"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPEYKO, F.A. [Apeyka, F.A.], prof.

Most efficient distribution of pressure between caterpillar tracks and ground. Vestsi AN BSSR.Ser.fiz.-tekh.nav. no.4: 39-51 '58. (MIRA 12:4)
(Caterpillars (Vehicles))

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

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Minsk. Belorusskiy politekhnicheskiy institut

Detali mashin (Machine Parts) Minsk, Red.-izd. otdel BPI imeni I.V. Stalina, 1959. 69 p. (Series: Its: Sbornik nauchnykh trudov, vyp. 75) 1,500 copies printed.

Sponsoring Agencies: Ministerstvo vysshego, srednego spetsial'nogo i professional'nogo obrazovaniya BSSR; Belorusskiy politekhnicheskiy institut imeni I.V. Stalina.

Editorial Board: V.N. Treyyer (Resp. Ed., Doctor of Technical Sciences, Professor; V.I. Butrimovich, Candidate of Technical Sciences, Docent; L.M. Rubenchik, Candidate of Technical Sciences, Docent, and A.I. Zheltonoga, Candidate of Technical Sciences, Docent; Resp. Ed. for this vol.: A.A. Mukhin, Engineer, Ed.: N. Kapranova; Tech. Ed.: Ye. Konchits.

PURPOSE: This collection of articles is intended for technical personnel and scientific workers.

COVERAGE: This is the 75th issue of a series published by the Belorussian Polytechnic Institute imeni I.V. Stalin. The collection contains eleven articles, ten of which are devoted to studies and work related to the life of certain machines parts. The remaining article deals with the power of the lighting installation in a cinematographic apparatus. No personalities are mentioned. References accompany most of the articles. There are 32 references: 30 Soviets, 1 English and 1 German. A short appendix is also included.

5. Butrimovich, V.I. Some Problems in the Calculation and Production of Variable-Pitch Screws 57

6. Zheltonoga, A.I. On Methods of Calculating the Life of Bevel Gears in Differentials of Automobiles and Trucks 42

7. Blyum, Ye. O. Use of "Lignofol" [Birch-Veneer Laminate Impregnated With Resol-Type Phenol-Formaldehyde Resin] for Bushings of Sliding Bearings 48

8. Zheltonoga, A.I. Use of Gear-Tooth Gage for Measuring the Amount of Bevel-Gear Tooth Wear 52

9. Getsevich, R.G. Experiments for the Determination of [the Amount of Mechanical] Work Required for the Wear 55

10. Treyyer, V.N. Selection of Allowable Stresses in Machine Parts Under Alternating Loading, Taking Into Account the Variations in Length of Service 61

11. Opeyko, F.A. Determination of the Lighting Capacity of an Installation for Narrow-Film [8,9.5 and 16 mm] Shooting in the Laboratory 68

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OPEYKO, F.A.

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OPEYKO, F.A. [Apeika, F.A.]

General method for expressing the transmission ratio and efficiency of friction drive. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.1:11-18 '59. (MIRA 12:6)
(Power transmission)

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KRIVOSHEIN, M.S.; OPEYKO, F.A.; LOPOTKO, M.Z.

New method of winning granulated peat by deep excavation of the peat deposit. Trudy inst. torf. AN BSSR 8:77-84 '59.
(MIRA 13:12)

(Peat industry--Equipment and supplies)

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KRIVOSHEIN, M.S.; OPEYKO, F.A.

Preparation of granular peat by extruding it through holes.
Trudy inst. torf. AN BSSR 8:94-102 '59. (MIRA 13:12)
(Peat)

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OPEYKO, F.A.; ZHUK, Ye.A.

Extent of the processing of peat in a roller macerator. Trudy inst. torf. AN BSSR 8:114-118 '59. (MIRA 13:12)
(Peat)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPEYKO, F.A.

Unexplored possibilities of the screw conveyer for the mechanical treatment and cutting of natural peat of lower moisture content. Trudy inst. torf. AN BSSR 8:162-170 '59. (MIRA 13:12)
(Peat industry—Equipment and supplies)

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OPEYKO, F.A.

Drugging of peat by a ridger blade or by a sweeper. Trudy inst. torf. AN BSSR 8:171-176 '59. (MIRA 13:12)
(Peat machinery)

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OPEYKO, F.A.

Resistance to the crushing of peat soil by moving wheels. Trudy inst. torf. AN BSSR 8:177-185 '59. (MIRA 13:12)
(Peat soils) (Wheels)

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OPEYKO, F.A., prof.

Dynamics of starting while turning of a tracklaying, self-propelled vehicle under the simplest of circumstances. Izv. vys. ucheb. zav.; gor. zhur. no.9:87-89 '59. (MIRA 14:6)

1. Belorusskiy politekhnicheskiy institut imeni I.V. Stalina. Chlen-korrespondent Akademii nauk i Akademii sel'skokhozyaystvennykh nauk BSSR. Rekomendovana kafderoy torfyanykh mashin.
(Tracklaying vehicles)

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OPEYKO, F.A.

Static turn of a wheel system with rear driving wheels connected by a differential. Sbor.nauch.trud.Bel.politekh.inst. no.64: 117-121 '59. (MIRA 13:5)
(Motortrucks--Wheels)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

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OPEYKO, F.A.

Turns of a "royal"-type running wheel. Sbor.nauch.trud.Bel. politekh.inst. no.64:123-128 '59. (MIRA 13:)
(Tractors)

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OPEYKO, F.A.

Classification of peat machinery according to the number of degrees of freedom of the excavating part. Sbor.mauch.trud.Bel. politekh.inst. no.65:45-47 '59. (MIRA 13:5)
(Peat machinery)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

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OPEYKO, F.A.

Concentration of the production at peat works in relation to the intensive drying of peat bogs. Sbor.nauch.trud.Bel.politekh. inst. no.65:49-52 '59. (MIRA 13:5)
(Peat bogs)

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A005/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 6, p. 18, # 6953

AUTHOR: Opeyko, F.A.

TITLE: A Simplified Theory of the Accuracy of Mechanisms

PERIODICAL: Sb. nauchn. pabot. Belorussk. politekhn. in-t, 1959, No. 65, pp. 141-156

TEXT: A procedure is presented for analyzing the primary errors in the elements of kinematic pairs and for determining their influence on the error in the position of the mechanism. The coordinates of the relative position of the pair elements are represented by the known mode as two vectors (for the translational shift and the rotation), and, on this basis, the logical symbolism of various kinematic pairs is given. The characteristic of a member of the mechanism is determined as the product of three pairs of vectors, whereby the third vector pair represents the influence of the error in the rotation of the preceding element on the error in the translational shift of the following element of the pair. For two-dimensional mechanisms, the intersection lines of those surfaces are considered as pair elements, which form the pair element with the

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OPEYKO, F.A.

Theory of screw conveyers for raw peat. Sbor.nauch.trud.Bel. politekh.inst. no.65:157-164 '59. (MIRA 13:5)
(Peat machinery)

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OPEYKO, F.A.

Static turn of wheeled crawler tractors. Sbor.nauch.trud.Bel. politekh.inst. no.65:165-169 '59. (MIRA 13:5)
(Crawler tractors)

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OPEYKO, F.A.

Determining the capacity of a lighting unit for narrow-film motion-picture photography under laboratory conditions. Sbor. nauch.trud.Bel.politekhn.inst. no.75:68-70 '59. (MIRA 13:6)

(Motion pictures--Lighting)

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OPRYKO, Fedor Aleksandrovich; BARKAN, V.A., red.; YERMILOV, V.M., tekhn. red.

[Design stresses; theory of strength] Raschetnye napriazheniia; teoriia prochnosti. Minsk, Izd-vo Akad. sel'khoz. nauk BSSR, 1960. 19 p. (MIRA 14:5)

(Strains and stresses)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPEYKO, Fedor Aleksandrovich; BARKAN, V.A., red.; ZUYKOVA, V.I., tekhn.red.

[Crawler and wheeled drives] Kolesnyi i gusenichnyi khod. Minsk, Izd-vo Akad.sel'khoz.nauk BSSR, 1960. 227 p. (MIRA 13:12)

1. Chlen-korrespondent Akademii nauk i Akademii sel'skokhozyaystvennykh nauk BSSR (for Opeyko).
(Tractors)

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OPEYKO, F.A. [Apeika, F.A.]

Forces acting on the disks of friction transmission. Vestsi AN BSSR. Ser.fiz.-tekh.nav. no.1:75-83 '60. (MIRA 1?:?)
(Power transmission)

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OPIYKO, F.A.

Determining the degree of the mechanical processing of raw peat during excavation. Trudy Inst. torf. AN BSSR. 9:97-99 '60.
(MIRA 14:2)

(Peat industry)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPEYKO, F.A.

Volume of chips removed by the shovel, and the law of the angular velocity of a rotary shovel frame. Trudy Inst. torf. AN BSSR 7:[illegible]-105 '60. (MIRA 14:2)

(Peat machinery)

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OPEYKO, F.A.

Determination of the basic dimensions of processing and cutting screw machines. Trudy Inst. torf. AN BSSR 9:106-110 '60. (MIRA 13:2)

(Peat machinery)

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LOPOTKO, M.Z.; NAGORSKIY, I.S.; KRIVOSHEIN, M.S.; OPEYKO, F.A.; ZHUK, Ye.A.

Preliminary testing of the MKT-3 rotor screw machine for winning small-size machine peat. Trudy Inst. torf. AN BSSR 9:119-131 '60. (MIRA 14:2)

(Peat machinery)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

KRIVOSHEIN, M.S.; OPEYKO, F.A.; LOPOTKO, M.Z.

Results of the investigations of a disk shredder and of perforated screw press. Trudy Inst. torf. AN BSSR 9:132-137 '60.
(MIRA 14:2)

(Peat machinery)

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OPEYKO, F.A.

Theory of a centrifugal wheel with flat shovels as an operating device of a trench cleaning machine. Sbor. nauch. trud. Bel. politekh. inst. no.88:15-19 '60. (MIRA 14:12)
(Peat machinery)

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OPEYKO, F.A.

Differential modulus of the gear ratio of a friction gear.
Sbor. nauch. trud. Bel. politekh. inst. no.88:46-48 '60.
(MIRA 14:12)

(Friction)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

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OPEYKO, F.A.

Deformation of the rectilinear movement of a self-propelled crawler tractor as a result of the inaccuracy of crawling pitch under symmetrical load and the absence of shearing forces. Sbor. nauch. trud. Bel. politekh. inst. no.88:49-55 '60. (MIRA 14:12)
(Crawler tractors)

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OPEYKO, F.A.

Additional calculations originating from warping crawler belts.
Sbor. nauch. trud. Bel. politekh. inst. no.88:56-63 '60.
(MIRA 14:12)

(Crawler tractors)

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OPEYKO, F.A.

Intensity of stresses and deformations and the rated stresses. Sbor. nauch. trud. Bel. politekh. inst. no.88:88-106 '60. (MIRA 14:12)

(Strains and stresses)
(Soil mechanics)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPEYKO, Fedor Aleksandrovich; KONTSEVAYA, T.V., red.; KONCHITS, Ye.P., tekhn.red.

[Strength theory] Teoriia prochnosti. Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR, 1961. 33 p. (MIRA 15:4)
(Strength of materials)

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LOPOTKO, M.Z., kand.tekhn.nauk; MAGOBSKIY, I.S., kand.tekhn.nauk; KLIVOSHEIN, M.S., kand.tekhn.nauk; ZAUK, Ye.A., kand.tekhn.nauk; OFMYKO, F.A., doktor tekhn.nauk

Lump peat winning machine. Torf.prom. 38 no.1:11-12 '61. (MIRA 14:2)

1. Institut torfa AN BSSR.
(Peat machinery)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

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F. A. Opeyko (USSR)

" The extent of peat processing in peat processing machines "

Report submitted for the 2nd International Peat Congress, Leningrad, 15-22 Aug 63.

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OPEYKO, F.A., prof., doktor tekhn. nauk, red.; OPEYKO, F.A., nauchn. red.

[Mechanization and automation of the peat industry] Mekhanizatsiia i avtomatizatsiia torfianogo proizvodstva. Minsk, Izd-vo "Vysshaia shkola," 1963. 148 p.
(MIRA 17:6)

1. Chlen-korrespondent AN BSSR (for Opeyko).

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

BOKHAN, N.I., inzh.; OPEYKO, F.A., doktor tekhn.nauk

Determination of the power needed for peat milling by means of disk cutters. Izv.vys.ucheb.zav.:gor.zhur. 7 no. 1:117-119 '64. (MIRA 17:5)

1. Belorusskiy politekhnicheskiy institut. Rekomendovana kafedroy torfyanykh mashin.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

NOVICHIKHIN, Vasiliy Alekseyevich; MEYKO, F.A., doktor tekhn. nauk, prof., nauchn. red.; TETERINA, L.N., red.

[Deformation of a compressible medium by bearing surfaces] Deformatsiia opornymi poverkhnostiami szhimaemoi sredy. Minsk, Vysshaia shkola, 1964. 174 p. (MIRA 18:4)

1. Chlen-korrespondent AN BSSR (for Meyko).

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GORBUTOVICH, G.D., red.; OPEYKO, F.A., red.; RAKOVSKIY, V.Ye., red.; SELITRENNYY, A.I., red.; SHIMANSKIY, V.S., red. KOLOTUSHKIN, V.I., red.

[Overall utilization of peat] Kompleksnoe ispol'zovanie torfa. Moskva, Nedra, 1965. 287 p. (MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfa.

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OPEYKO, F.A., red. ; STAROVYBORNYY, F., red.

[Papers of graduate students] Sbornik nauchnykh rabot aspirantov. Minsk, Urozhai, 1963. 145 p.
(MIRA 18:5)

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

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OPIAL, Milos, inz.

The first Czechoslovak locomotive on alternating current 25 kv. Ze
dop tech 10 no. 1:3-5. '62

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Milos, inz.

New types of electric locomotives for the Czechoslovak Railroads.
Doprava no. 1:43-41 '64.

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OPIAL, Z.

2
1 - F/W

Leja, F., et Opial, Z. Un lemme sur les polynômes de Lagrange. Ann. Polon. Math. 2 (1955), 73–76.

On donne une suite triangulaire de nombres complexes $\zeta_j^{(n)}$, $0 \leq j \leq n$, $\zeta_j^{(n)} \neq \zeta_k^{(n)}$ pour $j \neq k$, admettant z_0 pour point d'accumulation. Soit $L_n^{(j)}(z)$ le polynôme de degré n égal sur $\zeta_k^{(n)}$ à 0 ou 1 suivant que $j \neq k$ ou $j = k$. Soit $M_n(z_0, r) = \max\{0, |L_n^{(j)}(z_0)|\}$ pour $|\zeta_j^{(n)} - z_0| < r$. On a, quel que soit $r > 0$, $\limsup (M_n(z_0, r))^{1/n} \geq 1$ $(n \to \infty)$. D'ailleurs, on peut choisir $\{\zeta_j^{(n)}\}$, z_0 et r de façon que cette lim sup prenne une valeur arbitraire ≥ 1. *J. P. Kahane.*

Leja, F., et Opial, Z.: A lemma on Lagrange's polynomial. Pol. Math. Ann. 2(1955), 73-76

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OPIAL, Z

2

1-F\W

Opial, Z. Sur un système d'inégalités intégrales. Ann. Polon. Math. 3 (1957), 200–209.

Consider the system (1) $y_i' = f_i(x, y_1, \cdots, y_n)$ $(i=1, 2, \cdots, n)$ with f_i defined and continuous on some open set $\Omega \subset R \times R^n$. Let $P=(\xi, \eta_1, \cdots, \eta_n) \in \Omega$ and let $\varphi_i(x)$ $(i=1, 2, \cdots, n)$ be continuous functions which satisfy on some $I_\alpha=[\xi, \xi+\alpha]$, $\alpha>0$, the inequalities

$$(2)\quad \varphi_i(x) \leqq \eta_i + \int_\xi^x f_i[t, \varphi_1(t), \cdots, \varphi_n(t)]\,dt \quad (i=1, 2, \cdots, n).$$

First, the author proves this generalization of a theorem of Viswanatham [Proc. Indian Acad. Sci., Sect. A. 36 (1952), 335–341]: If each f_i is non-decreasing on Ω, i.e., if $(x, a_1, \cdots, a_n), (x, b_1, \cdots, b_n) \in \Omega$ and $a_k \leqq b_k$ $(k=1, 2, \cdots, n)$ imply $f_i(x, a_1, \cdots, a_n) \leqq f_i(x, b_1, \cdots, b_n)$ for each i, then the functions φ_i satisfying (2) also satisfy $\varphi_i(x) \leqq \psi_i(x)$ $(i=1, 2, \cdots, n)$ on $I_\alpha \cap I_\beta$, where $\psi_1(x), \cdots, \psi_n(x)$ is a solution of (1) through P which is maximal on some $I_\beta=[\xi, \xi+\beta)$, $\beta>0$. The existence of such a solution $\psi_i(x)$ $(i=1, 2, \cdots, n)$ of (1) follows from a theorem of Ważewski [Ann. Soc. Polon. Math. 23 (1950), 112–166; MR 12, 705]. Next, the author proves the following theorem. If for

1/2

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Opial, 2

2

1-F\W

every $P \in \Omega$ and every set $\varphi_i(x)$ $(i=1, 2, \cdots, n)$ of continuous functions satisfying (2) on some I_α there exists a $\delta>0$ and a solution $y_i(x)$ $(i=1, 2, \cdots, n)$ of (1) through P such that $\varphi_i(x) \leqq y_i(x)$ on $[\xi, \xi+\delta]$, then each f_i is locally non-decreasing with respect to each y_k $(k \neq i)$ separately, and non-decreasing with respect to y_i in a sufficiently small neighborhood of every point in Ω. Finally, the author gives a complete description of how a set $\varphi_i(x)$ $(i=1, 2, \cdots, n)$ of continuous functions can be constructed explicitly so as to satisfy (2) on some I_α.

H. A. Antosiewicz (Providence, R.I.)

7/2

SMW

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Opial, Z.

1-FW

Opial, Z. Sur une famille de fonctions analytiques. Ann. Polon. Math. 3 (1957), 312–318.

Let C denote family of functions f which are analytic in the unit disk K and for which (1) $\iint_K \ln^+|f(z)|\,d\sigma<\infty$. The example $\exp(1-z)^{-1/2}$ shows that Nevanlinna's class A is a proper subset of C. If $f \in C$ has the zeros a_j in K, and if $f \not\equiv 0$, then $\sum (1-|a_j|)^2<\infty$. Any subclass of functions in C for which the integral in (1) is uniformly bounded is a normal family. This conclusion holds also if in (1) the unit disk is replaced by an arbitrary domain D, and the operator $\ln^+$ by an operator ϕ such that $\phi(|f(z)|)$ is real, nonnegative, continuous and subharmonic in D whenever f is analytic in D, and unbounded if f is unbounded. *G. Piranian* (Ann Arbor, Mich.).

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z.

A problem of stability. p. 153

ANNALES POLONICI MATHEMATICI (Polska Akademia Nauk)
Warszawa, Poland
Vol. 5, no. 2, 1958

Monthly List of East European Accession (EEAI) LC, Vol. 9, no. 1, Jan. 1960

Uncl.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On a limit problem for the differential equation of the second order. In French. Annales pol.math. 7 no.2:223-231 '60. (KEAI 9:5)
(Differential equations) (Functions)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Cracovie)

On a problem of T.Wazewski. Col math 7 no.2:269-273 '60. (EEAI 10:1)
(Circle) (Vector analysis)
(Differential equations)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Cracovie)

On a problem of J.Szarski and T.Wazewski. Col math 7 no.2:275-276 '60. (EEAI 10:1)
(Differential equations)
(Functions)
(Curves)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

Demonstration of a theorem of N.Levinson and C.Langehhop. Annales pol math 7 no.3:241-246 '[illegible]'60 (EEAI 9:10)
(Differential equations)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OLECH, C. (Krakow); OPIAL, Z. (Krakow)

On a differential inequality. Annales pol math 7 no.3:247-254 '60.
(EEAI 9:10)

(Inequalities (Mathematics))
(Differential equations)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On the asymptotic stability of solutions of a system of differential equations. Annales pol math 7 no.3:259-267 '60. (EEAI 9:10)
(Differential equations)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On the class (L^2) solutions of the differential equation $u'' + q(t)u = 0$.
Annales pol math 7 no.3:293-303 '60. (EEAI 9:10)
(Differential equations) (Functions)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On the periodic and almost periodic solutions of the differential equation $x''+ kf(x)x'+ g(x)= kp(t)$. Annales pol math 7 no.3:309-319 '60. (EEAI 9:10)

(Differential equations) (Functions)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On an ordinary differential equation of the first order the second member of which satisfies Caratheodory's conditions. Annales pol math 8 no.1:23-28 '60. (EEAI 10:2)
(Differential equations)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On an inequality. Annales pol math 8 no.1:29-32 '60. (EEAI 10:2)
(Inequalities (Mathematics))

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On a nonlinear differential equation of the second order. Annales pol math 8 no.1:65-69 '60. (EEAI 10:2)
(Differential equations)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On the solutions of the differential equation $X''+ h(x)x'+ f(x)= e(t)$. Annales pol math 8 no.1:71-74 '60. (EEAI 10:2)
(Differential equations)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On the dependence of the solutions of a system of differential equations on their second members. Application to almost autonomous systems. Annales pol math 8 no.1:75-89 '60. (EEAI 10:2)
(Differential equations)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

37591
S/044/62/000/004/028/099
C111/C444

AUTHOR: Opial, Z.

TITLE: On the asymptotic behaviour of the solutions of certain differential equations of non-linear mechanics

PERIODICAL: Referativnyy zhurnal, Matematika, no. 4, 1962, 37, abstract 4B166. (Ann. polon. math., 1960, 8, no. 2, 105 - 124)

TEXT: The author supposes that for the equation system

$$X' = F(t, X),$$

where $F(t, X)$ is defined and continuous in the space $k = I \times E$ (I being the real straight line, E being an n-dimensional space of the variables $x_1, \ldots, x_n$), there exists a Lyapunov function $V(X)$ such that for every point $(t, X) \in k$ there holds

$$(F(t, X) \operatorname{grad} V(X)) \leq 0, \tag{1}$$

$$\lim_{|X| \to \infty} V(X) = +\infty; \tag{2}$$

and he proves for the system

Card 1/3

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On the asymptotic behaviour...

$$X' = F(t, X) + G(t, X), \qquad (3)$$

where $G(t, X)$ is defined and continuous in X, the following theorems:
1.) If $V(X)$ satisfies the conditions (1), (2), and the inequality $|(G(t, X)\,\mathrm{grad}V(X))| \leq \varphi(t, V(X))$, where $\varphi(t, u)$ is a continuous non-negative function of t, and $u \geqslant 0$, and if all solutions of the equation $u' = \varphi(t, u)$ are bounded for $t \geqslant 0$, then every solution $X(t)$ of (3) which is defined for $t_0 \geqslant 0$, is bounded in the interval $(t_0, +\infty)$.

2.) Let $V(X)$ satisfy (1), (2), and the inequality $|(G(t, X)\,\mathrm{grad}V(X))| \leqslant p(t)\,\varphi(V(X))$, where the positive continuous functions $p(t)$ and $\varphi(u)$ are such that

$$\int_0^{\infty} p(t)dt < +\infty, \qquad \int_1^{\infty} \frac{du}{\varphi(u)} = +\infty, \qquad (4)$$

Then each of the solutions $X(t)$ of (3) which is defined for $t_0 \geqslant 0$, is bounded in $(t_0, +\infty)$.

3.) Let $G(t, X)$ not depend on X, and let

$$\int_0^{\infty} |G(t)|dt < +\infty.$$

Card 2/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

If $V(X)$ satisfies (1), (2), and the inequality $|\mathrm{grad}V(X)| \leq p(V(X))$, where the continuous positive function $p(u)$ satisfies the condition (4), then every solution $X(t)$ of the system (5) which is defined for $t_0 \geq 0$, is bounded in $(t_0, +\infty)$.

The second part is dedicated to the investigation of the boundedness of the solutions of the systems

$$X'' = f(t, X, X') + g(t, X, X'), \qquad (5)$$

where $f(t, X, X')$ and $g(t, X, X')$ are defined and continuous in the space $F = I \times E \times E$; analogous theorems are proved.

[Abstracter's note: Complete translation.]

Card 3/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

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OPIAL, Z.

On periodic solutions of the differential equation $x'' + g(x) = p(t)$.
Bul Ac Pol mat 8 no.3:151-156 '60. (EEAI 9:11)

1. Instytut Matematyczny, PAN. Presente par T.Wazewski.
(Differential equations)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On a theorem of C.E.Langenhop and G.Seifert. Annales pol math 9 no.2: 145-155 '60. (EEAI 10:5)
(Differential equations)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On almost periodic solutions of a class of differential equations. (ERAI 10:5)
Annales pol math 9 no.2:157-181 '60.
(Differential equations)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Zdzislaw

"Short outlines of the history of mathematics" by Dirk J. Struik. Reviewed by Zdzislaw Opial. Rocz wiad matem 5:149-150 '61.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

S/044/62/000/010/005/042
B112/B102

AUTHORS: Lasota, A., Opial, Z.

TITLE: Interpolation problem for a differential equation of the n-th order

PERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1962, 39, abstract 10B164 (Bull. Acad. polon. sci. Sér. sci. math., astron. et phys., v. 9, no. 9, 1961, 667 - 671 [French; summary in Rus.])

TEXT: For the n-th-order differential equation

$$x^{(n)} = f(t,x,x',\ldots,x^{(n-1)}), \qquad (1)$$

the following problem of interpolation is posed: assuming n points $(t_1,c_1),\ldots,(t_n,c_n)$ $(t_1 < t_2 < \ldots < t_n)$ find a solution $x(t)$ to the equation (1), which satisfies the conditions

$$x(t_i) = c_i \qquad (i = 1,2,\ldots,n). \qquad (2)$$

Card 1/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

S/044/62/000/010/005/042
B112/B102

Interpolation problem for a...

If the function $f(t,x_0,\ldots,x_{n-1})$ fulfills a Lipschitz condition

$$|f(t,x_0,\ldots,x_{n-1}) - f(t,\bar{x}_0,\ldots,\bar{x}_{n-1})| \leq \sum_{i=0}^{n-1} L_i |x_i - \bar{x}_i|,$$

the following theorem of uniqueness is valid: in consequence of the problem (1) - (2) having not more than one solution, it is sufficient that each function $x(t)$ satisfying the differential inequality

$$|x^{(n)}(t)| \leq \sum_{i=0}^{n-1} L_i |x^{(i)}(t)| \qquad (3)$$

and the conditions $x(t_i) = 0$ $(i = 1,\ldots,n)$ be identically equal to zero.

The same condition is shown to be sufficient for the existence of atleast one solution, because the following theorem is valid: Let $f(t,x_0,\ldots,x_{n-1})$ be a continuous function on the set $a < t < b$, $-\infty < x_i < +\infty$ $(i = 0,1,\ldots, n-1)$, which fulfills the inequality

$$|f(t,x_0,\ldots,x_{n-1})| \leq M + \sum_{i=0}^{n-1} L_i |x_i| \quad (M \geq 0,\ L_i > 0). \qquad (4)$$

Card 2/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

Interpolation problem for a...

If, for any numbers $t_1 < t_2 < \ldots < t_n$ of the interval (a,b), the function $x(t) = 0$ is the unique solution of the inequality (3) which fulfills the condition $x(t_i) = 0$ $(i = 1,\ldots,n)$, then there is at least one solution of the problem (1) - (2). The relevant theorem is proved for the linear case, and the general case is reduced to linear by effecting a certain transformation in the form of the equation. A transformation T of the functional space E containing the functions of the class $C^{n-1}[c,d]$ with the norm $\|x(t)\| = \sup_{[c,d]} \sum_{i=0}^{n-1} |x^{(i)}(t)|$, where $a < c < t_1 < \ldots < t_n < d < b$, is introduced. It is proved that this transformation is continuous and that the set $T(E)$ is compact in E. Therefore, a fixponnt of the transformation T exists according to Schauder's theorem. From this follows the theorem mentioned above. [Abstracter's note: Complete translation.]

Card 3/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

S/044/62/000/012/008/049
A060/A000

AUTHOR: Opial, Z.

TITLE: On an almost-periodic differential equation without almost-periodic solutions

PERIODICAL: Referativnyy zhurnal, Matematika, no. 12, 1962, 40, abstract 12B182 (Bull. Acad. polon. sci. Sér. sci. math., astron. et phys., 1961, v. 9, no. 9, 673 - 676; French; summary in Russian)

TEXT: For a differential equation of the first order $dy/dx = g(x, y)$, (1) where $g(x, y)$ is a continuous function, Masserat has demonstrated that, if the equation (1) admits of a solution bounded on the axis $-\infty < x < \infty$ and its right-hand member is periodic in x, then that equation has at least one aperiodic solution. The analogous proposition for system (1) with a right-hand member almost-periodic in x turned out to be false. The author cites an example of an equation of form (1) with a right-hand member almost-periodic in x all of whose solutions are bounded for $-\infty < x < +\infty$, but none of which is almost-periodic in x. To construct the example, the author uses a singular case of the Poincaré distribution

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

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OPIAL, Z. (Krakow)

On periods of solutions of the differential equation $\underline{x}'' + \underline{g}(\underline{x}) = 0$.
In French. Annales pol math 10 no.1:49-72 '61. (EEAI 10:8)
(Differential equations)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Z. (Krakow)

On the limitation of derivatives of bounded solutions of a system of second-order differential equations. In French. Annales pol math 10 no.1:73-79 '61. (EEAI 10:8)
(Differential equations)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

S/044/63/000/001/013/053
A060/A000

AUTHOR: Opial, Z.

TITLE: On the existence of periodic solutions of the differential equation $x'' + f(x, x')x' + g(x) = p(t)$

PERIODICAL: Referativnyy zhurnal, Matematika, no. 1, 1963, 43, abstract 1B189 (Ann. polon. math., 1961, v. 11, no. 2, 149 - 159; French)

TEXT: It is demonstrated that the equation written in the title has at least one solution with period ω, provided the following conditions are fulfilled: The functions f, g, and p are continuous, $f(x, y) \geqslant 0$, $xg(x) \geqslant 0$, $|g(x)| \to \infty$ for $|x| \to \infty$, $p(t + \omega) \equiv p(t)$, $\lim_{|x| \to \infty} T(x) > \frac{\omega}{2}$, where

$$T(x) = \frac{1}{\sqrt{2}} \left| \int_0^x \frac{du}{\sqrt{G(x) - G(u)}} \right|, \quad G(x) = \int_0^x g(u)\,du .$$

In the presence of certain additional constraints upon g (x) the number $\frac{\omega}{2}$ may

Card 1/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIAL, Zdzislaw; SW AK, Jozef

Integral formulas for functions holomorphic in convex n-circular domains. Prace matem. Krakow no. [illegible] 163.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

LASOTA, A.; OPIAL, Z.

Application of Pontriagin's principle to the evaluation of the interval of existence and uniqueness of solution of a problem of limits. Bul Ac Pol mat 11 no.2:41-46 '63.

1. Instytut Matematyczny, Oddzial Krakow, Polska Akademia Nauk. Presented by T. Wazewski.

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JASKOWSKI, Stanislaw; PAWELSKI, Waclaw; HARTMAN, Stanislaw; KISYNSKI, Jan; LELEK, Andrzej; OPIAL, Zdzislaw; MOSTOWSKI, A.W.; KUCHARCZYK, Jerzy; SLOWIKOWSKI Wojciech

Reviews. Rocz wiad matem 7 no.2:283-299 '64.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

LASOTA, A.; OPIAL, Z. (Krakow)

The existense and unicity of solutions of the problem of interpolation for the ordinary differential functional equation of the n order. Annales Pol math 15 no.3:253-271 '64.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

LASOTA, A.; [illegible] (Krakow)

On periodic solutions of ordinary differential equations. Annales pol math 16 no.1:65-74 '64.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

CA OPICHAL, M. 11F

The physiological economy in milk fat production Jaroslav Křiženecký and Mojmír Opichal. *Sborník Českoslov. Akad. Zemědělské* 20, 98-113(1948); cf. C. 1. 43, 9280a. The utilization of digestible protein and carbohydrates in the production of 1 kg. fat in milk was studied mathematically when either the percentage of fat or the milk yield was increased. A milk compn. of 3.5% fat and 3.2% protein and a yield of 3000 kg. were considered standard. When milk production increases, the fat percentage is decreased. When the fat percentage increases, the percentages of protein and carbohydrates decrease (in hyperbolic curves). By increasing the fat production through increasing milk production, the results are reversed. Jan Micka

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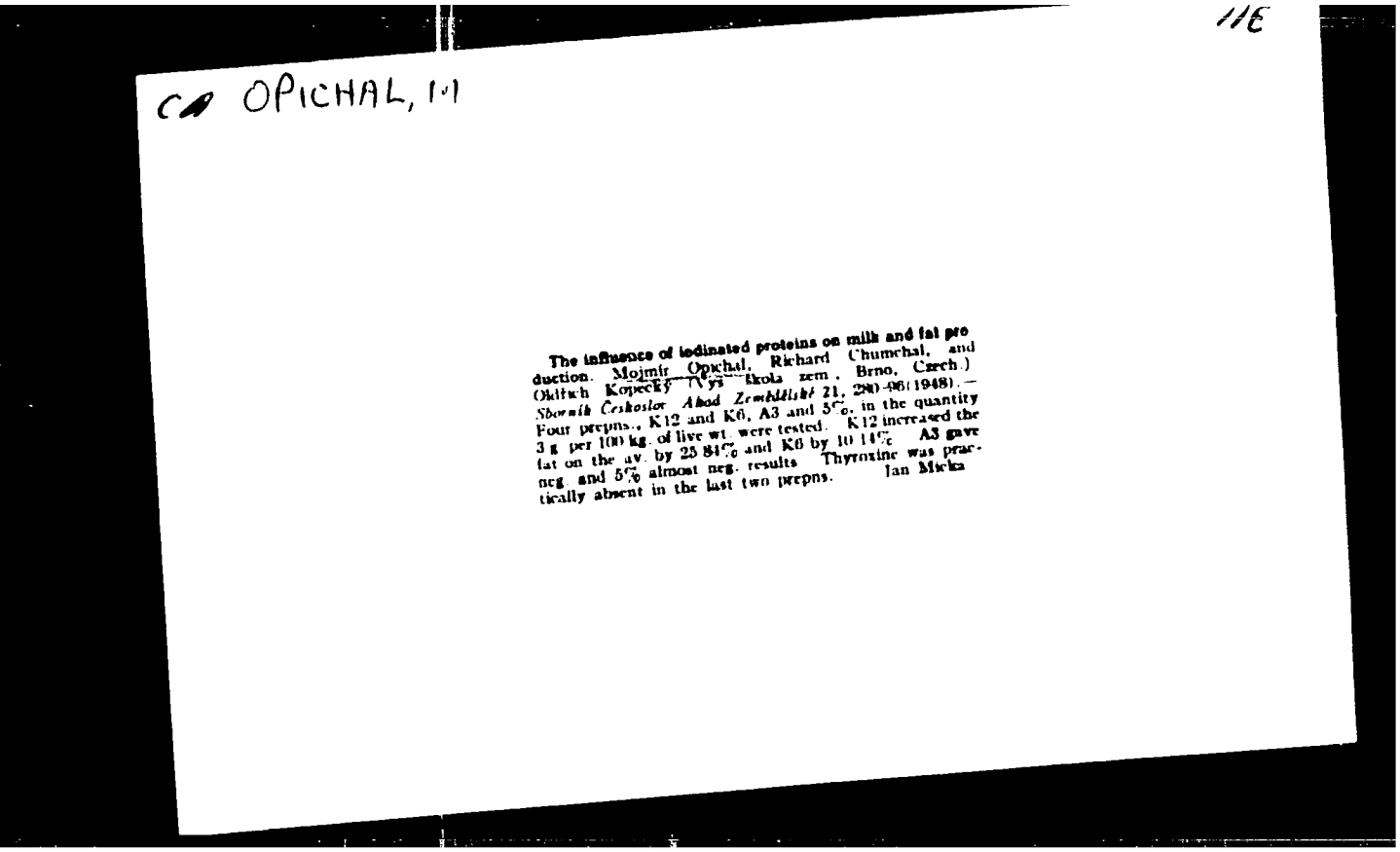

11E

CA OPICHAL, M

The influence of iodinated proteins on milk and fat production. Mojmír Opichal, Richard Chumchal, and Oldřich Kopecký (Výs. škola zem., Brno, Czech.) *Sborník Československé Akad. Zemědělské* 21, 280-96(1948).— Four preps., K12 and K6, A3 and 5%, in the quantity 3 g. per 100 kg. of live wt. were tested. K12 increased the fat on the av. by 25.84% and K6 by 10.14%. A3 gave neg. and 5% almost neg. results. Thyroxine was practically absent in the last two preps. Jan Micka

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

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CA OPICHAL, M.

IIE

The physiological economy of milk production. Mojmír Opichal (Vysoká škola zem., Brno, Czech.). *Sborník Československ. Akad. Zemědělské* 21, 379-94(1948)(Pub. 1949).—The consumption of protein per 1 kg. of milk was studied: (1) The fat percentage of milk increased from 2.4% to 7.0% while the milk quantity remained const. (2) The quantity of milk increased per year from 1,000 kg. to 7,000 10,000 kg. while the fat percentage decreased in regression $R \frac{\text{quantity of milk}}{\text{fat percentage}} = +0.00, -0.0005,$ and -0.0002. (3) The percentage of protein in milk in (1) and (2) is changed according to the fat percentage of milk in regressions $R \frac{\text{fat percentage}}{\text{protein}} = +0.00, +0.3,$ +0.6, and +1.0. The consumption of protein for 1 kg. of milk increases linearly, if the fat percentage is increased and the quantity of milk remains const. The increase of protein consumption is the higher, the higher is the regression of protein to the fat percentage. The protein consumption per 1 kg. of milk decreases curvilinearly with increasing milk quantity. The decrease of protein consumption is the larger, the higher is the regression of protein to fat percentage and the higher is the regression of fat percentage to the quantity of milk.

Jan Micka

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

CZECHOSLOVAKIA / Farm Animals. General Problems Q-1

Abs Jour: Ref Zhur-Biol., No 3, 1958, 12033

Author : Opichal M., Maska J., Drhikova B.
Inst :
Title : A Contribution to the Study of the Mechanics of the Action of Antibiotics and Ration Deficiency (Novoye v voprose o mekhanizme vozdeyctviya antibiotikov i nepolnotsennosti kormovogo ratsiona)

Orig Pub: Sbor. Ceskosl. akad. zemed. ved. Zivoc. vyroba, 1956, 29, No 12, 905-934 (in Czech)

Abstract: Experiments in the raising of chickens by supplementing their rations with antibiotics demonstrated that the addition of antibiotics, especially penicillin to the rations complete as far as their animal protein content is concerned has no influence upon the increase in weight of the chickens. In feeds

Card 1/3

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

CZECHOSLOVAKIA / Farm Animals. General Problems Q-1

Abs Jour: Ref Zhur-Biol., No 3, 1958, 12033

Abstract: deficient in animal protein, intended for chickens aged up to 4 weeks, this deficiency was made up by adding procaine penicillin and chlortetracycline separately or jointly to the rations. The absence of these antibiotics in the feeds, as well as the addition of streptomycin, was causing a decrease in the weight of chickens. At 8 weeks, deficiency in animal protein was remedied only by penicillin and had no influence upon the weight of chickens. Likewise, at 11 weeks, penicillin alone was making up for the deficiency of animal protein. The action of streptomycin and chlortetracycline was not precisely ascertained. The results obtained also show that the addition of animal protein to the feed of chickens over 4 weeks old is not a requisite. Antibiotics did not affect the meat qualities of the

Card 2/2

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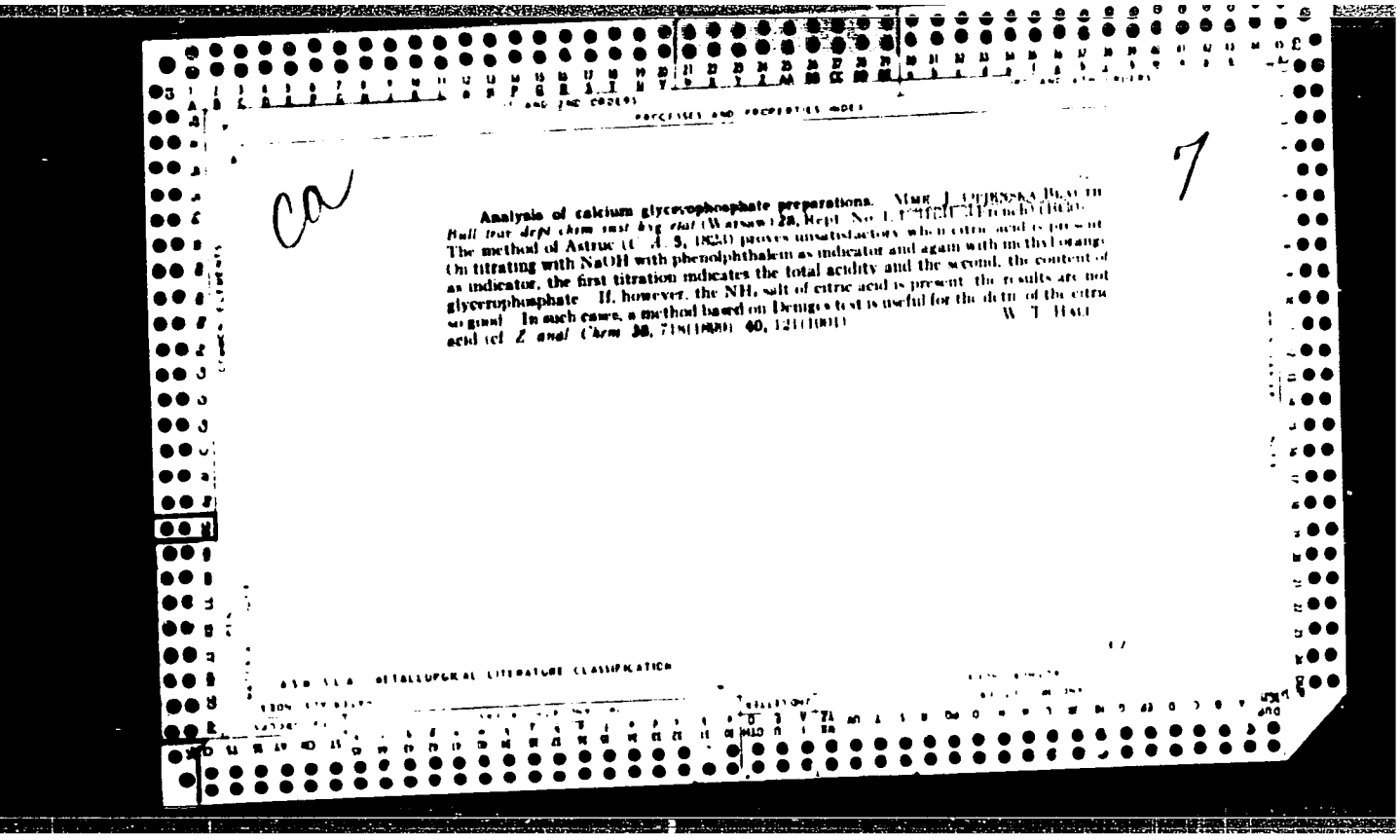
PROCESSES AND PROPERTIES INDEX



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Analysis of calcium glycerophosphate preparations. Mme J. Oprinska-Beauth. *Bull trav dept chim inst hyg etat* (Warsaw) **28**, Rept. No. 1, 1-[illegible] (1930). The method of Astruc (C. A. **5**, 1823) proves unsatisfactory when citric acid is present. On titrating with NaOH with phenolphthalein as indicator and again with methyl orange as indicator, the first titration indicates the total acidity and the second, the content of glycerophosphate. If, however, the NH_4 salt of citric acid is present, the results are not so good. In such cases, a method based on Deniges test is useful for the detn. of the citric acid (cf. *Z. anal. Chem.* **38**, 718(1899); **40**, 121(1901).

W. T. Hall

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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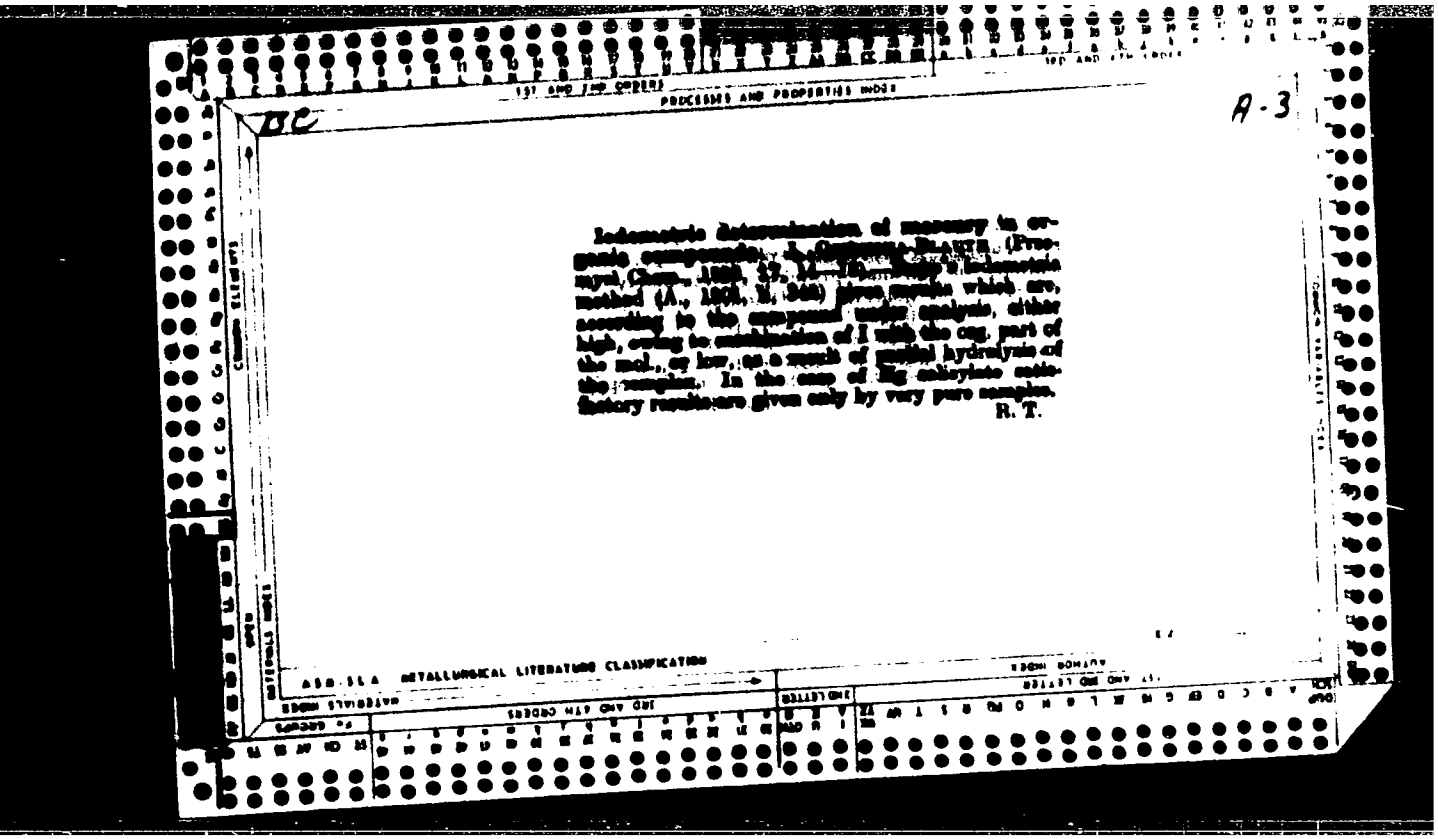

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The mechanism of glucose metabolism by Escherichia coli [illegible]-Blauth, M. Kunicki and I. Stolińska (Inst. M. C. S., Lublin, Poland). *Ann. Univ. Mariae Curie-Sklodowska, Lublin, Polonia, Sect. D*, 4, 99–113 (1949). Expts. with cell powders and exts. do not give a true picture of the metabolism in vivo, according to the authors. Only investigations using living cells should be used for this purpose. Such studies show that inorg. PO_4^{---} and K^+ are essential for normal growth and glucose metabolism. PO_4^{---} can not be replaced by adenosine triphosphate or acetylphosphate. It is in phosphorolysis reactions in the cell. It can be found in the medium during optimum cell growth, but not when glycolysis rate is high. The absence of Mg^{++} from the medium causes partial inhibition of growth and glucose breakdown. Bacterial growth only is inhibited by NaF and iodoacetic acid, while dinitrophenol, β-naphthylamine, $NaAsO_2$, arsenite, CH_3CHO, phlorizin, and malonate inhibit glycolysis more than growth. In the presence of Na arsenate and Cu^{++} no glycolysis can take place, but the former also affects the cell growth while the latter does not. Complete inhibition of both processes is achieved with KCN, NaN_3, and NH_2OH-HCl. Insulin catalyzes the glycolytic reactions, while nicotinamide, yeast exts., coenzymes, and thiamine-HCl show no effect. It is suggested that glucose is used through 2–3 different paths and that the Embden-Meyerhoff scheme cannot be applied to *E. coli* metabolic mechanism without some minor changes. Standard methods for glucose, phosphate, pH and bacterial growth detn. are used.

I. Z. Roberts

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIENSKA-BLAUTH, J.;DROZDOWSKI, E.;KANSKI, M.

Paper partition chromatography and its use in analysis of sugars. Ann. Univ. Lublin;sec.D 6 no.1-6:27-54 1951. (CLML 23:2)

1. Of the Institute of Physiological Chemistry (Head--Prof. J. Opienska-Blauth, M.D.) of Lublin Medical Academy.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIENSKA-BLAUTH, J.; KANSKI, M.; STOBINSKA, L.

Investigations on the mechanism of glycolysis in liquid cultures of Escherichia coli. Med.dosw.mikrob. 2 no.2:179-181 1950. (CLML 20:6)

1. Summary of the report given at 10th Congress of the Polish Microbiological and Epidemiological Society held in Gdansk, Sept. 1949. (Lublin.)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIENSKA BIAUTH, J.

Opienska-Blauth, J.; Iwanowski, H. "The Effect of Selenite on the Growth and Glucose Metabolism of Fluid Cultures of Escherichia coli" p. 273 (Acta Microbiologica Polonica, Vol. 1, No. 4, 1952, Warszawa)

SO: East European Vol. 3, No. 3 Monthly List of ~~Russian~~ Accessions, Library of Congress, March 1954, Uncl.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIENSKA-BLAUTH, J.:MADECKA-BORKOWSKA, I.:BORKOWSKI, T.

Determination of phosphorus metabolites by paper chromatography. Acta physiol. polon. 3 no. 3:315-328 1952. (CLML 23:5)

1. Of the Institute of Physiological Chemistry (Head--Opienska-Blauth, M.D.) of Lublin Medical Academy.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIENSKA-BLAUTH, J.; MADECKA-BORKOWSKA, I.

Comparative studies on lactose, glucose, and galactose metabolism in liquid cultures of Escherichia coli. Med. dosw. mikrob., Warsz. 4 no. 3:304 1952. (CLML 23:3)

1. Summary of work progress presented at 11th Congress of Polish Microbiologists held in Krakow May 1951. 2. Lublin.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

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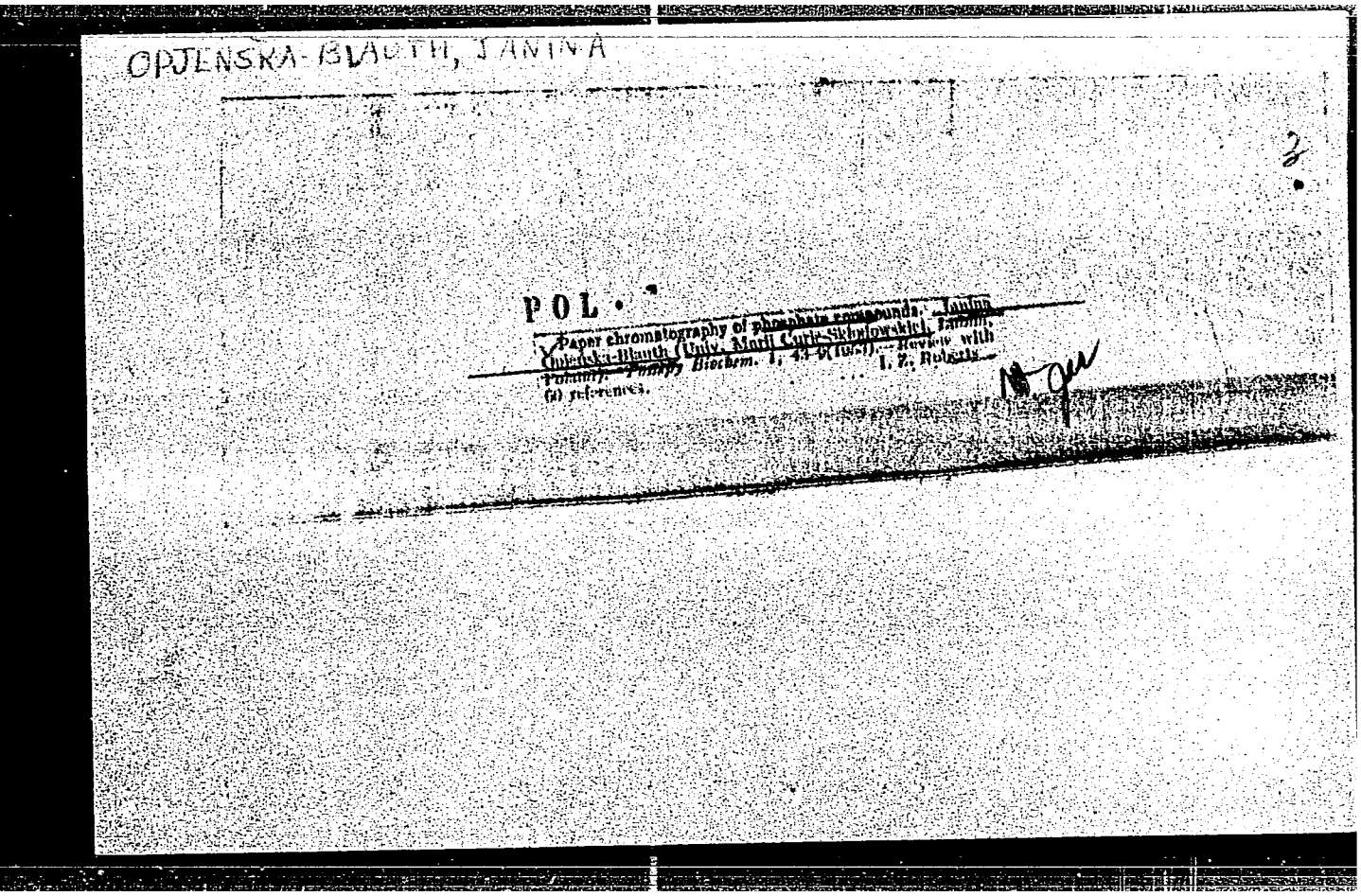

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OPIENSKA-BLAUTH, J

J. Effect of selenite on growth and glucose metabolism in fluid cultures of *Escherichia coli*. J. Opieńska-Blauth and H. Iwanowski (*Acta microbiol. polon.*, 1955, 4, 273–280). The effect of various concn. of selenites on *E. coli* cultures is studied at 37°. The reduction of selenites to Se can be noticed already after a few hr. of incubation, and selenites begin to exert a toxic influence on *E. coli* in concn. $> 1 \times 10^{-4}$ M Se. The inhibition of glucose metabolism is quite marked and the amount of it, as determined by paper chromatography method, remains almost unchanged. The enzymic processes blocked by selenites can be reactivated by cysteine or histidine. The addition of SO_4^{--} does not reverse the selenite-blockade which is also not influenced by the presence of Mg^{++}. S. K. ACHOWICZ

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OPIENSKA-BLAUTH, J.

Substance giving positive Voges-Proskauer's test in fluid cultures of *Escherichia coli* in presence of some enzyme inhibitors. J. Opienska-Blauth, T. Borkowski, and I. Madecka-Borkowska (*Acta microbiol. polon.*, 1953, 2, 263—276).—The accumulation of an unidentified reducing substance [X] in cultures of *E. coli* in the presence of 0·0025 M-iodoacetic acid was much greater when pantothenic acid or β-alanine was added to the medium. X only appeared when the pH of the medium was 4·0—7·0; it was present inside bacterial cells. It was not identical with any compound known as an intermediate in glucose metabolism in *E. coli*. The relation of X to acetoin was indicated by its positive Voges–Proskauer reaction. A similar reducing substance having an R_F value identical with that of X was detected in sour milk. X is not identical with acetoin and is probably a precursor. Accumulation of X results from the action of many enzyme inhibitors *e.g.* iodoacetic acid, selenite, and 8-hydroxyquinoline. X cannot be utilised as a carbon source by *E. coli*.

I. M. Rolfe

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIENSKA-BLAUTH, J.

OPIENSKA-BLAUTH, J. DUHL, W.

"Lead in Waters of the Lubin District." p. 437 (Dziennik Urzedowy, No. 4, 1953 Warszawa.)

SO: Monthly List of East European Accessions./Library of Congress, June 1954, Uncl. Vol. 3, no. 6

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OPIENSKA-BLAUTH, JANINA

POL.

A comparison of chemical indexes of early stages of plumbism in workers from the Lublin (Poland) District exposed to lead poisoning. Janina Opieńska-Blauth, Alfred Tuszkiewicz, and Jan [redacted], *Mariae Curie-Skłodowska, Lublin-Polonia*, Sect. D, 8, pp.151-64(1953)(English summary).—About 100 workers were used in this study. They were potters who were employed at enameling earthenware, typographic workers, storage-battery workers, electricians, workers in canned-meat factories, and workers in gasoline stores. Urinary and blood lead levels were established as well as porphyrin tests performed. The dithizone colorimetric method was used for the lead detns. Raised urinary and blood lead levels and pos. porphyrin tests preceded clinical symptoms of lead poisoning. Longer breaks in the ingestion of lead markedly favor a decrease of lead in blood and urine. No answer can be given as to whether blood or urine lead detns. are of greater value in early lead poisoning. It seemed though that in the initial stages of the worker's contact with lead higher contents of lead occur more often in urine; this was not observed when the period of work was extended over many years. Among the different groups of workers exam'd, the highest chem. indexes of lead poisoning were found in potters and workers in canned-meat factories.

Otto B. Lobstein

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPEN'SKA-BLYAUT, Ya.

Use of chromatographic method on filter paper for the investigation of phosphorus compounds. Biokhimiia 18 no.6:748-752 N-D '53. (MLRA 6:12)

1. Laboratoriya Fiziologicheskoy khimii Meditsinskoy akademii, Lublin, Poland. (Chromatographic analysis) (Phosphorus in the bod

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIENSKA-BLAUTH, Janina

Progress and achievements in the development of the method of paper chromatography. Postepy hig. med. doswiadcz. 8 no.2: 289-315 1954.

1. III Klinika Chorob Wewnetrznych AM. Krakow, ul. Kopernika 17.
(CHROMATOGRAPHY,
*progr., review)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

OPIENSKA-BLAUTH, J.

"Chromatographic Analysis of paper in everyday Laboratory work", [illegible], (PRZEMYSL CHEMICZNY, Vol. 10, No. 11, Nov. 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, ([illegible]), [illegible], Vol. [illegible], [illegible], May 195[illegible], Uncl.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381