

L 29730-66 EWP(k)/EWT(m)/T/EWP(t)/ETI LJP(c) DJ/JD/HW  
ACC NR: AP6012266 (N) SOURCE CODE: UR/0114/65/000/011/0007/0009

AUTHOR: Kuznetsov, Ye. F. (Engineer); Mash, R. I. (Engineer);  
Shakhnovich, I. Ye. (Engineer)

62  
B

ORG: none

TITLE: Oil cooler made of tubes with low spiral fins

SOURCE: Energomashinostroyeniye, no. 11, 1965, 7-9

TOPIC TAGS: heat transfer, hydraulic resistance, cooling

ABSTRACT: The article reports the results of an investigation of heat transfer and hydraulic resistance in experimental and industrial oil coolers with tubes equipped with low spiral fins. The experimental oil cooler had a cooling surface of 2.465 square meters. It was arranged for transverse flow past the oil tubes, and consisted of 72 steel tubes with a diameter of 22 x 3 and a length of 250 mm. The tubes had outside spiral fins, turned on a lathe. 16 rows of tubes were located in a housing with a rectangular cross section; the spacing against the flow was 24 mm, and with the flow 20 mm. The industrial oil cooler had a cooling surface of 10.4 square meters and was made of brass tubes with a diameter of 14 x 1.5; the tubes also had outside spiral fins.

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UDC: 62-71:621.892.098

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0.  
Measurements were made of the temperature and the pressure of the heat transfer medium at the inlet and the outlet of the oil cooler, as well as of the flow rate of the heat transfer medium. Experimental results are exhibited in a series of curves which include diagrammatic sketches of the equipment. The overall results of tests on finned tubes and comparison with tests on smooth tubes indicated that tubes with low spiral fins permit a considerable increase in the compactness of the equipment and a significant decrease in the use of metal in their fabrication. Orig. art. has: 3 figures and 1 table.

SUB CODE: (3,20/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001

Card 2/2 CC

MESH, YA. YE.

"A Case of Electrotrauma Causing the Death of the Fetus", Akueher i Gintol,  
No. 2, 1949. Women's Consulation, Mukachevo, -c1949-.

MESH, Ya. Ye .

Chorion - Tumors

Case of ectopic chorio-epithelioma, Akush. i. gin. No. 1, 1952.

SO: Monthly List of Russian Accessions, Library of Congress, March 195<sup>2</sup>~~3~~, Uncl.

MESH, Ya.Ye.

Abortion and labor through a uterovaginal fistula. Akush. i  
gin. 35 no.3:113-114 My-Je '59. (MIRA 12:8)

1. Iz akushersko-ginekologicheskogo otdeleniya Dorozhnoy  
bol'nitsy L'vovskoy zheleznoy dorogi.

(ABORTION

expulsion of uterine contents through uterine-  
vaginal fistula (Rus))

(DELIVERY

of fetus through uterine-vaginal fistula (Rus))

(UTERUS, fistula

uterine-vaginal, abortion & delivery through  
fistula (Rus))

(VAGINA, fistula

same)

MESHAKIN, S.

Speed up construction of grain storages in Krasnoyarsk Territory.  
Muk.-elev.prom.21 no.8:29-30 J1 [Ag] '55. (MIRA 8:12)

1. Ministerstvo zagotovok  
(Krasnoyarsk Territory--Granaries)

MESHAKIN, S. Ya.

[Manual on problems of labor and wages for workers in the system of the Ministry of Grain Products] Spravochnik po voprosam truda i zarabotnoi platy dlia rabotnikov sistemy Ministerstva khleboproduktov. Moskva, Khleboizdat, 1956. 259 p. (MLBA 10:4)  
(Labor and laboring classes) (Wages)

MESHAKIN, S.

For the further improvement of labor protection and safety engineering.  
Muk.-elev.prom.22 no.5:11-12 My '56. (MLRA 9:9)

1.Nachal'nik etdela truda i zarplaty Ministerstva zagotovok.  
(Grain elevators--Safety measures)(Flour mills--Safety measures)



MESHAKIN, S.

New conditions in All-Union socialist competition. Muk.-elev.prom.  
22 no.11:3-5 N '56. (MIRA 10:1)  
(Grain elevators)

MESHAKIN, S.

Raise the banner of socialist competition in honor of the 40th anniversary of the Great October Revolution. Muk.-elev. prom. 23 no.6:3-5 Je '57. (MIRA 10:9)

1. Otdel truda i zarplaty Ministerstva khleboproduktov SSSR.  
(Grain trade)

MESHAKIN, S.

It is the government's job to work for easier and more hygienic working conditions. Muk.-elv. prom. 24 no.9:28-29 S '58.

(MIRA 11:10)

1. Otdel truda i zarabotnoy platy Ministerstva khleboproduktov SSSR.  
(Grain milling--Safety measures)

MERZHKO, V.G., inzhener; MESHALINA, N.N., inzhener.

Reequipping locomotive sheds to service and repair diesel locomotives. Elek. i tepl. tiaga no.6:21-23 Je '57. (MLRA 10:8)  
(Locomotives--Maintenance and repair)

PONOMAREVA, E.K.; ZOLOTAVIN, V.L.; MESHALKIN, A.I.

Determination of cesium-137 in open bodies of water. Trudy  
Ural. otd. MOIP no.2:201-205 '59. (M. 14:11)  
(Water--Analysis)  
(Cesium--Isotopes)

MESHAKIN, G.I.

Some data on influenza in Krasnoyarsk Territory. Zh. zhurnalov, 1978, 1, 1, epid. i immun. zh. no. 4: 178-200, 2 p. 159. (MIRA 18:5)

1. Krasnoyarskaya kray-vaya sanitarno-epidemiologicheskaya stantsiya.

E 63354-65 EWA(b)-2/EWA(j)/ET(1) JK

ACCESSION NR: AP5011280

UR/0016/65/000/004/0078/0080

AUTHOR: Mesbalkin, G. I. (

22  
21  
B

TITLE: Some data on anthrax in Krasnoyarsk Kray

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 4, 1965, 78-80

TOPIC TAGS: epidemiology, anthrax, Krasnoyarsk Kray, animal, man, focus, epizootic

ABSTRACT: Anthrax in animals and man in Krasnoyarsk Kray has been recorded since the 1870's, with intense epizootics noted in 1873 and 1910. Over the years anthrax has spread to populated areas along the banks of the Yenisei and other rivers, forming many anthrax foci. The disease chiefly affects horses, cattle less frequently, sheep to even a lesser degree, and pigs only sporadically with outbreaks generally occurring in July or August. In view of the projected hydroelectric station water reservoirs to be built on the Yenisei River, detailed epidemiological and bacteriological studies of the populated areas are of utmost importance for anthrax control. Orig.

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L 63354-65

ACCESSION NR: AP5011280

art. has: None.

ASSOCIATION: Krasnoyarskaya krayevaya sanitarno-epidemiologicheskaya stantsiya (Krasnoyarsk Kray Sanitation-Epidemiological Station)

SUBMITTED: 25Jul64

ENCL: 00

SUB CODE: IS

NR REF SOV: 000

OTHER: 000

Card 2/2



MESHALKIN, I.N.

Tumors of the round ligament of the uterus. Akush.i gin. no.1:67-68  
Ja-F '54. (MIRA 7:6)

1. Iz fakul'tetskoy khirurgicheskoy kliniki im. S.I.Spasokukotskogo  
(direktor - professor A.N.Bakulev) II Moskovskogo meditsinskogo instituta  
im. I.V.Stalina. (Uterus--Tumors)

... .. \*  
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SP: ...

\* For the Degree of Candidate in Medical Sciences

BAKULEV, A.N. professor; MESHALKIN, I.N.,

Artificial pneumothorax in thoracic surgery. Vest.khir.76  
no.9:20-29 0 '55. (MLRA 9:1)

1. Iz fakul'tetskoy khirurgicheskoy kliniki im. S.I.Spasokukotskogo  
(Zav.-prof. A.N.Bakulev) lechetnogo fakul'teta 2-go Moskovskogo  
meditsinskogo instituta im. I.V.Stalina. 2. Deystvitel'nyy chlen  
AMN SSSR (for Bakulev).

(PNEUMOTHORAX, ARTIFICIAL  
diag.& ther.value)

MESHALKIN, I. N.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Bakulev, A. M.		
Gulyayev, A. V.		
Kochergin, I. G.		
Busalov, A. A.		
Meshalkin, Ye. N.	"Notes on Clinical Operative	Second Moscow Medical Institute
Zhmur, V. A.	Surgery"	in: I. V. Stalin
Gerasimova, A. V.		
Vlasova, Ye. F.		
Meshalkin, I. N.		
Rukosuyev, S. G.		

SG: W-30604, 7 July 1954

MESHALKIN, Ye.N.,<sup>3</sup> prof.; MESHALKIN, I.I.; SHIK, M.L.

Studies on pulmonary circulation in patients with mitral defects  
of the heart. Terap.arkh. 33 no.4:18-26 '61. (MIRA 14:5)

1. Iz laboratorii fiziologii (zav. - kand.med.nauk V.S.  
Gurfinkel') i khirurgicheskogo otdeleniya serdechno-sosu-  
distoy patologii vzroslykh (zav. - kand.med.nauk I.N.  
Meshalkin) Instituta eksperimental'noy biologii i meditsiny  
Sibirskogo oteeleniya Akademii nauk SSSR.  
(BLOOD—CIRCULATION) (MITRAL VALVE—DISEASES)

MESHALKIN, Ye.N., prof.; MESHALKIN, I.N., starshiy nauchnyy sotrudnik;  
KELIN, Ye.P., kand.med.nauk; LEVINSON, Yu.M., mladshiy nauchnyy  
sotrudnik

Emergency mitral commissurotomy as a therapeutic method in acute  
pulmonary edema in patients with mitral stenosis. Kardiologiya  
2 no.5:11-15 S-O '62. (MIRA 15:12)

1. Iz Instituta eksperimental'noy biologii i meditsiny Sibirskogo  
otdeleniya AN SSSR (dir. - prof. Ye.N.Meshalkin).  
(MITRAL VALVE--SURGERY) (PULMONARY EDEMA)

MESHALKIN, Ye.N.; MESHALKIN, I.N.; LEVINSON, Yu.M.; KELIN, Ye.P.

Mitral commissurotomy by extra-auricular approaches in  
left thoracotomy. Zdrav. Kazakh. 22 no.9:7-11 '62.

(MIRA 17:2)

1. Iz Instituta eksperimental'noy biologii i meditsiny  
Sibirskogo otdeleniya AN SSSR (dir. - laureat Leninskoy  
premi, prof. Ye.N. Meshalkin).

MESHALKIN, Ye. N., prof.; MESHALKIN, I. N.; MAZHBICH, B. I.; KELIN,  
Ye. P.; ILYUKHINA, L. B.; SEMENOV, A. A.

Diagnostic value of curves of the pulmonary-capillary pressure  
and left auricular pressure in mitral defect and the means for  
their evaluation. Terap. arkh. 34 no.5:25-31 '62.  
(MIRA 15:6)

1. Iz serdechno-sosudistogo otdeleniya dlya vzroslykh (zav.  
I. N. Meshalkin) i laboratorii fiziologii (zav. T. S. Vinogradova)  
Instituta eksperimental'noy biologii i meditsiny (dir. - laureyat  
Leninskoy premii prof. Ye. N. Meshalkin) Sibirskogo otdeleniya  
AN SSSR.

(MITRAL VALVE--DISEASES) (HEART--EXAMINATION)  
(CATHETERS)



MESHALKIN, Ye.N., prof.; MESHALKIN, I.N.; KELIN, Ye.P., kand.med.nauk;  
SEMENOV, A.A.; YAGAFAROV, L.M. (Novosibirsk)

Changes in the hemodynamics of the lesser circulation during  
mitral commissurotomy. Klin.med. 40 no.10:36-42 0 '62.

(MIRA 15:12)

1. Iz Instituta eksperimental'noy biologii i meditsiny Sibirskogo  
otdeleniya AN SSSR (dir. - prof. Ye.N.Meshalkin).

(MITRAL VALVE--SURGERY)

(PULMONARY CIRCULATION)

MESHALKIN, I.A.

Physiological adaptation and acclimation of man.  
Trudy Inst. K. N. Vorobeyevskiy, Moscow, and B. G. Gerasimov, etc.  
(MIRA 17)

In: Symposium on Science of Man and the Environment, 1971,  
biological and physiological aspects.

MESHALKIN, Ye.N. MESHALKIN, I.N.; KEBIN, Ye.P.; LEVINSON, Ye.M.,  
SEMENOV, A.A.

Comparative evaluation of mitral commissurotomy performed with  
the finger or instruments according to data on the decrease of  
the diastolic gradient during an operation. Trudy Inst. klin.  
i eksp. khir. AN Kazakh. SSR 9:15-19 '63. (MIRA 10 18)

MESHALKIN, Ye.N., prof. (Novosibirsk, ul. Potanina, d.23, kv.1); MESHALKIN,  
I.N.; LEVINSON, Yu.M.; VAYNBAUM, Ya.S.; SEMENOV, A.A.

Surgical treatment of mitral stenosis. Vest.khir.90 no.2:  
70-75 F'63. (MIRA 16:7)

1. Iz Instituta eksperimental'noy biologii i meditsiny (dir.  
prof. Ye.N.Meshalkin) Sibirskogo otdeleniya AN SSSR.  
(MITRAL VALVE---SURGERY)

MESHALKIN, I.N.; GORODETSKAYA, N.M.

Examination of the blood coagulation system in patients with  
rheumatic sclerosis of the mitral valve before and after mitral  
commissurotomy. Probl. gemat. i perel. krovi 9 no.3:41-45  
Mr '64. (MIRA 17:10)

1. Otdeleniye serdechno-sosudistoy khirurgii (zav.- I.N.  
Meshalkin) i klinicheskaya laboratoriya (zav.- I.I. Yevnina)  
Instituta eksperimental'noy biologii i meditsiny (dir.- prof.  
Ye.N. Meshalkin) Sibirskogo otdeleniya AN SSSR.

MESHALKIN, I.N.; POLYANSKIY, B.A.

Surgical treatment of mitral stenosis. Vop. pat. i reg. org. krov. i  
dykh. no.1:251-256 '61. (MIRA 18:7)

MESHALKIN, I.N.; MIKAYELYAN, A.L.; LEVINSON, Yu.M.

Ruptures of the left auricular appendage and atrium of the heart during mitral commissurotomies. Vop. pat. i reg. org. krov. i dykh. no.1:257-263 '61. (MIRA 18:7)

SOV/52-3-4-1/11

AUTHOR: Meshalkin, L.D. (Moscow)

TITLE: Limit Theorems for Markov Chains With a Finite Number of States (Predel'nyye teoremy dlya tsepey Markova s konechnym chislom sostoyaniy)

PERIODICAL: Teoriya Veroyatnostey i Yeye Primeneniya, 1958, Vol 3, Nr 4, pp 361 - 385 (USSR)

ABSTRACT: The author considers a sequence of series of  $n$  trials linked in a simple homogeneous Markov chain with a transitional probability matrix which is a function of  $n$ . The states of the system are denoted by  $E_i$ . The number of occurrences of the first state in the  $n$ -th sequence of trials is denoted by  $\mu$  (assuming that initially the system is in the first state). The distribution to which sequences of probability distributions of the normalised quantity  $\mu$  can converge as  $n \rightarrow \infty$  is of interest. The case of a system of two states was fully investigated by Dobrushin (Ref 1). Il'yashenko (Ref 4) generalised some of Dobrushin's results to an arbitrary number of states but he omitted to give an exhaustive description of all possible limit distribution laws. The present paper rectifies this omission. The principal result of this

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SOV/52-3-4-1/11

## Limit Theorems for Markov Chains With a Finite Number of States

paper is the following theorem: for any  $\alpha = \alpha(n)$  and  $\theta = \theta(n)$ , (with the condition that there is an  $\varepsilon > 0$  such that for any  $n$  :

$$\min_{\substack{u, v \geq 2 \\ u \neq v}} (\eta_{1, u}, \eta_{u, v} + \eta_{v, u}) > \varepsilon \quad (\kappa)$$

where  $\eta_{u, v}$  is the conditional probability of the system being at least once in the  $n$ -th series of trials in the state  $E_v$  when the system was originally in the state  $E_u$ , the distribution of the normalised quantity  $\alpha(\mu - n\theta)$  converges weakly to a particular distribution only in the case when that distribution is a linear transformation of one of the distributions in theorems 1-5. Theorem 6 supplements Theorem 7 which states that if the condition  $(\kappa)$  does not hold, the distribution of  $\alpha(\mu - n\theta)$  converges weakly only to a distribution which can be obtained as a limit in the case of  $r \leq s - 1$  possible states ( $s$  is the total number of states). Proof of Theorem 6 consists in

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Limit Theorem for Markov Chains with a Finite number of States

establishing the existence of a sub-sequence  $n_k \rightarrow \infty$  for which the conditions of any of the Theorems 1-5 are satisfied. In Theorems 3-5 only weak convergence is asserted. The problem of carrying over to the case of states Dobrushin's results on the uniform approximation to distributions for  $\mu$  as  $n \rightarrow \infty$  and on the arbitrary dependence of the matrix on  $n$  is not considered. In the last section of the paper an example is constructed which shows that the simplest uniform localisation of Theorems 3-5 is impossible. There are 11 references, 10 of which are Soviet and 1 French.

SUBMITTED: February 21, 1958

Card 3/3

MESHALKIN, L. D.

SOV/2660

PHASE I BOOK EXPLOITATION

16(1)

Vsesoyuznyy matematicheskiy s'yezd. 3rd, Moscow, 1956  
 Trudy. t. 4: Kratkoye soobsheniye sekcionnykh dokladov. Doklady  
 linearnykh uchenykh (Transactions of the 3rd All-Union Mathema-  
 tical Conference in Moscow, vol. 4: Summary of Sectional Reports.  
 Reports of Foreign Scientists) Moscow, Izdato AN SSSR, 1959.  
 247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.  
 Tech. Ed.: G.M. Shevchuk; Editorial Board: A.A. Abramov, V.G.  
 Boltvanskiy, A.M. Vasil'yev, B. Kedvedev, A.D. Klyuchik, S.M.  
 Nikol'skiy (Resp. Ed.), A.D. Poinikov, Yu. V. Prokhorov, K.A.  
 Rybnikov, F. L. Ulyanov, V.A. Uspenskiy, N.G. Chetaev, O. Ye.  
 Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.  
 COVERAGE: The book is volume IV of the Transactions of the Third All-  
 Union Mathematical Conference, held in June and July 1956. The  
 book is divided into two main parts. The first part contains sum-  
 maries of the papers presented by Soviet scientists at the Con-  
 ference that were not included in the first two volumes. The sec-  
 ond part contains the text of reports submitted to the editor  
 by non-Soviet scientists. In those cases when the non-Soviet sci-  
 entist did not submit a copy of the paper to the editor in a previous  
 volume, reference is made to cover various topics in number theory,  
 both Soviet and non-Soviet integral equations, mathematical  
 physics, differential stability theory, mathematical  
 problems of mechanics, and physics, computational mathematics,  
 mathematical logic and the foundations of mathematics, and the  
 history of mathematics.

Bobrov, A.A. (Odessa). The Method of arbitrary functions 61  
 in laying foundations for limit distributions  
 Volbrenskiy, V.A. (Moscow). Multidimensional limit theorem 63  
 for Markov chains with countable number of states  
 Dvayev, R.Kh. (Tashkent). Essentially complete classes of 63  
 solution rules for the determination of the probability of  
 the state of a homogeneous stochastic process  
 Klimov, V.M. (Moscow). Kinetic equation for neutrons, taking 64  
 into consideration the movement of the nuclei  
 Meshalkin, L.D. (Moscow). One-dimensional integral theorems 65  
 for characterizing a scheme of a series of experiments connected  
 in a homogeneous Markov chain  
 Petrov, V.V. (Leningrad). Local limit theorem for densities 65  
 Pugachev, V.S. (Moscow). Probability methods in the theory of 66  
 automatic control.

Card 13/34

16(1)

AUTHOR: Meshalkin, L.D.

SOV/20-128-1-9/56

TITLE: A Case of Isomorphism of Bernoulli Schemes

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1, pp 41-44 (USSR)

ABSTRACT: Let  $M$  be the space of the sequences  $\{x_n\}$  ( $x_n = 1, \dots, k$ ;  $n=0, \pm 1, \pm 2, \dots$ ). For arbitrary  $l > 0$ ,  $n_u, i_u$  ( $u = 1, \dots, l$ ;  $i_u = 1, \dots, k$ ;  $n_u \neq n_{u'}$ , for  $u \neq u'$ ) let :

$$\mu(A_{n_1}^{i_1} \dots A_{n_l}^{i_l}) = q_{i_1} \dots q_{i_l}, \quad \text{where } A_{n_u}^i = \left\{ \{x_n\} : x_{n_u} = i \right\};$$

$$\prod_{i=1}^k q_i = 1. \quad \text{Let } T \left\{ \begin{matrix} x_n \\ \dots \\ x_{n+1} \end{matrix} \right\} = \left\{ \begin{matrix} x_{n+1} \\ \dots \\ x_n \end{matrix} \right\}. \quad \text{It is known [Ref 3..]$$

that  $T$  is an isomorphism of  $M$ . The author denotes  $M$  with the automorphism  $T$  defined on it as a  $(q_1, \dots, q_k)$  - Bernoulli scheme. For a given  $(q_1, \dots, q_k)$  - scheme he constructs disjoint sets  $B_0^j$ , whereby each of these sets is the sum of

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A Case of Isomorphism of Bernoulli Schemes

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$\prod_j^m$  sets  $A_0^i$  with equal measure and  $\mu(\bigcup_j B_0^j) = 1$ .

Furthermore let

$$(1) \quad \kappa = \sum_j m_j \mu(B_0^j)$$

The factor space of the  $(q_1, \dots, q_k)$  - scheme with respect to the decomposition with the base  $\{T^n B_0^j = B_n^j; n=0, 1, \dots\}$  is denoted as  $(p, \kappa)$ -factor space of  $B$  (notations see [Ref 3, 7]).

Theorem 1 : All  $(p, \kappa)$ -factor spaces  $M$  are a.) themselves Bernoulli schemes with the entropy  $h_{p, \kappa} = h - \kappa \log p$ ;

b.) for equal  $p, \kappa$  isomorphic modulo 0.

Theorem 2 : All  $(q_1, \dots)$  - schemes with equal entropy and

$$q_i = \frac{1}{k_i} \text{ , where } p \text{ and } k_i \text{ are integer, are isomorphic}$$

Card 2/3

A Case of Isomorphism of Bernoulli Schemes

SOV/20-128-1-5/58

modulc 0 .

A.N. Kolmogorov is mentioned by the author.  
There are 4 Soviet references.

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

PRESENTED: May 15, 1959, by A.N. Kolmogorov. Academician

SUBMITTED: May 12, 1959

Card 3/3

MESHALKIN, L. D., Cand Phys-Math Sci -- (diss) "Approximation of sums of independent, similarly distributed random values according to infinitely divisible laws." Moscow, 1960. 7 pp; (Moscow Order of Lenin and Order of Labor Red Banner State Univ in M. V. Lomonosov, Mechanics-Mathematics Faculty); 165 copies; price not given; (KL, 25-60, 126)

0.0000

77814  
SOV/42-15-1-21/27

AUTHOR: Arnol'd, V. I., Mesbalkin, L. D.

TITLE: A. N. Kolmogorov's Seminar on Selected Problems in Analysis (1958/1959)

PERIODICAL: Uspekhi matematicheskikh nauk, 1960, Nr 1, p 247-250 (USSR)

ABSTRACT: The seminar was devoted to the following two groups of problems: I. Incorrectly posed problems in analysis and mechanics, i.e., problems whose solutions depend discontinuously on a parameter. II. Mathematical models of turbulent motion of an incompressible viscous fluid. The first group dealt mainly with the boundary value problem for the vibrating string. The papers by N. N. Vakhaniya, B. V. Boyarskiy, V. I. Arnol'd and A. N. Kolmogorov presented a survey of this topic. In the second group, Kolmogorov pointed out two facts: (1) In decreasing the viscosity  $\nu$  the laminar solution of stationary problems becomes unstable, or stable in a very small region, both of which are not observed

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A. N. Kolmogorov's Seminar on Selected Problems in Analysis (1958/1959)

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007/42-15-1-2107

the solutions being periodic in  $2a$  and  $2\pi$  in  $x$  and  $y$ , respectively, and satisfying

$$\int_a^{2a} v(x, y) dx = \int_a^{2a} u(x, y) dy = 0 \tag{3}$$

He stated the hypothesis that for small  $\nu$  turbulent solution should appear, (in the sense of nontrivial invariant measure  $\mu_\nu$  in the  $(u, v)$  space) and that  $\mu_\nu \rightarrow \mu$  ( $\nu \rightarrow 0$ ). Thus far the hypothesis could not be verified on any mathematical model. There are 25 references, 6 U.S., 12 Soviet, 3 French, 1 German, 2 Dutch, 1 Chinese. 5 Recent U.S. references: W. Wasow, Asymptotic Solution of the Differential Equation of Hydrodynamic Stability in a Domain Containing a Transition Point, Ann. Math., 58 (1953) 222-252; W. Wasow, One Small Disturbance of Plane Couette Flow, Journ. Res. Nat. Bur. Stand., 51 (1953) 195-202; E. Hopf, Statistical Hydromechanics and Functional Calculus, Journ. Rat.

Card 3/4

A. N. Kolmogorov's Seminar on Selected  
Problems in Analysis (1958/1959)

77814  
SOV/42-19-1-11-127

Mech. Analysis, 1 Nr 1 (1952) 87-123; C. L. Siegel,  
Iterations of Analytic Functions, Ann. of Math. 43, 4,  
(1942), 607; F. John, The Dirichlet Problem for a  
Hyperbolic Equation, Amer. Journ. Math. 63, (1941),  
141-154.

Card 4/4

MESHALKIN, L. D. (Moscow)

Approximation of polynomial distributions by infinitely divisible  
laws. Teor. veroiat. i ee prim. 5 no.1:114-124 '60. (MIRA 13:10)  
(Distribution (Probability theory))

S/020/60/132/04/09/064

16 610

AUTHOR: Meshalkin, L.D.

TITLE: The Lower Estimate of the Rate at Which the Distribution of Sums Approaches a Set of Infinitely Divisible Laws

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 4, pp. 766-768

TEXT: Let  $\mathcal{O}_j$  be the set of infinitely divisible laws; let  $\mathcal{O}_L$  be the set of such  $G \in \mathcal{O}_j$  that the logarithm of its characteristic function admits the representation

$$\ln g(t) = i\gamma t + \int_{-L}^L (e^{itu} - 1 - itu) \frac{dK(u)}{u^2},$$

where  $\gamma^2 \geq 0$ ,  $K(u)$  is a non-decreasing function of bounded variation. Let

$F^{(n)}(x) = \underbrace{F(x) * \dots * F(x)}_{n \text{ times}}$  be the distribution function of the sum of  $n$

independent random variables which have the distribution function  $F(x)$ . Let  $\rho(F, G) = \sup_x |F(x) - G(x)|$ ;  $\rho(F, \mathcal{O}_j) = \inf_{G \in \mathcal{O}_j} \rho(F, G)$ ;  $F_p(x) = 0$  for  $x \leq 0$ ,  $1-p$  for

$0 < x \leq 1$ ,  $1$  for  $x > 1$ . Let  $\psi(n) = \sup_F \rho(F^n, \mathcal{O}_j)$ ;  $\psi_1(n) = \sup_{p \leq 1} \rho(F_p^n, \mathcal{O}_j)$

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The Lower Estimate of the Rate at Which the  
Distribution of Sums Approaches a Set of  
Infinitely Divisible Laws

S/020/60/132/04/09/064

Theorem 1: To every function  $u(n) \rightarrow 0$  ( $n \rightarrow \infty$ ) there exists an  $n_0$  so that  
for  $n > n_0$  it holds

$$\psi_1(n) > n^{-\frac{2}{3}} (\ln n)^{-\frac{1}{2}} u(n).$$

Theorem 2:  $\psi(n) > C_6 n^{-\frac{2}{3}} (\ln n)^{-4}$ ,  $C_6 = \text{const.}$

The author thanks A.N.Kolmogorov and Yu.V.Prokhorov. There are 3 Soviet  
references.

PRESENTED: February 10, 1960, by A.N.Kolmogorov, Academician

SUBMITTED: February 9, 1960

Card 2/2

S/040/61/025/006/020/021  
D299/D304

AUTHORS: Meshalkin, L.D., and Sinary, Ya.G. (Moscow)

TITLE: Investigating the stability of the stationary solution of a system of equations of plane flow of an incompressible viscous fluid

PERIODICAL: Prikladnaya matematika i mekhanika, v. 25, no. 6, 1961, 1140 - 1143

TEXT: The subject was proposed by A.N. Kolmogorov at a seminar under his direction. The system

$$\begin{aligned} \frac{\partial u}{\partial t} + u_x u + u_y v &= -\frac{\partial p}{\partial x} + F_1 + \nu \Delta u \\ \frac{\partial v}{\partial t} + v_x u + v_y v &= -\frac{\partial p}{\partial y} + F_2 + \nu \Delta v \\ u_x + v_y &= 0 \end{aligned} \tag{1.1}$$

is considered. Idealized boundary conditions are set up which makes it possible to carry through the solution of the problem; instead of the ordinary boundary conditions, the solution is sought in the

Card 1/4

S/040/61/025/006/020/021  
D299/D304

Investigating the stability ...

form of functions of  $y$  with period  $2\pi$ . System (1.1) has the stationary solution

$$u = \frac{\gamma}{v} \sin y, \quad v = 0, \quad p = \text{const.} \quad (1.2)$$

The velocity profile, corresponding to this solution, has an inflection point. Hence it should be expected that at large Reynolds numbers the flow is unstable. The stability of the solution (1.2) is investigated by the method of infinitesimal perturbations. The stream function  $\varphi$  of infinitesimal perturbations, satisfies the equation

$$\frac{\partial}{\partial t} \Delta \varphi + \frac{\gamma}{v} \sin y \frac{\partial}{\partial x} (\varphi + \Delta \varphi) = \nu \Delta^2 \varphi \quad (1.3)$$

The function  $\varphi$  is sought in the form

$$\varphi(x, y, t) = e^{\sigma t} \sum_{-\infty}^{\infty} c_n e^{i(ny + \alpha x)}$$

thereupon one obtains for the coefficients  $c$  the system of equations

$$\frac{2\gamma}{\gamma\alpha} (\alpha^2 + n^2) [\nu(\alpha^2 + n^2) + \sigma] c_n + c_{n-1} [\alpha^2 - 1 + (n-1)^2] - c_{n+1} [\alpha^2 - 1 + (n+1)^2] = 0. \quad (1.4)$$

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S/O40/61/025/006/020/021  
D299/D304

Investigating the stability ...

The sign is investigated of the real parts of those values of  $\sigma$ , for which a non-trivial solution of system (1.4) exists, which approaches zero with  $/n/ \rightarrow \infty$ . The following conclusions are arrived at: 1) With  $\alpha > 1$ , the real part of  $\sigma$  is always negative; hence the solution to (1.2) is stable. 2) The quantities  $\sigma$  which have non-negative real parts, are necessarily real. 3) A graph shows that with increasing Reynolds numbers, instability occurs with small  $\alpha$ . Further, the equation for  $\sigma$  is derived. The notations

$$a_n = a_n(v, \sigma) = \frac{2v(\alpha^2 + n^2)(v(\alpha^2 + n^2) + \sigma)}{\alpha(\alpha^2 - 1 + n^2)}$$

$$d_n = d_n(v, \sigma) = c_n(\alpha^2 - 1 + n^2)$$

are introduced; thereupon system (1.4) becomes (2.1)

$$a_n d_n + d_{n-1} - d_{n+1} = 0.$$

After computations, one arrives at the conclusion that in order that system (2.1) have a solution approaching zero with  $/n/ \rightarrow \infty$ , it is necessary and sufficient that  $\sigma$  satisfy equation

$$-\frac{\sigma}{2} = \frac{1}{a_1} + \frac{1}{a_2} + \dots \quad (2.6)$$

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S/040/61/025/006/020/021  
D299/D304

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Investigating the stability ...

An analysis of Eq. (2.6) leads to the conclusion that with small  $\alpha$  and large Reynolds numbers, the solution (1.2) is unstable. There is 1 figure and 2 Soviet-bloc references.

SUBMITTED: March 15, 1961

Card 4/4

MESHALKIN, L.D., kand. fiz.-mat. nauk

Discussing books on mathematical statistics. Zav. lab. 27 no.10:1279-1280 '61. (MIRA 14:10)

1. Kafedra teorii veroyatnostey Moskovskogo gosudarstvennogo universiteta im. Lomonosova.  
(Bibliography—Mathematical statistics)

AYVAZYAN, S.A.; MESHALKIN, L.D.; PISARENKO, V.F.

"Mathematical statistics in technology" by A.M. Dlin. Reviewed  
by S.A. Aivazian, L. D. Meshalkin, V. F. Pisarenko. Zav.lab. 27.  
no.10:1280-1281 '61. (MIRA 14:10)

1. Matematicheskii institut AN SSSR (for Ayvazyan). 2. Kafedra  
teorii veroyatnostey Moskovskogo gosudarstvennogo universiteta  
(for Meshalkin, Pisarenko).

(Mathematical statistics)  
(Dlin, A.M.)

AYVAZYAN, S.A.; KOLMOGOROV, A.N.; MESHALKIN, L.D.; PISARENKO, V.F.

"Mathematical statistics in technics" by A.M. Dlin. Reviewed  
by S.A. Aivazian and others. Teor. veroiat. i ee prim. 7 no.2:  
243-248 '62. (MIRA 15:5)

(Mathematical statistics)  
(Dlin, A.M.)

ACCESSION NR: AT4039218

S/0000/63/000/000/0049/0055

AUTHOR: Meshalkin, L. D.; Rogozin, B. A.

TITLE: Estimate of the distance between distribution functions according to the closeness of their characteristic functions, and its application to the central limit theorem

SOURCE: AN UzSSR. Institut matematiki. Predel'nyye teoremy teorii veroyatnostey (Limit theorems for the theory of probability). Tashkent, Izd-vo AN UzSSR, 1963, 49-55

TOPIC TAGS: statistics, probability, distribution function, statistical function, probability function, characteristic function, probability theory, limit theorem

ABSTRACT: The existing estimates of the distance between distribution functions in accordance with the behavior of their characteristic functions impose stringent restrictions on this behavior. Recently (1958) the second author obtained an estimate for the closeness of distribution functions without presuming the existence

of

$$\int_0^T |f(t) - g(t)| / t dt, \text{ where } f(t) \text{ and } g(t) \text{ are the charac-}$$

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ACCESSION NR: AT4039218

teristic functions. The present paper is devoted to the extension and refinement of the results obtained in this earlier paper. If  $F(x)$  and  $G(x)$  are the corresponding probability distributions, the authors state and prove five theorems on estimates of  $|F(x)-G(x)|$ , and, in conclusion, give an application of these theorems to obtain an estimate of the remainder term in the central limit theorem. Orig. art. has: 32 formulas.

ASSOCIATION: Institut matematiki UzSSR (Institute of Mathematics AN UzSSR)

SUBMITTED: 29Apr63

DATE ACQ: 06Apr64

ENCL: 00

SUB CODE: MA

NO REF SOV: 002

OTHER: 001

Card 2/2

L 13321-63 EWT(d)/FCC(w)/BDS AFFIC IJP(C)  
ACCESSION NR: AP3001461 8/0052/63/008/002/0219/0220  
AUTHOR: Meshalkin, L. D. (Moscow) 52  
TITLE: Generalized Sperner theorem on the number of subsets of a finite set 16  
SOURCE: Teoriya veroyatnostey i yeye primeneniya, v. 8, no.2, 1963, 219-220  
TOPIC TAGS: partition, s-system, number of elements, Sperner theorem  
ABSTRACT: Let R be a finite set of n elements. The order collection of r subsets of R, which are disjoint and whose union is R, is called an r-partition of R. Given two r-partitions, they are said to be connected if at least one element of one partition is contained in the corresponding element of the other partition. If each element of one partition either contains or is contained in the corresponding element of the other partition, then it is said they are strongly connected. If a collection of r partitions satisfies the condition that no two elements in this collection are connected, the collection is said to be an s-system. The author finds an expression for the maximum number of r partitions in an s-system. Orig. art. has: 8 formulas. ✓  
ASSOCIATION: none  
SUBMITTED: 30Nov62 DATE ACQ: 17Jun63 ENCL: 01  
SUB CODE: 00 NO REF SOV: 001 OTHER: 001  
Card 1/1

L 3239-65

ACCESSION NR: AP4046058

S/0245/64/000/005/0122/0126

AUTHOR: Artem'yeva, Ye. Yu.; Meshalkin, L. D.; Morozova, I. V.;  
Sorkina, E. G.; Khomskaya, Ye. D.TITLE: Experimental use of nonparametric static methods in  
analyzing curves for recorded eye movements

SOURCE: Voprosy\* psikhologii, no. 5, 1964, 122-126

TOPIC TAGS: human, eye, eye movement recording, nonstatistical  
analysis, brain injury diagnosis

ABSTRACT: A nonstatistical method of analyzing eye movement curve data has been developed to improve brain injury diagnosis. Photoelectric recordings of eye movements for 14 patients with injuries of the frontal lobe (premotor area), 17 patients with localized injuries of the parietal and occipital lobes, and 10 healthy persons were extensively analyzed. On the basis of the analysis data, three indices were selected for brain injury diagnosis: 1) degree of "independent" eye movement normalcy, 2) difference between the maximum frequencies of "independent" and "tracking" eye movements,

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L 31330-65

ACCESSION NR: AP4046058

and 3) nature of slow "tracking" eye movements. "Independent" eye movements were determined by the subject's eye movement frequency in shifting his eyes between two points (30° apart) upon verbal instruction. "Tracking" eye movements were determined by the subject's eye movement frequency in tracking a spot of light moving in a horizontal plane from left to right and back again. A rating scale ranging from 1 to 5 was worked out to facilitate evaluation of each index. Typical eye movement patterns served as standards for the rating scale (see enclosures 01 and 02). A patient's eye movement curves can be evaluated in less than 20 min by this method. Tabulation of index ratings for all investigated subjects showed that 12 of the 14 patients with injuries of the premotor area had the same rating of "3" for degree of "independent" eye movement normalcy. Other brain injuries also appear to be characterized by specific index ratings. The validity of these findings was confirmed by evaluating eye movement curves for 14 new subjects. The improvement of local brain injury diagnosis by a nonstatistical analysis of eye movements appears feasible. Orig. art. has: 5 figures.

Card 2/5

1 71330-65  
ACCESSION NR: AP4046058

ASSOCIATION: Otdeleniye psikhologii Moskovskogo universiteta  
(Psychology Department, Moscow University)

SUBMITTED: 00

ENCL: 02

SUB CODE: LS, PH

NR REF SOV: 005

OTHER: 001

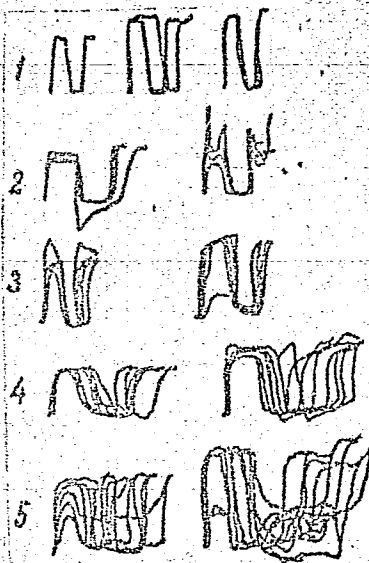
Card 3/5

L 31330-65

ACCESSION NR: AP4046058

ENCLOSURE: 01

Fig. 1. Typical mean patterns for "independent" eye movements (numbers indicate scale ratings).

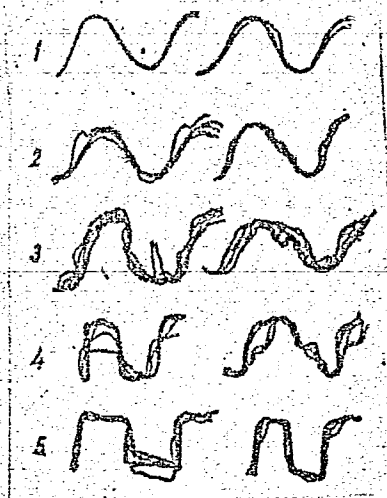


Card 4/5

L 31330-55  
ACCESSION NR: AP4046058

ENCLOSURE: 02

Fig. 4. Standard scale for rating "tracking" eye movements by number.



Card 5/5

MEMORANDUM FOR THE DIRECTOR

Subject: [Illegible]

LONTSIKH, S.V.; MESHALKIN, L.D.

Appraisal of the results of semiquantitative spectrum analysis.  
Zav. lab. 30 no.7:851-857 '64. (MIRA 18:3)

1. Irkutskiy gosudarstvennyy nauchno-issledovatel'skiy institut  
redkikh metallov i Moskovskiy gosudarstvennyy universitet.

MFSHALKIN, L.D.

Selecting a scale for representating the results of semi-quantitative spectrum analysis. Zav. lab. 30 no.7:857-860 '64. (MIRA 18:3)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

MESHALKIN, N.M.  
NESTERTSEV, V.N.; MESHALKIN, N.M., tekhnoruk

What our experience shows. Zashch. rast. ot vred. i bol. 3 no.1:26-27  
Ja-F '58. (MIRA 11:3)

1. Nachal'nik Rostovskogo otryada zashchity rasteniy (for Nestertsev).  
(Rostov Province--Susliks)



MIROSKIN, V.

Training Administration, ...

ACC NR: AR6014869

SOURCE CODE: UR/0372/65/000/011/0007/0007

AUTHORS: Aleksandrovskiy, N. M.; Yegorov, S. V.; Meshalkin, V. P.

TITLE: Forecasting systems of automatic control using dynamic models for one class of objects

SOURCE: Ref. zh. Kibernetika, Abs. 11G47

REF SOURCE: Tr. Mosk. energ. in-ta, vyp. 59, 1965, 85-102

TOPIC TAGS: optimal automatic control, model, boundary value problem, metallurgic process

ABSTRACT: The control of objects with "unmeasurable" (from the point of view of operational control) output is accomplished in most cases by the compensation of disturbances, which has low accuracy. For optimal (in the given sense) control of objects with "unmeasurable" output, it is possible to use forecasting control systems with the use of a high-speed model as a sensing element of the dynamic state of the object. A number of difficulties arises in the creation of systems with forecasting: problems of creating the model--the sensing element of the dynamic state of the object and assigning the boundary conditions in the model; the problem of seeking the optimal (in the given sense) solution under the given boundary conditions. Even with rough solutions of these problems, however, such systems with forecasting ensure qualitative control of objects. Some problems connected with these problems, which

UDC: 62-509

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ACC NR: AR6014869

are illustrated by the example of the construction of an automatic control system by a metallurgical process which is an object of control with an "unmeasurable" output, are examined. 9 illustrations. Bibliography of 6 citations. V. M. [Translation of abstract]

SUB CODE: 13, ~~13~~ 14

Card 2/2 MCLP

BRISKMAN, A.M.; MESHALKIN, Ya.I. (Cherkassy)

Treatment of lumbosacral radiculitis with antireticular cytotoxic serum. Vrach. delo no.1:149-150 Ja '62. (MIRA 15:2)

1. Nevrologicheskoye otdeleniye oblastnoy bol'nitsy, Cherkassy.  
(SPINAL NERVE INFLAMMATION)  
(ANTIRETICULAR CYTOTOXIC SERUM)

BRISKMAN, A.M.; KOBZARENKO, M.P.; MESHALKIN, Ya.I.

Treatment of multiple sclerosis with endolumbar introduction of vitamin B12. Zhur. nevr. i psikh. 64 no.6:854-857 '64. (MIRA 17:12)

1. Nevrologicheskoye otdeleniye (zaveduyushchiy A.M. Briskman)  
Cherkasskoy oblastnoy bol'nitsy (glavnyy vrach S.Ya. Yevchenko).

MESHALKIN, Ye. N., Physician

Cand. Med. Sci.

Dissertation: "Intubation Narcosis."

15/5/50

Second Moscow State Medical Inst. imeni

I. V. Stalin

SO Vecheryaya Moskva  
Sum 71

BAKULEV, A. N.; MESHALKIN, Ye. N.

Results of application of contrast angiocardiology in  
thoracic surgery. Vest. khir. Grekova, Leningr. 71 no.5:3-14  
1951. (CIML 21:1)

1. Prof. Bakulev, Active Member AMS USSR; Candidate Medical  
Sciences Meshalkin. 2. Of the Faculty Surgical Clinic of the  
Therapeutic Faculty, Second Moscow Medical Institute imeni  
I. V. Stalin.

**MESHALKIN, Ye.N.**

Centralization of gas and energy supply in operating rooms. Khirurgiia,  
Moskva no. 9:63-67 Sept 1952. (GIML 23:3)

1. Candidate Medical Sciences. 2. Of the Faculty Surgical Clinic  
of the Therapeutic Faculty (Director -- Prof. A. N. Bakulev), Second  
Moscow Medical Institute ineni I. V. Stalin.

MESHALKIN, E.N.

[Technique of intratracheal anesthesia] Tekhnika intubatsionnogo  
narkoza. Moskva, Medgiz, 1953. 166 p. (MLRA 6:11)  
(Intratracheal anesthesia)

MESHAIKH, Ye. N.

"Angiocardiography of Patients with Congenital Heart Defects."  
Dr Med Sci, Second Moscow State Medical Inst, Moscow, U.S.S.R. (ZMBI 1,  
No 1, Sep 54)

CC: Sur 432, 20 Mar 55



TIKHONOVA, Z.I.; STEPANOVA, M.N., kandidat meditsinskikh nauk; MESHALKIN, Ye.N.,  
kandidat meditsinskikh nauk; BAKULEV, A.N., professor; GULYAYEV, A.V., pro-  
fessor; VOZNESENSKIY, V.P., professor; DMITRIYEV, I.P., professor; OGNEV,  
B.V., professor; VAZA, D.I., professor; PETROY, B.A., professor, predsed-  
tel'; DOROFEYEV, V.I., sekretar'.

Minutes of the session of the Surgical Society of Moscow and Moscow Province  
of June 27, 1952. Khirurgiya no.3:84-88 Mr '53. (MTPA 6:6)

1. Khirurgicheskoye obshchestvo Moskvyy i Moskovskoy Oblasti.  
(Heart--Surgery) (Cardiovascular system--Surgery)

KUMPRIYANOV, P.A., professor; GRIGOR'YEV, M.S., professor [reviewers]: MESHALKIN, Ye.N. [author].

"Techniques of intubation narcosis." E.N.Meshalkin. Reviewed by P.A. Kupriyanov, M.S.Grigor'ev. Vest.khir. 73 no.5:78-79 S-0 '53. (MLRA 6:11)  
(Anesthesia) (Meshalkin, E.N.)

BABSKIY, Ye.B.; VINOGRADOVA, T.S.; GURFINKEL', V.S.; MESHALKIN, Ye.N.

Physiological analysis of cardiohemodynamogram. Doklady Akad. nauk  
SSSR, 88 no. 2:365-368 11 Jan 1953. (CLAL 24:1)

1. Active Member of the Academy of Sciences Ukrainian SSR for Babskiy.

MESHALKIN, Yevgeniy Nikolayevich; ZAKHAR'YAN, S.T., redaktor; SENCHILO,  
K.A., tekhnicheskii redaktor

[Catheterization and contrast study of the heart and main vessels]  
Zondirovanie i kontrastnoe issledovanie serdtsa i magistral'nykh  
sosudov. Moskva, Gos. izd-vo med. lit-ry, 1954. 355 p. (MIRA 7:11)  
(CARDIOVASCULAR SYSTEM--RADIOGRAPHY)

MESHALKIN, Ye.N., doktor meditsinskikh nauk.

Result of surgery of congenital heart disease. Khirurgia no.1:26-42  
Ja '54. (MLRA 7:5)

1. Iz fakul'tetskoy khirurgicheskoy kliniki im. S.I.Spasokukotskogo  
(zaveduyushchiy - professor A.N.Bakulev) II Moskovskogo meditsinskogo  
instituta im. I.V.Stalina.  
(Heart--Abnormities and deformities) (Heart--Surgery)

MESHALKIN, Ye.N.

The Technique of Angiocardiography.

E. N. Meshalkin (Klin. Med. (Mosk.) 32, 21-30, Feb., 1954. 2 figs.

In the surgical treatment of heart disease accuracy in diagnosis is essential, and for this an exact knowledge of the anatomical structure and function of the heart and great vessels is of prime importance. This necessitates investigation of the pressure, oxygen content, saturation, and course of the blood, both in the chambers of the heart and in the great vessels, and this involves the use of the cardiac catheter and of contrast media. The effect of these methods on the function of the heart and on the patient as a whole requires careful investigation.

The author describes his technique, which resembles that generally used except that he has frequently employed retrograde catheterization, 49 were performed intravenously and 11 intra-arterially. In 42 of the former and all 11 of the latter, no serious disturbances of cardiac rhythm resulted, although of 39 other cases examined by the intravenous route with simultaneous electrocardiography, 22 showed some disturbance of action, extrasystoles occurring in 7 cases as the catheter passed into one or other of the heart cavities. There were no disturbances of arterial pressure, pulse, or respiratory rate. Complications, which occurred in 9 cases examined intravenously, included 4 cases of transverse rupture of the vein, one of detachment of the directing nozzle of the catheter, one of difficulty in withdrawal, and 3 of blood clot in the catheter; among the patients examined intra-arterially there were 2 cases of transverse rupture of the artery, in both of which, however, the artery was successfully sutured and circulation in the arm fully restored.

(Continued)

### The Technique of Angiocardiography.

A total of 185 injections of contrast material (120 of "cardiotrast" and 65 of "pyelosil" (diodone)) were given, 163 by the intravenous route (50 by catheter, and 113 directly into the vein) and 22 by the arterial route, all by catheter. The reactions produced by the introduction of contrast material into the circulation depended not only on the amount of contrast material per kg. body weight of the patient, but also on the rate of injection, and the author suggests a "weight-time coefficient" based on the formula:

$$\text{Weight-time coefficient} = \frac{\text{weight of dry medium in g.}}{\text{weight of patient in kg.} \times \text{duration of injection in seconds}}$$

The author found that if this coefficient exceeded 0.3, reactions were liable to be severe, and if above 0.7, very severe. Symptoms included a feeling of oppression in the chest, nausea, vomiting, pallor, cyanosis, in most cases hyperaemia of the skin, and in 24 cases urticaria. Children with congenital heart disease were especially susceptible if the weight-time coefficient exceeded 0.4. In tests on experimental animals, a severe fall in the arterial pressure occurred when the coefficient was higher than 0.45.

The introduction of the cardiac catheter and also the avoidance of severe reactions to contrast material is much facilitated by preliminary intravenous injection of procaine. In the author's experience angiocardiography is dangerous in patients with disturbances of conduction, hypoxia of the myocardium or general hypoxia associated with congenital morbus cordis, or renal insufficiency, and in

(Continued)

The Technique of Angiocardiography.

patients sensitive to iodine.

L. Firman-Edwards

SO: ABSTRACTS OF WORLD MEDICINE Vol. 16 No. 5



MESHALKIN, Ya.N., professor (Moscow)

Use of angiocardiology in clinical practice. Report 2: Angiocardio-  
graphic picture of normal cardiovascular system. Klin. med. 32 no.6:  
Je '54. (MLRA 7:8)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav.-prof. A.G.Bakulev)  
i kafedry rentgenologii (zav.-prof. V.A.D'yachenko) II Moskovskogo  
meditsinskogo instituta imeni I.V.Stalina.

(CARDIOVASCULAR SYSTEM, radiography

\*angiocardiology)

(ANGIOGRAPHY

\*angiocardiology of cardiovascular system)

MESHALKIN, E IV

Summaries of papers presented at the XXVI Congress of Surgeons of the USSR, Moscow, 20 - 27 January 1955, included:

Surgical Treatment of Congenital Cardiac Lesions.

E. N. MESHALKIN

SOURCE: ~~XXXXXXXXXX~~ A-46013 (Official Publication) Unclassified.

MESHALKIN, Ye.N., professor, kandidat meditsinskikh nauk; RYNEYSKIY, S.V. ;  
PIPIYA, V.I.

Double transpleural technique for the surgical treatment of adhesive  
pericarditis. Khirurgiia no.8:26-33 Ag. '55. (MLRA 9:2)

1. Iz fakul'tetov khirurgicheskoi kliniki imeni S.I.  
Spasokukotskogo (dir.-deystvitel'nyy chlen AMN SSSR prof. A.N.  
Bukulev) lechebnogo fakul'teta II Moskovskogo meditsinskogo  
instituta imeni I.V. Stalina.

(PERICARDITIS, ADHESIVE, surg.  
transpleural approach)

MESHALKIN, Ye.N., professor.

"Congenital defects of the heart and large vessels" Imre Littmann,  
René Fono. Reviewed by E.N. Meshaklin. Vest.khir.76 no.9:142-143  
O '55. (MLRA 9:1)  
(HEART--ABNORMALITIES AND DEFORMITIES) (BLOOD VESSELS--  
ABNORMALITIES AND DEFORMITIES) (LITTMAN, Imre)

EXCERPTA MEDICA Sec.9 Vol.11/12 Surgery Dec 57

*Meshalkin, L N*

6494. MESHALKIN E. N. Surg. Clin., S.I. Spasokukotskii Fac., Second Med. Inst., Moscow. \*Side-to-side anastomosis between aorta and pulmonary artery in congenital heart diseases with inadequate blood supply to the pulmonary circulation (Russian text) EKSPER. KHIR. 1956, 2 (3-12) Tables 3 Illus. 7

An experiment was carried out in 80 cases by performing side-to-side anastomosis between the aorta and pulmonary artery for stenosis of the right ventricle and for stenosis of the right division of the heart bulbus. The survival technique, its possible complications and their prevention, are detailed. The results of this operative intervention show that side-to-side anastomosis between the aorta and the left branch of the pulmonary artery, constitutes an expedient operation in congenital stenosis of the right division of the heart bulbus (moderate and extreme degree). The technique suggested by Potts in performing the anastomosis can be somewhat improved by using a Dogliotti clamp, placed on the left branch of the pulmonary artery at an angle of 45° and longitudinally on the anterior part of the aorta. With this operative intervention the clinical effect of this operation was excellent in 58 patients, as in all these cases cyanosis and clubbing of the fingers disappeared, the haemoglobin reading came down to normal, the aptitude for physical exertion approached the normal level and the exchange of gases also improved. In 2 cases the results were only moderately satisfactory, as simultaneously with the general improvement, signs of constant overfilling of the pulmonary

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CONT.

circulation appeared (due to over-extensive anastomosis). Twenty deaths occurred from these operations and hypoxia was presumed to be responsible. The danger to life is in direct proportion to the duration of the operation. References 30.  
Mishura - Leningrad

1086. ANASTOMOSIS OF THE SUPERIOR VENA CAVA WITH THE PULMONARY ARTERY IN PATIENTS WITH CONGENITAL HEART DISEASES AND INSUFFICIENT BLOOD FLOW IN THE LESSER CIRCULATION (Russian text). Meshalkin E. N. Inst. for Thorac. Surg., USSR Acad. of Med. Scis, Moscow - EKSPER. KHIR. 1956, 6 (3-12) illus. 6

The results of 226 operations for cyanotic congenital heart disease (interarterial anastomosis, infundibulectomy, valvulotomy) are discussed. An end-to-end anastomosis between the superior vena cava and the right pulmonary artery was performed in 24 children (23 of Fallot's tetralogy and 1 of atresia of the right ventricle). The operative technique is described in detail. The superior vena cava was compressed for 12-25 min. There were 4 deaths, 3 being from postoperative haemorrhage and 1 from a brain lesion caused by severe hypoxia. The clinical result in 20 cases was evaluated as good: disappearance of cyanosis, dyspnoea and symptoms of chronic oxygen hunger. References: 5.  
Stasiunas - Leningrad (S)

VISHNEVSKIY, A.A., professor; SYZGANOV, A.N., professor; MESHALKIN, Ye.N., professor

Twelfth Congress of the Surgical Society of India. Vest. AMN SSSR (MLBA 9:8) 11 no.2:66-71 '56.

1. Chlen-korrespondent AMN SSSR (for Vishnevskiy) 2. Deystvitel'nyy chlen Kazakhskoy SSR (for Syzganov) (INDIA--SURGERY--CONGRESSES)

USSR/Morphology of Man and Animals (Normal and Pathologic) Vascular System.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 17048  
Author : Meshalkin, Ye.N., Damir, Ye.A.  
Inst : -  
Title : Arterio-Venous Pulmonary Fistulas.  
Orig Pub : Vestn. khirurgii, 1956, 77, No 3, 3-10

Abstract : A study of 300 patients with congenital malformations of the heart and large vessels revealed 2 cases of arterio-venous pulmonary fistulas in which blood runs from the pulmonary vein into the pulmonary artery. In 500 patients with lung diseases these fistulas were not found. On the basis of their own data and data from the literature, the authors believe that the most outstanding and frequent symptom of the disease is chronic hypoxia with pronounced cyanosis with dyspnea developing later. Not infrequently patients have angiomias and telangiectasias

MESHALKIN, YE. N.

"Contemporary Problems of Vascular Surgery," by A. N. Bakulev, Active Member of the Academy of Medical Sciences USSR, and Prof Ye. N. Meshalkin, Institute of Thoracic Surgery (director, Prof A. N. Bakulev), Academy of Medical Sciences USSR and Faculty Surgical Clinic imeni S. I. Spasokukotskiy (head, Prof A. N. Bakulev), of the Second Moscow Medical Institute imeni I. V. Stalin, Vestnik Khirurgii imeni Grekova, Vol 77, No 11, Nov 56, pp 43-51

This article discusses general problems of vascular surgery, including successes in the diagnosis of blood-vessel diseases, modern techniques of surgical operations for the connection and terminal closure of vessels, and modern technique for vascular suturing. Diagrams illustrate the method of suturing. Another major part of the article covers essential groups of operations on blood vessels, which includes operations for rerouting of arteries, operations for the restoration of normal anatomic structures of the vascular bed, operations for creating collateral circulation, operations for "hemodynamic redistribution," and finally operations for the replacement of blood vessels.

Plastic vascular surgery is progressing fast due to improve anti-coagulant drugs, the application of stored homografts, and especially vascular prosthesis. Large plastic correction of vascular damage is possible and results in both perfect anatomic outcome and physiological functions. (U)

54M.1374



MESHALKIN, Ye.N

[Artificial pneumothorax in surgery of the chest] Iskusstvennyi  
pnevotoraks v grudnoi khirurgii. Moskva, Medgiz, 1957.  
132 p. (PNEUMOTHORAX) (MLRA 10:4)

... ..

The present state of our knowledge and experience in the use of ... ..

Some of the most important instruments for the study of ... ..  
SPECIAL Equipment and Instruments and Experience in Their Use) ... 1,  
London, 1957. A collection of papers of the Scientific Group on Instr.  
for Experimental Studies in Equipment and Instruments.

... ..

EXCEPTA MEDICA Sec.19 Vol.1/10 Cardiovascular Oct 57  
MESHALKIN E. N.

2823. MESHALKIN E. N. and IMNAISHVILI B. E. *Operation of ligation of the inferior vena cava in decompensated mitral heart deficiencies (Russian text)* Khirurgija 1957, 4 (36—45) Graphs 3 Tables 1

The authors report their personal experience of ligation of the inferior vena cava in those patients with mitral deficiency, in whom radical surgical intervention is contraindicated due to their grave condition connected with decompensation. Seventy patients were operated — with 20 deaths. In order to decrease the danger of operation and to have more precise judgement of indications and contraindications, a physiological test with the aid of a pair of cuffs was carried out before the operation. These cuffs were applied to both thighs and interrupted the venous return for different periods of time, gradually bringing the venous stasis to 2 hours (during one week). The operation is contraindicated in patients whose condition becomes worse, when the cuffs are applied with decrease of arterial pressure, increase of dyspnoea and changes for the worse in the cardiohaemodynamogram. The patients were operated under local anaesthesia by extraabdominal approach with the patient lying on his left side. Out of 20 lethal cases 11 are included in the number (14) of patients who were in the late stages of disease — in irreversible decompensation. Fifteen patients could not be radically operated due to their grave condition. But in 3—8 months after the operation of ligation of inferior vena cava, radical operation (commissurotomy) was performed in them with 3 lethal outcomes. The authors consider the operation of ligation of the inferior vena cava as a palliative measure which is performed in those patients in whom the radical operation is contraindicated. In those patients it is undoubtedly of benefit, since it brings about improvement of circulation.  
(XVIII, 9\*)

MESHALKIN, Ye N.

U.S.S.R. / Human and Animal Physiology. Blood Circulation. T

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22134.

Author : Votchal B. E., Meshalkin, E. N.

Inst : Not given.

Title : Basic Principles of New Apparatus for Functional Investigation of the Organs of Circulation and Respiration.

Orig Pub: Med. prom-st SSSR, 1957, No 6, 45-47.

Abstract: No abstract.

Card 1/1

MESHALKIN, Ye. N.

VOTCHAL, B.Ye.; MESHALKIN, Ye.N.

Basic requirements from new apparatus for functional examination of  
the organs of blood circulation and respiration. Med.prom. 11 no.6:  
15-19 Je '57. (MIRA 10:8)

1. Tsentral'nyy institut usovershenstvovaniya vrachey  
(PHYSIOLOGICAL APPARATUS) (BLOOD--CIRCULATION)  
(RESPIRATION)

Meshalkin, E. N., Medvedev, I. A., and Fufin, V. I.

"A new method for the closure of a patent ductus arteriosus  
with a mechanical clip suture." Novye khirurgicheskie apparaty i  
instrumenty i ocyt ikh primeneniya, No. 2, 1958, p. 13

1958

Cent. Inst. Advanced Training of Physicians

MESHALKIN, Ye.N.; DAMIR, Ye.A.

Surgical closure of regurgitation in mitral insufficiency [with summary in English]. Eksp. khir. 3 no.1:18025 Ja-F '58. (MIRA 11:2)

1. Iz kliniki grudnoy khirurgii i anesteziologii (zav. - prof. Ye.N. Meshalkin) Tsentral'nogo instituta usovershenstvovaniya vrachey (dir. V.P. Lebedeva)

(MITRAL VALVE, dis.  
regurgitation, surg. technics (Rus))

MESHALKIN, Ye.N., SOBOLEVA, A.D. (Moskva)

Unusual case of cardiac diverticulum in a 6-year-old girl.  
[with summary in English]. Arkh.pat. 20 no.9:74-78 S'58 (MIRA 11:10)

1. Iz patologoanatomicheskoy laboratorii (zav. - prof.I.K. Yesipova).  
Instituta grudnoy khirurgii AMN SSSR (dir. - akademik A.Y. Bakulev)  
(HEART, diverticula,  
case in child (Rus))



MESHALKIN, Ye.N., prof.

General principles of surgery of the heart and the great vessels.  
Khirurgiya 34 no.1:69-78 Ja '58. (MIRA 11:3)

1. Iz kafedry grudnoy khirurgii i anesteziologii (zav.-prof. Ye.  
Meshalkin) Tsentral'nogo instituta usovershenstvovaniya vrachey  
(dir. V.P.Lebedeva)

(CARDIOVASCULAR SYSTEM, surgery.  
(Rus)

EXCERPTA MEDICA Sec 18 Vol 3/4 Cardiovascular Dis. Apr 59

1150. The operation of narrowing arteria pulmonalis lumen as a method of Eisenmenger complex treatment (Russian text) MESHALKIN E. N. and FRANTSEV V. I. *Vestn. Khir.* 1958, 81, 7 (29-34) Graphs 2 Illus. 3

Two types of the Eisenmenger complex were found to be present: a pale and a cyanotic one, depending on the degree of pulmonary artery wall changes and on the character of blood output. During the onset of cyanosis an intervention narrowing the pulmonary artery lumen, with the aim of redistributing the blood circulation and preventing irreducible pulmonary changes, may be carried out. The operation suggested by the authors does not require an opening either of the heart cavity or of the pulmonary artery. A nylon strap around the pulmonary artery is secured with clips by the apparatuses OAB or UKB of the Surgical Instruments and Apparatuses Scientific Research Institute. Postoperative findings and a follow-up of 1.5 yr. yielded favourable results in 4 operations. (XVIII, 7, 9)

MESHALKIN, Ye.N., prof., red.; OSTROVSKIY, V.Yu., red.

[Problems in anesthesiology and the pathophysiology of surgery]  
Voprosy anesteziologii i operatsionnoi patofiziologii. Pod red.  
E.N.Meshalkina. Moskva, 1959. 274 p.

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(ANESTHESIA)

(OPERATIONS, SURGICAL)

MESHALKIN, Yevgeniy Nikolayevich; SMOL'NIKOV, Viktor Prokof'yevich

[Modern inhalation anesthesia] Sovremennyyi ingaliatsionnyi  
narkoz. Moskva, Medgiz, 1959. 354 p. (MIRA 13:7)  
(ANESTHESIA)