of the concentration of phosphorus or of its analogs - of antimony and of arsenic - in the sur-

face layers the ferrite grains. The influence of the non-carbide-forming elements on the susceptibility of steel for brittleness, caused by tempering, is explained completely by their influence upon the solubility of phosphorus in the ferrite. The processes, which cause the viscosity in the case of tempering, seem still to take place in the austenitic state at a heating of the steel. The considerations discussed here of course still require direct experimental proof. There are 25 references, 16 of which are Soviet.

ASSOCIATION: Institut metallovedeniya i fiziki metallov Tsentral'nogo nauchno-issledovatel'skogo instituta chernoy metallurgii (Institute for Metallography and Physics of Metals of the Central Scientific Research Institute for Ferrometallurgy)

PRESENTED: October 24, 1957, by G.V. Kurdyumov, Member, Academy of Sciences USSR
SUBMITTED: October 17, 1957

Utevskiy, L. M.

18(0) PHASE I BOOK EXPLOITATION SOV/2125

Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.
Institut Metallovedeniya i fiziki metallov

Problemy metallovedeniya i fiziki metallov (Problems in Physical Metallurgy and Metallophysics) Moscow, Metallurgizdat, 1959. 540 p. (Series: Its: Sbornik trudov, 6) Errata slip inserted. 3,600 copies printed.

Additional Sponsoring Agency: USSR. Gosudarstvennaya planova komissiya.

Ed. of Publishing House: Ye.M. Berlin; Tech. Ed.: P.S. Islent'yeva; Editorial Board: D.S. Kamenetskaya, B.Ya. Lyubov (Resp. Ed.), Ye.Z. Spektor, L.M. Utevskiy, L.A. Shvartsman, and V.I. Malkin.

PURPOSE: This book is intended for metallurgists, metallurgical engineers, and specialists in the physics of metals.

COVERAGE: The papers in this collection present the results of investigations conducted between 1954 and 1956. Subjects covered include crystallization of metals, physical methods of influencing the processes of crystallization, problems in the physical chemistry of metallurgical processes, development of new methods and equipment for investigating metals, and production control. References follow each article.

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