

ROTT, A.V.

Legal consultation. Vrach. delo no.9:157-158 S '60. (MIRA 13:9)

1. Yuriskonsul't Ministerstva zdravookhraneniya USSR.  
(MEDICAL PERSONNEL)

ROTT, A.V., yuriskonsul't

Legal consultation. Vrach. delo no.5:157-158 My '61. (MIRA 14:9)

1. Ministerstvo zdravookhraneniya USSR.  
(MEDICAL PERSONNEL)

ROTT, A.V. .

Legal consultation. Vrach.delo no.4:156-157 Ap'63. (MIRA 16:7)

1. Yurjskonsul't Ministerstva zdravookhraneniya UkrSSR.  
(MEDICAL PERSONNEL)

ROTT, A.V.

Legal consultation. Vrach.delo no.8:155-156 Ag '62.  
(MIRA 15:11)

1. Yuriskonsul't Ministerstva zdravookhraneniya UkrSSR.  
(MEDICAL PERSONNEL)

ROTT, A. V.

Legal consultation. Vrach. delo no.3:155-156 Mr '62.  
(MIRA 15:7)

1. Yuriskonsul't Ministerstva zdravookhraneniya USSR.

(MEDICAL PERSONNEL)

ROTT, A.V.

Legal consultation. Vrach.delo no.11:157-158 N '62.

(MIRA 16:2)

1. Yuriskonsul't Ministerstva zdravookhraneniya UkrSSR.  
(MEDICAL PERSONNEL)

ROTT, A.V.

Legal consultation. Vrach.delo no.3:157-158 Mr '63.  
(MIRA 16:4)

1. Yuriskonsul't Ministerstva zdravookhraneniya UkrSSR.  
(MEDICAL LAWS AND LEGISLATION)

ROTT, A.V.

Legal consultation. Vrach.delo no.2:157-158 F '63.

(MIRA 16:5)

1. Yuriskonsul't Ministerstva zdravookhraneniya UkrSSR.  
(MEDICAL PERSONNEL)



ROTT, A.V.

Legal consultation. Vrach delo no.6:157-158 Je'63. (MIRA 16:9)

1. Yuriskonsul't Ministerstva zdravookhraneniya UkrSSR.  
(MEDICAL PERSONNEL)

ROTT, A.V.

Legal advice. Vrach. delo no.12:138-139 D '63.

(MIRA 17:2)

1. Vneshtatnyy yuriskonsul't ministerstva zdravookhraneniya  
UkrSSR.

ROTT, A.V.

Legal consultation. Vrach. delo no.8:157-158 Ag'63.

(MIRA 16:9)

1. Yuriskonsul't Ministerstva zdravookhraneniya UkrSSR.  
(MEDICAL PERSONNEL)

ROTT, A.V.

Legal consultation. Vrach.delo no.1&156-157 Ja '63. (MIRA 16:2)

1. Yuriskonsul't Ministerstva zdravookhraneniya UkrSSR.  
(MEDICAL PERSONNEL)

ROTT, A.V.

Legal advice. Vrach. delo no.2:156-157 F'64 (MIRA 17:4)

1. Vneshtatnyy yuriskonsul't Ministerstva zdravookhreneniya  
U.SSR.

ROTT, A.V.

Legal consultation. Vrach. delo 4:154-155 Ap '62. (MIRA 15:5)

1. Yuriskonsul't Ministerstva zdrevookhraneniya USSR.  
(MEDICAL PERSONNEL)

ROTT, A.V.

Legal consultation. Vrach. delo no.12:155-156 D '61. (MIRA 15:1)

1. Yuriskonsul't Ministerstva zdravookhraneniya USSR.  
(MEDICAL PERSONNEL)

I 20533-66 EWT(d)/EEC(k)-2

ACC NR: AP5024848

(A)

SOURCE CODE: CZ/0078/65/000/009/0013/0013

AUTHOR: Rott, H. (Engineer) (Prague); Zuda, J. (Engineer) (Plsek)

ORG: none

TITLE: Czech patent no. 665-65

SOURCE: Vynalezky, no. 9, 1965, 13

TOPIC TAGS: measuring apparatus, measuring instrument, measurement, control circuit, electric current, electric switch, electronic switch, electronics

TRANSLATION: The connection of a measuring device for <sup>gm</sup>measuring tolerance in particular, designated for use in programmed control equipment, has the measured quantities converted to voltage values or the current measurement transferred in the form of an electric code used for actuating the signal number table and for other evaluations with a metering switch that is equipped for actuating the switch and for comparing the deviations with the reference voltage source. In the course of operation, the installed switch is actuated by a signal from the comparison of the measuring device so that the reference voltage supplied to the comparison element is as high as the voltage supplied from the input of the measuring device or proportional to it and a change in the position of the metering switch is accompanied by a change in the point of the reference voltage value, or of the value of the voltage supplied from the input of the measuring

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B

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L 20533-66

ACC NR: AP5024848

device, or of the value of both voltages, characterized by the fact that the track through which a device is set for actuating the metering switch is also equipped with a throw-over contact which, in one position connects the output of the comparison element of the measuring device with the device for actuating the metering switch, and in another position connects the introduced output of the comparison element with its evaluating device.

SUB CODE: 09

SUBM DATE: 30Jan65

Card 2/2 *LJC*

L 25851-66 FSS-2

ACC NR: AP5024841

(A)

SOURCE CODE: CZ/0078/65/000/009/0010/0010

AUTHOR: Novotny, Miroslav (Engineer)(Prague); Pekarek, Josef (Engineer)(Prague);  
Rott, Hilbert (Engineer)(Prague)

52  
B

ORG: none

TITLE: Czech patent no. 4525-64 /Control of registers in exchange centers of long-  
distance communication systems/

SOURCE: Vynalezky, no. 9, 1965, 10

TOPIC TAGS: communication channel, communication network, communication system,  
circuit design, remote control, numeric control

TRANSLATION: The control of registers in exchange centers of long-distance communi-  
cation systems by data on the compilation of communication routes from individual  
sectors, which can be easily substituted by some of the other circuit sectors in case  
one or several of them are busy, is characterized by the fact that the data on the  
routes contain numbers of circuit sectors for the permissible routes and each number  
decreases by one circuit sector in the next exchange center.

SUB CODE: 09,17/ SUBM DATE: 10Aug64

REG: 000 CTR: 000

Card 1/1

HAVRANEK, E., C.Se.; DYKOVA, H.; TICHY, M.; TOMASOVA, E.; Tech. spoluprace  
L. Kolesovova, J. Kubalova, J. Rott.

Penetration of antibiotics into the cervical mucus. *Cesk. gyn.*  
26[40] no.4:293-295 '61.

1. Ustav pro peci o matku a dite, Praha-Podolf, red.doc. dr. M. Vojta,  
zaslouzily lekar CSSR.

(CERVIX UTERI pharmaeol) (ANTIBIOTICS pharmaeol)

ROTT, Jaroslav

Railroad operations in the Sokolov lignite basin. Zel dop  
tech 12 no.11:299-300 '64.

i. Chief engineer at the Sokolov railroad station.

EXCERPTA MEDICA S9c 17 Vol 5/9 Public Health Sept 59

2784. THE INFLUENCE OF CORROSION UPON THE QUALITY OF DRINKING WATER - A korrozio hatása az ivóvíz minőségére - Rott L., Steinmetz J., Szabó G. and Almássy L. Macrosvásárhelyi Közegészségügyi Int.; Közegészségtani Tanszék, Közl. - ORV. SZLE 1958, 4/3-4 (333-336) Graphs 2 Tables 2

The central water supply installation of a town was studied. The purification station of the installation treated river water of a low 'hardness' by means of coagulation with aluminium sulphate. The resulting drinking water was transported to the town through a 14 km. pipeline. The quality of the water on leaving the purification station was acceptable, but at the end of the pipeline it was turbid and yellowish and had an unpleasant taste. The deterioration of organoleptic properties was due to corrosion within the pipeline, evidence of which are the negative value of the stability index, the high concentration of divalent carbonic acid, and the increase in iron concentration during transport.

S/194/62/000/006/227/232  
D256/D308

AUTHORS: Novotný, Miroslav, Rott, Hilbert and Pekárek, Josef

TITLE: Method of number transmitting in automatic and semi-automatic interurban telephone connections

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-8-39 zh (Czechosl. pat. kl. 21 a<sup>3</sup>, 34/01, 21 a<sup>3</sup>, 34/10, no. 97790, 15.12.60)

TEXT: A method is patented in which the local exchanges or exchange areas are described by direction numbers with a variable number of digits. The outgoing register fixes the whole dialled number and sends to the transit register a group of digits only equal to the number of digits of the longest number found in the given system of numeration. For shorter direction numbers the missing number of digits is supplemented by the initial digits of the subscriber's number. The digit group so obtained is sent successively by conventional means between the transit registers to the last transit register which selects from the received group only the digits of the subscriber's number contained there and sends them to the local  
Card 1/2

Method of number transmitting ...

S/194/62/000/006/227/232  
D256/D308

exchange or exchange area; the remaining digits of the subscriber  
N being sent directly to the called local exchange or exchange area  
only after the connection has been established. [Abstracter's note:  
Complete translation.]

Card 2/2

ROTI, L.; MATYAS, I.

Study on the sedimentation of suspensions by means of photoelectric colorimeter.  
p. 66.

HIDROTEHNIK. (Asociatia Stiintifica a Inginerilor si Tehnicienilor din  
Romina) Bucuresti, Rumania Vol. 4, no. 2, Feb. 1959.

Monthly List of East European Accessions (SEAI) IC, Vol. 3, no. 7, July 1959.

Uncl.



ROTT, L.;BODIS, A.;BOER, C.;SZUCS, E.

Water supply from small installations using water from  
mountain creeks. Meteorologia hidrol gosp 5 no.4:267-272  
'60.

COUNTRY : Rumania H-5  
CATEGORY :  
JOURN. : RZKhim., No. 51960, No. 18284  
AUTHOR : Rott, L. and Matyas, I.  
TEST. : Not given  
TITLE : The Investigation of the Settling of Suspended Solids with a Photoelectric Colorimeter  
ORIG. PUB. : Hidrotehnica, 4, No 2, 66-69 (1959)  
ABSTRACT : The following method is proposed for the study of the coagulation process in water. The specimen to be studied is mixed with a coagulating agent and placed in the cuvette of the colorimeter, and the per cent of light absorption is measured at regular intervals of time. The shape of the curve giving the change in per cent absorption with time depends on the size of the flocs formed. The method gives objective data, is sensitive and precise, and is recommended as a control tool in

CARD: 1/2

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40152  
S/058/62/000/007/035/068  
A061/A101

11.7300

AUTHOR: Kott, L. A.

TITLE: Rate of sound transmission in a compressed gas

PERIODICAL: Referativnyy zhurnal, Fizika, no. 7, 1962, 29, abstract 7G248  
("Nauchn. inform. Belorussk. tekhnol. in-t. Ser. obshchetekhn.;"  
Minsk, 1961, 42 - 45)

TEXT: The equation of state of a strongly compressed gas or liquid is  
assumed in the form

$$\ln \frac{p - \frac{RT}{V}}{A} = C \frac{r_m - r}{T},$$

where p is the pressure, V the volume, T the temperature, and  $r = v^{1/3}$ . R is the gas content, A, C, and  $r_m$  are characteristic constants of the strongly compressed gas or liquid. The article supplies the values of these constants for nitrogen, ammonia, and water. The equation can be used to determine a number of thermodynamic quantities; in particular, the heat capacities  $c_p$  and  $c_v$ , the adiabatic

Card 1/2

Rate of sound transmission in a compressed gas

S/058/62/000/007/035/068  
A061/A101

(U) and isothermal ( $U_T$ ) velocities of sound. The latter quantities are correlated by the common relation

$$U = \sqrt{c_p/c_v} U_T.$$

Formulas are given for  $c_p$ ,  $c_v$ , and U, and these quantities are calculated numerically for nitrogen as functions of p for T = 50 and 100°C. It is noted that, unlike what happens in ideal and weakly compressed real gases, the velocity of sound drops with temperature increase in a strongly compressed gas under conditions of constant pressure.

A. Tuzhilin

[Abstracter's note: Complete translation]

Card 2/2

ROTT, L.A.

Statistical theory of multicomponent systems. Ukr. fiz. zhur. 9  
no.4:354-360 Ap '64. (MIRA 17:8)

1. Belorusskiy tekhnologicheskii institut im. S.M. Kirova,  
Minsk.

KRICHEVSKIY, I.R.; ROTT, L.A.; TSEKHANSKAYA, Yu.V.

Autocorrelation of heat fluctuations in a diluted binary solution near its critical point, Dokl. AN SSSR 163 no.3:674-676 JI '65. (MIRA 18:7)

1. Belorusskiy tekhnologicheskii institut im. S.M.Kirova. Submitted January 6, 1965.

ROTT, L.A.

Statistical theory of a ternary system. Zhur. fiz. khim. 38  
no.2:459-461 F 161. (MIRA 17:3)

L. Belorusskiy tekhnologicheskii institut.

ROTT, L.A.

Demixing of a dilute binary system. Zhur. fiz. khim. 38 no.2:  
528 F '67. (MIRA 17:8)

1. Belorusskiy tekhnologicheskiy institut imeni Kirova.



ROTT, L.A.

Diffusion in the critical fluid - vapor region. Inzh.-fiz.  
zhur. 7 no. 3:78-81 Mr '64. (MIRA 17:5)

1. Tekhnologicheskii institut im. S.M.Kirova, Minsk.

20641  
S/020/61/136/006/017/024  
B101/B203

5.4400(1273, 1274, 1372)

AUTHORS: Krichevskiy, I. R. and Rott, L. A.

TITLE: The theory of the Brown motion in the critical range

PERIODICAL: Doklady Akademii nauk SSSR, v. 136, no. 6, 1961, 1368-1371

TEXT: Proceeding from earlier papers (Refs. 1-3), the authors study the vanishing of the Brown motion in the critical range when a mixture is separated into two layers. For the mean square displacement of the particle, they write down:  $S^2 = 2Dt$  (1). As D is a diffusion coefficient, it must vanish in the critical range as was experimentally proved in Ref. 4 on iodine dissolved in CO<sub>2</sub>. The present paper interprets this standstill of the particle. The authors proceed from Smolukhovskiy's equation:

$$\omega(t_0, \bar{R}_0; t + \tau, \bar{R}) = \int \omega(t_0, \bar{R}_0; t, \bar{r}) \omega(t, \bar{r}; t + \tau, \bar{R}) d\bar{r}, \quad (2)$$

where  $\omega$  is the probability density for that the particle passes over from

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S/020/61/136/006/017/024  
B101/B203

The theory of the Brown motion in the...

state  $\bar{R}_0$  into state  $\bar{r}$  in the time  $t - t_0$ . In the critical range, this does no longer take place in a homogeneous medium. This is explained with the aid of a one-dimensional example. The possibility of displacement of a particle along a straight line in the form of a series of steps of two types is discussed. Any displacement may occur to the right or to the left. For steps of the same type, the probability is  $1/2$ . It is assumed that  $N$  steps of the second type correspond to a distance  $L$ . The probability of continuous displacement to the right by the distance  $l < L$  is calculated. Proceeding from Poisson's law  $f_\lambda(n)$ , where  $\lambda = Nl/L$ ,  $m > n$ ,  $n \gg 1$  ( $m =$  steps of the first type,  $n =$  steps of the second type), the authors write down for the probability:

$$P_1 = \sum_n f_\lambda(n) \sum_{\beta=0}^n \sum_{\gamma=0}^{[n/2]} \varphi(n) (1/2)^{m+n-2\gamma-2\beta} (\rho_1 \rho_2)^{\beta+2\gamma} \quad (\beta \leq n - 2\gamma), \quad (4)$$

$\varphi(n)$  is the probability for that  $n$  steps correspond to the distance  $l$ .  $\gamma$  is the number of groups with at least two steps of the second type,  $\beta$  is the number of single steps adjoining at least two steps of the opposite type.

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S/020/61/136/006/017/024  
B101/B203

The theory of the Brown motion in the...

$$\varphi(n) = \left\{ 1 + \sum_{\gamma=1}^{n/2} (n - 2\gamma + 1) \right\}^{-1} \quad (5)$$

holds for this case. After summation in equation (4), the following is obtained:

$$P_I = \sum_n f_\lambda(n) \varphi(n) \frac{1 - (4\rho_1\rho_2)^n [2 + \frac{1}{2}n - 16(\frac{1}{2}n + 1)\rho_1^2\rho_2^2]}{2^{m+n} (1 - 4\rho_1\rho_2)^2 (1 + 4\rho_1\rho_2)} \quad (6)$$

For the case  $\gamma = 0$ , the following is written down:

$$P_{II} = \sum_n f_\lambda(n) (\frac{1}{2})^{m-n} \rho_1^n \rho_2^n \quad (7)$$

It is attempted to attain agreement of these derivations with the real motion of a particle by equating the steps of the first type to steps in dense volume sections, and those of the second type to steps in places

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S/020/61/136/006/017/024  
B101/B203

The theory of the Brown motion in the...

of low density. In this case, (4) corresponds to a motion in a homogeneous medium, (7) to a motion in the critical state.  $p_2$  is the probability for a passage of the particle from an elementary volume of higher to one of lower density:  $p_2 > 1/2$ . A comparison of probabilities (6) and (7) gives  $P_I \gg P_{II}$ . The problem is generally formulated by Markov's method (Ref. 7). (2) is transformed, the change in density being considered:

$$\omega(t_0, \bar{R}_0, \rho_0; t + \tau, \bar{R}, \rho_R) = \int \omega(t_0, \bar{R}_0, \rho_0; t, \bar{r}, \rho_r) \omega(t, \bar{r}, \rho_r; t + \tau, \bar{R}, \rho_R) d\bar{r} d\rho_r, \quad (8),$$

where  $q_r = q(\bar{r})$  is the density. The function  $\omega$  is expanded in a series, only the first two terms of which are used; equation (8) is multiplied by the distribution function  $f(q_0, q_R)$ , and by integration over the entire volume the following is obtained:

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B101/B203

The theory of the Brown motion in the...

$$\int \omega(t_0, \bar{R}_0, \rho_0; t + \tau, \bar{R}, \rho_R) f(\rho_0, \rho_R) dV d\rho_0 d\rho_R =$$

$$= \int \omega_{0r}(\rho_{kp}, \rho_r) \omega_{rR}(\rho_{kp}, \rho_R) f(\rho_0, \rho_R) d\bar{r} dV d\rho_0 d\rho_r d\rho_R + \dots$$

$$\dots + \int \left. \frac{\partial \omega_{0r}}{\partial \rho_0} \right|_{\rho_{kp}} \left. \frac{\partial \omega_{rR}}{\partial \rho_R} \right|_{\rho_{kp}} (\rho_0 - \rho_{kp})(\rho_R - \rho_{kp}) f(\rho_0, \rho_R) d\bar{r} dV d\rho_0 d\rho_r d\rho_R. \quad (10)$$

The following is written down as a general form of (10):

$$A = B + C \int (\rho_0 - \rho_{crit})(\rho_R - \rho_{crit}) dV \quad (11).$$

A discussion of these equations leads to the conclusion that the probability density for the displacement of a Brown particle vanishes near the critical point. In this range, (1) does no longer hold since  $\sqrt{152} \neq 0$  in an inhomogeneous medium and, therefore, a function  $f(t) = f(t_1) + f(t-t_1)$ , on which (1) was based, can no longer be derived. The study of the behavior of Brown

Card 5/6

The theory of the Brown motion in the...

particles offers new possibilities for studying microscopic relaxation processes. There are 8 Soviet-bloc references.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti i produktov organicheskogo sinteza (State Scientific Research and Planning Institute of the Nitrogen Industry and Products of Organic Synthesis)

PRESENTED: September 19, 1960, by A. N. Frumkin, Academician

SUBMITTED: September 16, 1960

Card 6/6

20641  
S/020/61/136/006/017/024  
B101/B203

KHAZANOVA, N.Ye.; ROTT, L.A.

Mass transfer and critical phenomena. Inzh.-fiz. zhur. 6  
no.11:123-135 N '63. (MIRA 16:11)



ROTT, L.A.

Statistical theory of gas - gas phase equilibrium. Zhur, fiz. khim.  
36 no.10:2235-2238 0 '62. (MIRA 17:4)

1. Minskiy tekhnologicheskii institut.

ROTT, L.A.

Statistical theory of condensed systems. Izv.vys.ucheb.zav.;fiz.  
no:2:119-121 '63. (MIRA 16:5)

1. Belorusskiy tekhnologicheskii institut imeni Kirova.  
(Distribution (Probability theory))

ROTT, L.A.

The equation of state of a compressed gas. Zhur. fiz khim. 30 no.12:  
2827-2828 D'56. (MLRA 10:4)

1. Belorusskiy lesotekhnicheskiy institut, Minsk.  
(Gases, Compressed)

*Rotf, L.A.*  
ROTF, L.A. (Minsk)

Statistical basis of the "Free Volume" theory (with summary in English). Zhur.fiz.khim.31 no.7:1468-1473 J1 '57. (MIRA 10:12)  
(Viscosity) (Integral equations)

ROTT, L.A.

Gas - gas phase equilibrium and molecular interaction. Dokl. AN  
SSSR 160 no.5:1138-1140 F '65. (MIRA 18:2)

1. Belorusskiy tekhnologicheskii institut im. S.M. Kirova. Sub-  
mitted August 27, 1964.

~~ROTT, L.A.~~

Statistical basis for the "free volume" theory in the case of  
binary systems [with summary in English]. Zhur.fiz.khim. 32  
no.12:2845-2846 D '58. (MIRA 12:2)

1. Belorusskiy lesotekhnicheskiy institut, Minsk.  
(Systems (Chemistry))

ROTT, L. A.

ROTT, L. A.: "Gas systems at high and super-high pressures". Minsk, 1955. Belorussian State U imeni V. I. Lenin. (Dissertations for the Degree of Candidate of Physicomathematical Sciences.)

So: Knizhnaya letopis' No. 49, 3 December 1955. Moscow.

ROTT, L.A., kand.fiz.-mat.nauk

Thermodynamic correlations for compressed gas. Sbor.nauch.  
trud.BITI no.10:407-415 '57. (MIRA 11:12)  
(Gases, Compressed) (Thermodynamics)



SOV/ 76-32-6-41/4b

AUTHOR: Rott, L. A.

TITLE: On the Statistical Theory for Condensed Systems  
(K statisticheskoy teorii kondensirovannykh sistem)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 6,  
pp. 1425-1428 (USSR)

ABSTRACT: In a previous paper the possibility of the introduction of a new statistical scheme for the investigation of condensed systems was pointed out which can be employed without the aid of model representations. Different from earlier known partial distribution functions a system of partial distribution functions was introduced taking into account the conditioned probabilities, which made possible the separation of a small parameter from the obtained integral-differential equations. The finding of the wanted function of the distribution can be carried out in form of a decomposition according to the small parameter; for this derivations of the mathematical equations, with an example for highly compressed gas, are mentioned. The configuration integral of the system given can be calculated according to

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On the Statistical Theory for Condensed Systems SOV/16-32-6-41/46

certain partial distribution functions. There are 3 references, 2 of which are Soviet.

ASSOCIATION: Belorusskiy lesotekhnicheskiy institut, Minsk  
(Minsk, Belorussian Forestry Engineering Institute)

1. Styrene--Synthesis
2. Styrene--Sulfuration
3. Ions  
--Chemical reactions

Card 2/2

5(4)  
AUTHOR: Rott, L. A. SOV/76-32-12-30/32

TITLE: On the Statistical Foundation of the "Free Volume" Theory in Binary Systems (K statisticheskomu obosnovaniyu teorii "svobodnogo ob'yema" v sluchaye dvoynykh sistem)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 12, pp 2845-2846 (USSR)

ABSTRACT: In a previous paper (Ref 1) a new statistical scheme for the investigation of condensed one-component systems including highly compressed pure gases was given. Instead of the usual partial functions of distribution a system of partial functions was mentioned, considering conditioned probabilities. The present paper extends this method to multi-component systems, especially to binary ones. The functions derived permit the calculations of the phase integral of binary solutions. There are 2 Soviet references.

ASSOCIATION: Belorusskiy lesotekhnicheskiy institut, Minsk (Belorussian Institute of Forestry, Minsk)

SUBMITTED: October 14, 1957  
Card 1/1

5(4)

30V/20-121-4-29/54

AUTHOR:

Rott, L. A.

TITLE:

The Equation of Isothermal Diffusion in the Critical Region  
(Uravneniye izotermicheskoy diffuzii v kriticheskoy oblasti)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 4, pp 678-680  
(USSR)

ABSTRACT:

The author investigates the diffusion equation for systems the partial specific and partial molar volumes of which in the region of the critical concentration depend in a very low degree on the composition of the solution. The equation for the one-dimensional diffusion is explicitly given. The author then deduces an approximated equation for the one-dimensional diffusion in the neighborhood of the critical point. According to Onsager's (Onzager) hypothesis, the average velocity of the damping of the fluctuation concentrations must be a linear function of the diffusion flow. Therefore the concentration equilibrium will be established slowly in the critical range. In connection with these facts it is interesting to investigate the variation of the molar percentage (concentration) of the second component in compara-

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SOV/20-121-4-29/54

The Equation of Isothermal Diffusion in the Critical Region

tively small volumes. The molar share of the component varies noticeably within  $t \sim 10^3$  sec. The comparatively long relaxation time makes it possible to use optical methods for the investigation of the diffusion processes in the critical region. A long relaxation time has nothing whatever to do with certain models suggested in previous papers. The above-mentioned diffusion equation may be reduced to the usual Fik equation. Finally an equation and its solution are given for the diffusion coefficient in the critical region. The author thanks Professor I. R. Krichevskiy for his interest in this paper and for useful advice. There are 1 figure and 5 references, 4 of which are Soviet.

PRESENTED: April 10, 1958, by S. I. Vol'fkovich, Academician  
SUBMITTED: April 10, 1958

Card 2/2

S/124/63/000/001/009/080  
D234/D308

AUTHOR:

Kott, L.A.

TITLE:

Velocity of sound propagation in a gas

PERIODICAL:

Referativnyy zhurnal, Mekhanika, no. 1, 1963, 18,  
abstract 1396 (Nauchn. inform. Belorussk. tekhnol.  
in-t. Ser. obshchetekhn. Minsk, 1961, 42-45)

TEXT:

The author calculates the velocity of sound in a  
strongly compressed gas, using the equation of state

$$\ln [(p-RT/V)/A] = C \frac{r_m - r}{T}$$

(p in atm., V in cm<sup>3</sup>/mole, R = 82.06 cm<sup>3</sup> atm/deg. mole, r = V<sup>1/3</sup>.  
A, C, r<sub>m</sub> are constant for every gas). This equation is checked by  
means of experimental data for the compressibility of nitrogen and  
ammonia in the pressure range 3000-10,000 atm. at various temperatures.  
For instance, for nitrogen r<sub>m</sub> = 2.84, C = 1291, A = 13238. The equa-  
tion is also applicable to liquids. For water r<sub>m</sub> = 2.38, C = 5,420,

Card 1/2

Velocity of sound propagation in a gas

S/124/63/000/001/009/020  
D234/D308

$\lambda = 26,700$ . The velocity of sound is determined by the adiabatic compressibility which is connected with the isothermal compressibility and the ratio of heat capacities  $C_p/C_v$ . The thermal capacity  $C_v$  is calculated from

$$C_v = C_v^0 + T \int_{V_0}^V (\alpha^2 p / \beta T^2)_V dV,$$

where  $C_v^0$  is the heat capacity at some initial values  $V_0$  and  $p_0$  taken from experiment. Results of calculation of heat capacities and sound velocity are given for nitrogen in the pressure range 3000-10,000 atm at two temperatures, 50 and 100°K. At constant temperature, the velocity of sound decreases with increasing pressure. At constant pressure, the velocity of sound, in contrast to an ideal gas, decreases with increasing temperature.

[Abstracter's note: Complete translation]

ROTT, L.A.

On the statistical theory of condensed systems. Ukr.fiz.zhur.  
7 no.7:686-692 JI '62. (MIRA 15:12)

1. Institut fiziki AN Belorusskoy SSR, Minsk.  
(Liquids)



ROTT, L. A. and STODOL'NIK, N. A.

"Non-linear diffusion equation in the critical region."

Report presented at the 1st All-Union Conference on Heat- and Mass-Exchange, Minsk, BSSR, 5-9 June 1961.

ROTT, L.A. (Minsk)

Application of generalized functions to the thermodynamics of  
infinitely dilute solutions. Zhur.fiz.khim. 35 no.9:2095-2098  
'61. (MIRA 14:10)

1. Belorusskiy tekhnologicheskiy institut imeni S.M. Kirova.  
(Solution (Chemistry))

KRICHEVSKIY, I.R.; ROTT, L.A.

Theory of Brownian movement in the critical region. Dokl. AN  
SSSR 136 no.6:1368-1371 F '61. (MIRA 14:3)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut  
azotnoy promyshlennosti i produktov organicheskogo sinteza. Pred-  
stavleno akademikom A.N. Frumkinym.  
(Brownian movements)  
(Diffusion)

ROTT, L. A.

"Gaseous Systems at HIGH and Superhigh Pressures." Cand Phys-Math Sci,  
Moscow State U, Moscow, 1954. (RZhFiz, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher  
Educational Institutions (12)  
SO: Sum. No. 556, 24 Jun 55

ROTT, L.A.

Statistical theory of condensed systems. Zhur. fiz. khim. 32  
no. 6:1425-1428 Jo '58. (MIRA 11:8)

1. Belorusskiy lesotekhnicheskiy institut, Minsk.  
(Systems(Chemistry))  
(Mathematical physics)

Rott L.A.

1  
✓ Statistical basis of the "free volume" theory. L. A. Rott. *Zhur. Fiz. Khim.* 31, 1488-72(1957).—A system of partition functions was introduced that referred to the various "cells" of the configuration space. Such succession of the partition functions was a double index series, because the functions introduced addal. probabilities; a definite configuration of the mol. groups in the cell is accompanied by a definite set of configurations in other cells. Starting with the generalized Gibbs distribution for the whole system some integral and differential equations were derived that should be obeyed by the partition functions. A new statistical scheme for the study of condensed systems, especially of condensed gases, is offered by the use of partition functions that requires no artificial models of the generalized theory of the "free vols."

W. M. Sternberg

2

1/1

ROTT, L.A.

Relaxation mechanism in the critical region of layer separation.  
Dokl.AN SSSR 134 no.2:394-396 S 160. (MIRA 13:8)

I. Belorusskiy lesotakhnicheskiy institut im. S.M.Kirova. Predstav-  
lenc akad. A.N.Frumkinym.  
(Electrochemistry)

ROTT, L. A.

"Non-Linear Equation for the Diffusion Near the Critical Point"

Report presented at the Conference on Heat and Mass Transfer.  
Minsk, USSR, 5-10 June 61.

A non-linear diffusion equation is proposed instead of the conventional one, which cannot be applied near the critical point.

The solution of the obtained equation is found in the form of expansion by the small parameter.

" Byelorussian Lumber Technology Institute"



ROTT L II

30

PHASE I BOOK EXPLOITATION SOV/5469

Soveshchaniye po kriticheskim yavleniyam i flyuktuatsiyam v rastvorakh. Moscow, 1960.

Kriticheskiye yavleniya i flyuktuatsii v rastvorakh; trudy soveshchaniya, yanvar' 1960 g. (Critical Phenomena and Fluctuations in Solutions; Transactions of the Conference, January 1960) Moscow, Izd-vo AN SSSR, 1960. 190 p. 2,500 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk. Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova. Khimicheskii fakul'tet.

Responsible Ed.: M. I. Shakhparonov, Doctor of Chemical Sciences, Professor; Ed. of Publishing House: E. S. Dragunov; Tech. Ed.: S. G. Tikhomirova.

PURPOSE : This collection of articles is intended for scientific personnel concerned with chemistry, physics, and heat power engineering.  
Card 1/9

Critical Phenomena and Fluctuations

SOV/5469

COVERPAGE: The book contains 24 of the 26 reports read at the Conference on Critical Phenomena and Fluctuations in Solutions organized by the Chemical Division of Moscow State University, January 26-28, 1960. The reports contain results of investigations carried out in recent years by Soviet physicists, chemists, and heat power engineers. The Organizing Committee of the Conference was composed of Professor Kh. I. Amirkhanov, A. Z. Golik, I. R. Krichevskiy (Chairman), V. K. Semchenko, A. V. Storonkin, I. Z. Fisher, and M. I. Shakhparonov (Deputy Chairman). References accompany individual articles.

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Amirkhanov, Kh. I., A. M. Kerimov, and B. G. Alibekov [Laboratoriya molekulyarnoy fiziki, Dagestanskiy filial AN SSSR -- Laboratory of Molecular Physics, Dagestan Branch, AS USSR]. Thermophysical Properties of Matter at Critical Temperature

5

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Critical Phenomena and Fluctuations

SOV/5469

Alhadov, Ya. Yu., and M. I. Shakhmaronov [Laboratoriya fiziko-khimiya rastvorov, Khimicheskiy fakul'tet, Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova -- Laboratory of the Physical Chemistry of Solutions, Chemistry Division, Moscow State University imeni M. V. Lomonosov]. Dielectric Properties of Solutions in a Superhigh Frequency Field and Concentration Fluctuations

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Critical Phenomena and Fluctuations

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32

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45

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Nekhov, N. V., and Ya. M. Labkovskiy [Kafedra eksperimental'noy fiziki, Dnepropetrovskiy gosudarstvennyy universitet -- Depart-

Card 5/9

30

Critical Phenomena and Fluctuations

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Department of Experimental Physics, Dnepropetrovsk State University].  
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Molotov, N. V., and I. V. Kirsh [Department of Experimental  
Physics, Dnepropetrovsk State University] Variation in the  
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perature and Concentration in Binary Liquid Systems Having  
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skiy oblastnoy pedagogicheskoy institut -- Pedagogical Insti-  
tute of the Moscow Oblast]. Hypersonic Investigation in  
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Roshchina, G. P. [Laboratoriya molekulyarnoy fiziki, Fizicheskiy fakul'tet, Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko -- Laboratory of Molecular Physics, Division of Physics, Kiyev State University imeni T. G. Shevchenko] Investigation of Fluctuations in Solutions by the Method of Light Scattering 109

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Skripov, V. P., and Yu. D. Kolpakov [Laboratory of Molecular Physics, Ural Polytechnic Institute imeni S. M. Kirov, and the Laboratoriya teplofiziki, Ural'skiy filial AN SSSR -- Thermophysics Laboratory, Ural Branch, AS USSR]. Light Scattering in Carbon Dioxide along Pre- and Post-Critical Isotherms 126

Smirnov, B. A. [Institut neftekhimicheskogo sinteza AN SSSR -- Card 7/9

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Card 8/9



30

Critical Phenomena and Fluctuations

SCV/5469

Shimanskaya, Ye. T., Yu. I. Shimanskiy, and A. Z. Golik [Laboratory of Molecular Physics, Division of Physics, Kiev State University imeni T. G. Shevchenko]. Investigation of the Critical State of Pure Substances by Tepler's Method

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AVAILABLE: Library of Congress (QD545.S73)

JP/dfk/jw  
10-28-61

Card 9/9

ROTT, L.A.

Theory of melting. Fiz. tver. tela 4 no.3:577-581 '62.  
(MIRA 15:4)

1. Belorusskiy tekhnologicheskii institut imeni S.M.kirova, Minsk.  
(Melting)

ROTT, L. A.; STODOLNIK, N. A.; GORBATOVICH, Zh. N.

"The diffusion theory in a critical region."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12  
May 1964.

Belorussian Technological Inst.

HADNAGY, Csaba, dr.; NICOLAU, Constantin, dr.; ROTT, Lajos,;  
BANDROVSKI, Aranka,; ZAKARIZS, Ibolya.

Open hemolysis. Orv. hetil. 96 no.29;802 17 July 55.

1. A marosvasarhelyi Vertarolo es Veratomleszto Kozpont (igazgato:  
Hadnagy Csaba dr.) es a bukaresti Haematologiai es Veratomleszto  
Intezet (igazgato: Hadnagy Csaba dr.) es a bukaresti Haematologiai  
es Veratomleszto Intezet (igazgato: Nicolau Constantin dr.)  
kozlemenye.

(HEMOLYSIS,)

BÓER, Carol; ROTT, Ludovic

Saprobiological study of the rivers of the upper Mures Basin.  
Meteorologia hidrol gosp 7 no.1:25-31 '62.









VIACH, J.;ROTT, M.

Methodology of chemical control of sulfonamides. Cesk. farm. 1 no.10:  
564-573 1952. (CJML 23:4)

1. Of the Institute of Pharmaceutical Chemistry of Masaryk University,  
Brno.

ROTT, Milos; NECKAR, Miroslav

Complexometric determination of mercuryaminochloride in the presence of zinc oxide. Cesk. farm. 4 no.2:69-71 Mar 55.

1. Z krajske kontrolni laboratore brnenske Mediky, n.p.

(MERCURY,

ammonobasic mercuric chloride, determ. in presence of zinc oxide)

(ZINC,

oxide, eff. on determ. of ammonobasic mercuric chloride)

ROTT, M.V.

In the Rutschenkovo plant. Koks i khim. no.8:57 '62. (MIRA 17:2)

ZARAYSKIY, P.K.; ROTT, M.V.; SENYUTA, V.N.; SHUKH, Ya.I.; MARKOV, A.Ye.;  
Prinimala uchastiye SHIPULINA, L.A.

Soda-potash method for hydrogen sulfide removal from coke-oven  
gas. Koks i khim. no.4:40-43 '62. (MIRA 16:8)

1. Rutschenkovskiy koksokhimicheskiy zavod.  
(Gases--Purification) (Hydrogen sulfide)

STERSENKO, Ye.Ya.; ZARAYSKIY, P.K.; ROTT, M.V.

Changing the operational system of a sulfate plant in order to produce a higher quality ammonium sulfate . Koks i khim. no.6:36-39 '60. (MIRA 13:7)

1. Giprokoks (for Stetsenko).
2. Rutschenkovskiy koksokhimicheskiy zavod (for Zarayskiy, Rott).  
(Ammonium sulfate)

L 10501-66 EMP(t) IJP(c) JD  
ACC NR: AF6008578

SOURCE CODE: HU/0014/65/098/006/0286/0287

AUTHOR: Domony, Andras (Doctor of technical sciences); Rott, Nandorne (Doctor)

ORG: none

TITLE: <sup>1.55</sup> Aluminum supply and aluminum consumption of the socialist countries on the basis of published statistical data <sup>22</sup> <sup>B</sup>

SOURCE: Kohaszati lapok, v. 98, no. 6, 1965, 286-287

TOPIC TAGS: aluminum, import export, industrial production

ABSTRACT: The aluminum production, aluminum import (by countries of origin), aluminum consumption, and aluminum consumption per capita was presented in tabulated form for Bulgaria, Czechoslovakia, North Korea, Yugoslavia, China, Poland, German Democratic Republic, Rumania, Hungary, and USSR on the basis of statistics published both in Eastern and Western periodicals and reports. Orig. art. has: 7 tables. [JPRS]

SUB CODE: 11, 05 / SUBM DATE: none / OTH REF: 003 / SOV REF: 001 <sup>2</sup>

Card 1/1 SM

BOY, N. K. Cand Biol Sci -- (diss) "~~The~~ <sup>Effect</sup> of incubation temperature <sup>upon</sup> ~~of~~ the  
development of the system of blood circulation in the embryonic and postembryonic  
<sup>Leghorn chickens,</sup>  
periods in ~~the~~ U. Kur-breed of Leghorns" Mos, 1957. 23 pp 21 cm. (Acad Sci USSR,  
Institute of <sup>(of Animals)</sup> ~~Animal~~ Morphology (M. A. N. Severtsov), 100 copies  
(M. 20-57. 3)

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SHAPIRO, I.M.; ~~ROTT, N.N.~~; RASS, I.T.

Radiation damage of the nucleus as a factor causing the inhibition  
of cell division. Zhur. ob. biol. 21 no.4:289-296 J1-Ag '60.  
(MIRA 13:7)

1. Institute of Animal Morphology, U.S.S.R. Academy of Sciences  
and Helminthological Laboratory, U.S.S.R. Academy of Sciences...  
(RADIATION—PHYSIOLOGICAL EFFECT)  
(CELL DIVISION (BIOLOGY))



ROTT, N.N.

Sex determination in amphibians. Biol. MGIP. Otd. biol. 68  
no.4:118-134 JI-Ag '63. (MIRA 16:10)

ROTT, N. N.

Variations in the relative growth of chick organs in the course of incubation proceeding at different constant temperatures.  
Dokl. AN SSSR 112 no.3:556-559 Ja '57. (MLRA 10:4)

1. Institut morfologii zhivotnykh im. A.N. Severtsova Akademii nauk SSSR. Predstavleno akademikom I.I. Shmal'gauzenom.  
(EMBRYOLOGY--BIRDS) (POULTRY)

USSR / General Biology. Individual Development

B-4

Abs Jour: Ref Zhur - Biol., No 6, 1958, 23782

Author : ~~Rott, N. N.~~

Inst : Not given

Title : Changes in Relative Growth of Chick Organs During Incubation at Different Constant Temperatures.

Orig Pub: Dokl. AN SSSR, 1957, 112, No 3, 556-559

Abstract: A study was conducted on effects of different temperatures in incubation of the relationship in the growth tempo of individual organs in white leghorn embryos in connection with characteristics of development at a given stage, and mortality manifestations at different stages. Incubation was conducted at the following temperatures: 36.5° (reduced), 37.5° (normal), and 38.5° (increased). When the temperature of incubation

Card 1/3

B-4

ROTT, N.N.

Changes in the sensitivity of axolotl eggs to thermal effects during the maturation, fertilization and early cleavage. *Sitologiya* 7 no.2:205-211 Apr '65. (MIRA 18:7)

1. Laboratoriya eksperimental'noy embriologii Instituta morfologii zhivotnykh AN SSSR, Moskva.

ROTT, N.N.; BETINA, M.I.

Obtaining triploid larvae of the axolotl by thermal action.  
TSitologiya 6 no.1:95-98 Ja-F '64. (MIRA 17:9)

1. Laboratoriya eksperimental'noy embriologii Instituta morfologii  
zhivotnykh AN SSSR, Moskva.

ROTT, N.N. (Moskva)

Androgenesis in amphibians. Usp. sovr. biol. 54 no. 3:355-365 N-D  
'62. (MIRA 16:1)

(EMBRYOLOGY--AMPHIBIA) (CHROMOSOMES)

PA - 2948

AUTHOR:  
TITLE:

ROTT, N.N.  
On Certain Regularities Observed in the Growth of the Chick Embryo at Different Temperatures of Incubation. (O nekotorykh zakonomernostyakh rosta kurinogo zarodysha pri raznykh temperaturakh inkubatsii, Russian)  
Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 1, pp 237 - 240 (U.S.S.R.)  
Received: 6 / 1957

PERIODICAL:

Reviewed: 7 / 1957

ABSTRACT:

In an earlier work the author showed that the relative weight of heart and eyes of the chicken embryo varies according to different temperatures of incubation. Especially the relative weight of the heart (heart index) in the first half of the embryonic period is about the same at different temperatures. However, starting with the 10th day it is greater at lower temperatures (36,5°) than at higher ones (38,5°). This work serves the purpose of studying the growth of the whole body and to determine the mechanism of the specific influence of temperature on the growth of the heart. One of the principles of temperature influence exercised on the vital processes is that they quicken at higher temperatures and vice versa. There are, however, exceptions to this rule. In the second half of the embryonic period a compensatory slowing-down of the growth is caused by a rise of temperature and vice versa. However, after reaching the stage which corresponds to the 13th day of normal

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On Certain Regularities Observed in the Growth of the Chick Embryo at Different Temperatures of Incubation. PA - 2948

embryonic life, the rate of growth remains the same at all temperatures. This deviation from biologic laws was said to prove thermoregulation. This was the question the author wanted to prove. The results achieved show that the rate of growth at the beginning of embryonic life (first period) is the greater the higher the temperature becomes. In the second period it is almost the same at all temperatures and in the third period it is the greater the higher the temperature becomes. Thus the high weight of the body of the embryo at higher temperatures develops as a result of the deviating rate of growth in the first part of embryonic period. In the second half, however, the relation of the rates is such that it has a tendency to balance the differences. Eggs were shifted from a higher to a normal temperature on the 13th day for reasons of proof. On slipping out chickens weighed even a little more than those normally bred, their heart index, however, approached the normal value. These results supplied additional material for the explanation of the higher rate of mortality towards the end of the embryonic period in the case of higher temperatures and vice versa. The decrease of temperature was already shown earlier to lead to a regulation of the value of the heart index and this is probably one of the reasons why chickens survived the moment of slipping out.

Card 2/3



AUTHORS: Neyfakh, A. A., Rott, N. N.

20-119-2-18/60

TITLE: An Investigation of the Ways of Realization of Radiation  
Damage of Fishes in their Early Development Stages  
(Issledovaniye realizatsii radiatsionnykh povrezhdeniy v  
rannem razvitii ryb)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol 119, Nr 2,  
pp 261 - 264 (USSR)

ABSTRACT:

The authors chose a strong dose of radiation in order to obtain with all embryos a clear and simultaneous reaction which is only connected with their stage of development. The time interval between the moment of irradiation and the moment of the arrest of development was taken as criterion for the effect of the irradiation. This period was expressed in hours or in stages of normal ontogenesis. Fertilized ovi of loachs (*Misgurnus fossilis*) and *Acipenser stellatus* were irradiated with a dose of 10,000 r in consecutive stages of development starting from fertilization till the middle of gastrulation. The irradiation of the embryos of *Misgurnus fossilis* at various stages of the division till the stages VII and VIII

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20-119-2-18/60

An Investigation of the Ways of Realization of Radiation damage of Fishes in their Early Development Stages

(6-7 hours) lead to a standstill of the development in the late blastula (stages X-XI, 9-10 hours). The latent period (that is the period between the moment of irradiation and that of the standstill of development) decreases more and more and reaches a minimum of - 3.5 hours. An irradiation in the stages IX-X makes it possible to the embryo to "cut" gastrulation; the standstill of the development and of death take place considerably later and the latent period increases in this. Just the same rules were observed with *Acipenser stellatus*. The development of the early irradiated embryos comes to a standstill here in the stage of early gastrulation (stage XIII) and the stage of the crisis with *Acipenser stellatus* is the stage XII. The minimal latent period is also 3.5 days. The synchronism of divisions of the blastomeres of *Misgurnus fossilis* were determined from the periodic changes of the sensitivity to irradiation (which correspond to the phases of the mitotic cycle). In most cases there is present a relatively

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20-119-2-18/60

An Investigation of the Ways of Realization of Radiation damage of Fishes in their Early Development Stages

strong increase of the time of the interphase period, i.e. a decrease of the division velocity. Also cytologic investigations prove this interpretation. The mitotic activity of the spawn grains of *Acipenser stellatus*, which were irradiated before a critical moment closer defined here, does not change in consequence of the irradiation and it corresponds exactly to the curve of the normal change of the mitotic coefficient. An irradiation after this period, however, causes a sharp decrease of mitotic activity. After 2 hours it reaches zero, increases within the course of a few more hours again to the normal value and then even increases above the normal value (hypercompensation). One of the possible explanations for the results obtained here is the conception that the cell divisions are an inbetween link between the injury of the nucleus during irradiation and the manifestation of its deficiency in the beginning of gastrulation. The data obtained here can also be explained by the assumption that the

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20-119-2-18/60

An Investigation of the Ways of Realization of Radiation damage of  
Fishes in their Early Development Stages

nucleus by its activity in early stages secures a develop-  
ment to certain later stages. There are 3 figures and 9  
references, 2 of which are Soviet.

ASSOCIATION: Institut morfologii zhivotnykh Akademii nauk SSSR (Institute  
for Animal Morphology AS USSR)  
Institut biologicheskoy fiziki Akademii nauk SSSR (Institute  
for Biologic Physics AS USSR)

PRESENTED: December 7, 1957, by I. I. Shmal'gauzen, Member, Academy of  
Sciences, USSR

SUBMITTED: December 6, 1957

Card 4/4