"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

SARKISOV, S.A., prof., red.; ADRIANOV, O.S., red.; KRYZHANOVSKIY, R.N., red.; PARIN, V.V., red.; POLYAKOV, G.I., red.; POPOVA, Ye.N., red.; PORTUGALOV, V.V., red.; RABINOVICH, M.Ya., red.; TROFIMOV, L.G[deceased], red.; ARKHANGEL'SKIY, Yu.V., red.

[Structure and function of the nervous system; transactions of a scientific conference, December 10 - 14, 1960] Struktura i funktsiia nervnoi sistemy; trudy nauchnoi konferentsii (10-14 dekabria 1960 g.) Moskva, Medgiz, 1962. 358 p. (MIRA 17:12)

1. Deystvitel'nyy chlen AMN SSSR (for Sarkisov).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.; MEYERSON, F.Z.;

[Myocardial tension and the functional reserve of the heart] Napriazhenie miokarda i funktsional'nyi rezerv serdtsa; materialy doklada na konferentsii in-ta 14-15 iiunia. Moskva, In-t normal'noi i patologicheskoi fiziologii, 1962. 21 p. (MIRA 15:7)

(HEART--MUSCLE)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

GAZENKO, O. G., PARIN, V. V.

"Soviet Experiments Aimed at Investigating the Influence of the Space Night Bacteria on the Organism of Animals and Man"

Soviet Papers Presented at Plenary Meetings of Committee on Space Research (COSPAR) and Third International Space Sumposium, Washington, D. C., 23 Apr - 9 May 62

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

SISAKYAN, N.M.; PARIN, V.V.; CHERNIGOVSKIY, V.N.; YAZDOVSKIY, V.I.

Some problems of studying and conquering outer space. Probl. kosm.biol. 1:5-16 '62. (MIRA 15:12)
(SPACE BIOLOGY)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.; BAYEVSKIY, R.M.; GAZENKO, O.G.

Problems of biological telemetry. Probl.kosm.biol. 1:104-117 '62. (MIRA 15:12)

(AEROSPACE TELEMETRY) (TELEMETER(PHYSIOLOGICAL APPARATUS))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

S/216/62/000/002/001/002
I021/I221

AUTHOR: Sisakyan, N. M., Parin, V. V., Chernigovskiy, V. N. and Yazdovskiy, V. I.

TITLE: Problems of space biology and physiology

PERIODICAL: Akademiya nauk SSSR Izvestiya. Seriya biologicheskaya, no. 2, 1962, 153–162

TEXT: Lecture at the General Session of the Department of Biological Sciences.

The article deals with space biology and physiology in the USSR. Although a young science, it has already created new methods of biological experimentation, realized automatically by special devices installed on spaceships. The results of these experiments are registered and delivered to observation points on the earth. According to the authors, 3 problems are at present of great importance: 1) study of the effects of cosmic factors on living organisms of the earth, 2) study of forms of life in outer space, 3) investigations into the biological basis for securing cosmic flights and life on planets. The authors outlined 5 periods in the development of space biology in the USSR. The first was connected with biological interpretation of the data on physical characteristics of the upper layers of the atmosphere, cosmic space and flights of rockets. In the second period experiments were carried out under conditions near to those of cosmic flight. In the third—experiments were carried out on Sputnik II. It was demonstrated that life is possible under conditions free from gravity. In the fourth period biological experiments were carried out on spaceships with animals. These assembled the data

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necessary for putting a man in to orbit. The fifth period was characterized by the flight of man in space. The authors deal further with all factors liable to affect living organism in a spaceship. They divide them into 3 groups; 1) factors connected with the dynamics of the flight-vibration, lack of gravity, 2) ultraviolet, infrared and visible parts of radiation, ionizing radiation, concentration of gases, 3) factors connected with more or less prolonged life of organisms under artificial conditions of a spaceship-isolation, lack of room in the capsule, microclimate and nutrition and rhythm of life. The authors also refered to exobiology

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

VOLYNKIN, Yu.M.; PARIN, V.V.; YAZDOVSKIY, V.I.

Preliminary data on physiological studies during manned space flight. Probl.kosm.biol. 2:7-10 '62. (MIRA 16:4)
(MANNED SPACE FLIGHT)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ACCESSION NR: AR4028322 S/0299/64/000/005/A010/A010

SOURCE: Referativny*y zhurnal. Biologiya, Abs. 5A64

AUTHOR: Parin, V. V.

TITLE: (5A64) Prospects for the use of cybernetics in medicine

CITED SOURCE: Sb. Materialy* Nauchn. sessii, posvyashch. 25-letiyu Vses. n.-i. in-ta med. instrumentov i oborudovaniya, M., 1962, 22-29

TOPIC TAGS: cybernetics, medicine, control system, model, simulation

ABSTRACT: Cybernetics has attracted the attention of philosophers because its goal is the development of methods for the study of complicated systems, including biological systems. Applications of these methods to biology and medicine include: simulation, both mathematical and "practical" (bionics), creation of a number of complicated automatic systems, indirectly designed for practical medical uses, consideration of processes for formulation of diagnoses based on theoretical information, and their automation with the aid of computer technology. Concrete examples of the uses of cybernetics in medicine are presented, and future prospects and applications are analyzed. A Kondratov

Card 1/1 DATE ACQ: 24Mar64 SUB CODE: LS, IE ENCL: 00

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

S/026/62/000/007/003/005
D050/D113

AUTHOR: Parin, V.V. Professor

TITLE: The mathematics of life. Cybernetic ideas in biology and medicine

PERIODICAL: Priroda, no. 7, 1962, 22-27

TEXT: The author discusses the possibilities opened up by the introduction of cybernetic research methods in biology. The study of methods of coding information in the "DNK" molecule has resulted in the accelerated development of biochemical cybernetics and a closer study of the biological function of albumen. N.A. Bernshteyn, Corresponding Member of the AMS USSR, is successfully applying cybernetics in the physiology of motion, regarding the motion activity of an organism as a predetermined purposeful action upon its environment. The use of mathematics for expressing biological notions is described; this enables various conduct mechanisms of complex systems to be simulated and the best hypotheses on the organization of functional biological structures to be found. G.V. Savinov, L.V. Krushinskiy et al. have

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

S/026/62/000/007/003/005
D050/D113

The mathematics of life. Cybernetic...

developed an electronic device for simulating the interrelation between inhibition and excitation; it permits studying protective systems used by the nervous system during the action of superstrong irritants. General data on bionics, automatic control in living organisms, and automatic arrangements and functional prostheses for medical purposes are dicussed in some detail. The development of simple medical diagnostic equipment with automatic processing of the given information is recommended.

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V. V.; ZAKRZHEVSKIY, Ye. B.; BAYEVSKIY, R. M.

"Clinical aspects of interplanetary flights."

paper presented at the 13th European Cong on Aviation & Space Medicine, Dublin, 14-18 Sep 64.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

S/026/62/000/010/003/003
D051/D114

AUTHOR: Parin, V.V., Professor, Member of the Academy of Medical Sciences USSR

TITLE: The birth of cosmic biology

PERIODICAL: Priroda, no. 10, 1962, 9-11

TEXT: A short survey on the basic stages of development of Soviet cosmic biology and physiology is given. In 1949, vertical starts of rockets carrying dogs, yielded useful data on resistance to initial acceleration, the state of weightlessness, etc. Subsequent stages of biological experiments included several species of animals, plants, seeds, etc., in Soviet artificial satellites in 1957 and 1960/1961. Following a physiological analysis of the space flights of the Soviet cosmonauts and data concerning their training, behavior and achievements, the author describes the increasing efforts of Soviet aeromedicine to overcome the difficulties connected with man's survival in space.

ASSOCIATION: Akademiya meditsinskikh nauk SSSR (Academy of Medical Sciences USSR), Moscow

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.; SHENDEROV, S.M.

The significance of disturbances of the metabolic anti-hypertensive function of the kidney in the pathogenesis of hypertension. Kor Vasa 4 no.1:1-11 '62.

1. The Laboratory of Cardiac Physiology and Pathophysiology of the Institute of Normal and Pathological Physiology, Academy of Medical Sciences, Moscow.
(HYPERTENSION etiol) (KIDNEY physiol)
(NEPHRECTOMY exper)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.; GAZENKO, O.G.; MAZDOVSKIY, V.I.

Possibilities of protective adaptation of the body and the limits of adaptation in conditions of maximal overstrain and the state of weightlessness. Vest.AMN SSSR 17 no.4:76-81 '62. (MIRA 15:8)
(ADAPTATION (PHYSIOLOGY) (SPACE MEDICINE) (WEIGHTLESSNESS)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V., prof.

Space medicine has risen another step. Av.i kosm. 44 no.4:28-31 '62. (MIRA 15:4)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR.
(SPACE MEDICINE)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, Vasiliy Vasil'yevich; BAYEVSKIY, Roman Markovich; KULLANDA, K.M., red.; MATVEYEVA, M.M., tekhn. red.

[Cybernetics in medicine and physiology] Kibernetika v meditsine i fiziologii. Moskva, Medgiz, 1963. 117 p. (MIRA 16:4)

(CYBERNETICS) (MEDICINE) (PHYSIOLOGY)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

BABSKIY, Ye.B., akademik, red.; PARIN, V.V., red.; GOLUBYKH, L.I., red.; PARAKHINA, N.L., tekhn. red.

[Modern methods of investigating the functions of the cardiovascular system] Sovremennye metody issledovaniia funktsii serdechno-sosudistoi sistemy. Pod red. E.B. Babskogo i V.V.Parina. Moskva, Medgiz, 1963. 205 p. (MIRA 16:9)

1. Akademiya meditsinskikh nauk SSSR, Moscow. 2. AN Ukr.SSR (for Babskiy). 3. Deystvitel'nyy chlen AMN SSSR (for Parin).
(CARDIOVASCULAR SYSTEM)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, Vasiliy V.

"Les realisations de l'electronique medicale sovietique en cardiologie." report presented at the fifth Intl. conf. on Medical Electronics, Liege, Belgium, 22-26 Jul 63.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V. V.; GAZENKO, O. G.; and RAZUMEYEV, A. N.;

"Responses of the Central Nervous System on the Action of Some Factors of the Space Flight".

Report submitted for the 12th European Congress of Aviation and Space Medicine, 1-5 October 1963, Rome, Italy.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

S/216/63/000/001/001/004
A066/A126

AUTHORS: Parin, V.V., Bayevskiy, R.M.

TITLE: Problems of cybernetics and space medicine

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya biologicheskaya, no. 1, 1963, 9 - 14

TEXT: The authors discuss a few problems of cybernetics in relation to space medicine. One of the most important tasks in this field, the radiotelemetric transmission of biological data from space vehicles to Earth, could be solved only by using the latest achievements in information theory. Devices for the automatic processing of medico-biological information on board of a spaceship are in the developmental stage. Such devices will enable prognosis of the biological conditions in the cabin and of the astronaut's state of health. In analogy to electronic diagnostic machines, mathematical treatment of biological phenomena, data storage, and determination of limiting values are of great importance in space medicine. The information is not recorded by magnetic tape or punched cards but processed directly by computers and with the aid of algorithms.

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

Problems of cybernetics and space medicine

S/216/63/000/001/001/004
A066/A126

The theory of automatic control is used for constructing models of physiological reactions, for developing closed ecologic systems, and for solving problems of piloting space vehicles. The design and construction of improved flight control mechanisms calls for a detailed study of the effect of conditions in outer space on the efficiency of the nervous system. Automatic treatment of information sent by biological indicators, including plants, microbes and animals, will secure signalization of conditions menacing the life of man. Such indicators may also be used to explore the universe by unmanned rockets. Great achievements in space research may thus be expected from an extensive use of cybernetics in space medicine and space biology.

ASSOCIATION: Institut normal'noy i patologicheskoy fiziologii Akademii meditsinskikh nauk SSSR (Institute of Normal and Pathological Physiology of the Academy of Medical Sciences USSR)

SUBMITTED: September 18, 1962

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.

Scientists can see the viruses. Radio no.5:10 My '63. (MIRA 16:5)

1. Vitse-prezident AMN SSSR. (Medical electronics)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.; MEYERSON, F.Z.

Myocardial stress and functional reserve of the heart in hyperfunction and insufficiency. Vest. AMN SSSR 18 no.2: 20-32 '63. (MIRA 17:7)

1. Institut normal'noy i patologicheskoy fiziologii AMN SSSR.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.

Rereading the "Anti-Dühring." Nauka i zhizn' 30 no.6:4-9 Je '63. (MIRA 16:7)

1. Vitse-prezident AMN SSSR.
(Engels, Friedrich, 1820-1895) (Dühring, Eugen Karl, 1833-1920)
(Dialectical materialism)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

BOYKO, Yevgeniy Ivanovich; BERNSHTEYN, N.A., prof., retsenzent; PARIN, V.V., prof., retsenzent; BYKOV, V.D., red.

[Reaction time in man; history, theory, contemporary state and practical significance of chronometric studies] Vremia reaktsii cheloveka; istoriia, teoriia, sovremennoe sostoianie i prakticheskoe znachenie khronometricheskikh issledovanii. Moskva, Meditsina, 1964. 439 p. (MIRA 17:6)

1. Chlen-korrespondent AMN SSSR (for Bernshteyn). 2. Deystvitel'nyy chlen-korrespondent AMN SSSR (for Parin).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V., prof.

Some problems of bionics. Priroda 53 no.5:20-25 '64.
(MIRA 17:5)

1. Deystvitel'nyy chlen AMN SSSR.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V. V.; DAVYDOV, B. I.; PANCHENKOVA, E. F.

"The results of the investigations of the biological influence of some factors connected with cosmic flights."

report submitted for 15th Intl Astronautical Cong. Warsaw, 7-12 Sep 64.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V. V.; VASIL'YEV, P. V.; BELAY, N. Ye.

"Some problems of reactivity in cosmic medicine."

report submitted for 15th Intl Astronautical Cong., Warsaw, 7-12 Sep 64.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V. V.; VASIL'YEV, P. V.; BELAY, V. Ye.

"Reactivity in space medicine."

report presented at the 15th Intl Astronautical Cong, Warsaw, 7-12 Sep 64.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V. V.; VOLYNKIN, Yu. M.; VASILYEV, P. V.:

"The discussion of this review paper will be lead by Prof. Nello Pace". (USA)

Report submitted for the COSPAR Fifth International Space Science Symposium, Florence, Italy. 8-20 May 1964.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ANOKHIN, P.K., red.; KOSTYUK, P.G., red.; KRYZHANOVSKIY, G.N., red.; LEBEDINSKIY, A.V., red.; MENITSKIY, D.N., red.; MUZYKANTOV, V.A., red.; PARIN, V.V., red.; ROYTBAK, A.I., red.; KULLANDA, K.M., red.

[Contemporary problems of electrophysiological studies of the nervous system] Sovremennye problemy elektrofiziologicheskikh issledovanii nervnoi sistemy. Moskva, Meditsina, 1964. 519 p. (MIRA 17:7)

1. Akademiya meditsinskikh nauk SSSR, Moscow.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

SISAKYAN, Norayr Martirosovich, akademik; SEVERIN, Sergey Yevgen'yevich; PARIN, Vasiliy Vasil'yevich; EL'PINER, Isaak Yefimovich, doktor biol. nauk; KUZIN, Aleksandr Mikhaylovich; ISAYEV, I.B.; SOROKO, Ya.I., red.

[Biology and its allies] Biologiia i ee soiuzniki; sbornik. Moskva, Izd-vo "Znanie," 1964. 77 p. (Novoe v zhizni, nauke, tekhnike. VIII Seriia: Biologiia i meditsina, nos.17-18) (MIRA 17:10)

1. Deystvitel'nyy chlen AMN SSSR (for Severin, Parin). 2. Chlen-korrespondent AN SSSR (for Kuzin).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

KELER, V.R., otv. red.; MILLIONSHCHIKOV, M.D., akademik, red.; BLOKHIN, N.N., red.; BLOKHINTSEV, D.I., red.; GNEDENKO, B.V., akademik, red.; ZAYCHIKOV, V.N., red.; KELDYSH, M.V., akademik, red.; KIRILLIN, V.A., akademik, red.; KORTUNOV, V.V., red.; MONIN, Andrey Sergeyevich, prof., doktor fiz.-matem. nauk, red. (1921); NESMEYANOV, A.N., akademik, red.; PARIN, V.V., red.; REBINDER, P.A., akademik, red.; SEMENOV, N.N., akademik, red.; FOK, V.A., akademik, red.; FRANTSOV, G.P., akademik, red.; ENGEL'GARDT, V.A., akademik, red.; KREMNEVA, G., red.; BALASHOVA, A., red.; BERG, A.I., akademik, red.

[Science and mankind, 1964; simple and precise information about the principal developments in world science] Nauka i chelovechestvo, 1964.; dostupno i tochno o glavnom v mirovoi nauke. Moskva, Izd-vo "Znanie," 1964. 424 p. (MIRA 18:1)

1. Deystvitel'nyy chlen AMN SSSR (for Blokhin, Parin). 2. Chlen-korrespondent AN SSSR (for Blokhintsev). 3. Akademiya nauk SSSR Ukr.SSR (for Gnedenko).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ACCESSION NR: AP4012877 S/0248/64/000/002/0008/0026

AUTHOR: Parin, V. V.; Babskiy, Ye. B.

TITLE: Main trends and perspectives for application of modern technology to medicine

SOURCE: AMN SSSR. Vestnik, no. 2, 1964, 8-26

TOPIC TAGS: new clinical equipment, new investigation methods, electronic equipment, diagnostic electronic computer, radiotelemetry, synchronous body process recording, automatic control equipment, echographia, television, radioactive isotope, medical data processing, heart pace maker, surgical equipment

ABSTRACT: The article is a general survey of Soviet attainments and goals in the field of medicine. New methods and equipment based on recent technological developments are described in reference to gathering, measuring, storing, and automatic processing of medical data for use in diagnosis, therapy, preventive medicine, and automatic control of body functions. Orig. art. has: None.

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ACCESSION NR: AP4012877

ASSOCIATION: Institut normal'noy i patologicheskoy fiziologii AMN SSSR, Moscow (Institute of Normal and Pathological Physiology AMN SSSR)

SUBMITTED: 00 DATE ACQ: 02Mar64 ENCL: 00

SUB CODE: LS NO REF SOV: 000 OTHER: 000

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

SISAKYAN, N.M.; PARIN, V.V.; ANTIPOV, V.V.; DOBROV, N.N.; SAKSONOV, P.P.

Some conclusions and future development of the radiobiological research in space. Izv. AN SSSR. Ser. biol. no.3:341-351 My-Je '64. (MIRA 17:5)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ACCESSION NR: AP4038592 S/0026/64/000/005/0020/0025

AUTHOR: Parin, V. V. (Professor, Member of the Academy of Medical Sciences, SSSR)

TITLE: Living and technical systems -- certain problems in bionics

SOURCE: Priroda, no. 5, 1964, 20-25

TOPIC TAGS: bionics, bioenergetics, perceptron

ABSTRACT: A popular article on the new sciences of bionics has been published. The author familiarizes the reader with the scope of the science, defines bionics, specifies its practical and theoretical applicability, and divides the problems of bionics into four groups: study of living information systems, investigation of the sense organs, study of principles of orientation and navigation, and study of the peculiarities of structure of living organisms. The principal objective of bionics is study of living nature for the purpose of applying the knowledge gained to the practical activity of man. The author concentrates on several problems in bionics: the relationships between man and machines, development of recognition systems in relation to investigation of the sense organs, and bioenergetics. In the first of these problems, bionics strives to find ways to improve communication between man and machines, that is, to improve machines by using biological principles in engineering,

Card 1/3

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ACCESSION NR: AP4038592

such as creation of machines which will react to verbal commands. Only a limited number of "channels" are now being used for communication between man and machines, whereas many such channels are conceivable. The problem of developing devices capable of recognizing symbols and images is discussed in general terms. It is noted that the finding of biological analogues for technical processes is of great importance for further improvement of recognition methods. The concept of the perceptron is discussed. The possibility of the existence of still unsuspected communication channels also is noted. Particular attention is given to "skin perception", the ability of certain persons to determine colors of objects or even read by touch while blindfolded. Experiments conducted by S. N. Dobronravov using a large number of school children ages 8-16 have revealed that more than 35% of all subjects possessed this ability to some degree, upsetting the notion that it is a rare occurrence in humans; however, this ability is rather infrequently encountered in adults. This suggests that machines might someday be "taught" to perceive colors and shapes. Bioenergetics is the study of means to obtain energy on the basis of an analogy with biological systems and in certain cases to obtain energy directly from biological systems. For example, the study of the electric organs of certain fish can provide a clue as to how to develop new methods of producing light and electricity. Orig. art. has: 5 figures.

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ACCESSION NR: AP4038592

ASSOCIATION: Akademiya meditsinskikh nauk SSSR (Academy of Medical Sciences USSR)

SUBMITTED: 00 ATD PRESS: 3050 ENCL: 00

SUB CODE: LS NO REF SOV: 001 OTHER: 002

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ACCESSION NR: AP4039714 S/0205/64/004/003/0344/0348

AUTHOR: Voly*nkin, Yu. M.; Parin, V. V.; Antipov, V. V.; Guda, V. A.; Dobrov, N. N.; Nikitin, M. D.; Saksonov, P. P.

TITLE: Radiation safety measures during flights by Soviet cosmonauts in Vostok space ships

SOURCE: Radiobiologiya, v. 4, no. 3, 1964, 344-348

TOPIC TAGS: manned space flight, Vostok, cosmic radiation, galactic radiation, radiation dosimetry, telemetry, radiobiology

ABSTRACT: Radiation safety measures for cosmonauts in the Vostok series have involved measurements of the integral doses within cabins, conducting biological dosimetric probes of cosmic radiation, and the use of antiradiation pharmaceuticals during emergency situations. The results of radiobiological investigations conducted during the Vostok flights agree with those of other physical probes and indicate that the radiation hazards to be encountered during short space flights are minimal. Clinical examinations of cosmonauts following Vostok flights showed no deleterious effects of cosmic radiation.

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ACCESSION NR: AP4043720 S/0239/64/050/008/0924/0933

AUTHOR: Parin, V. V. (Moscow); Bayevskiy, R. M. (Moscow)

TITLE: Problems of current biotelemetry

SOURCE: Fiziologicheskiy zhurnal SSSR, v. 50, no. 8, 1964, 924-933

TOPIC TAGS: biotelemetry, radio electrocardiography, pulse radiophone, manned space flight

ABSTRACT: In this review article the author classifies biotelemetric systems according to the location of the transmitter in relation to the subject under investigation. The three basic classifications are: a) transmitter located some distance from the subject, b) transmitter externally attached to the subject, and c) transmitter located inside the subject. Block diagrams are presented which represent: 1) two systems where the digital computer is either associated with the receiver or transmitter; 2) an aircraft biotelemetric system where the pilot, amplifier, and transmitter are airborne and the receiver and recorder comprise the ground unit; and 3) two space cabin biotelemetric systems, i.e., the present system where astronaut,

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amplifier, and transmitter are in the space module while the receiver and recorder are earthside, and the future system where the astronaut-transmitter unit is connected to an additional receiver-transmitter subunit. The final ground link is the receiver-recorder unit. The author states that two Sverdlovsk pulse radiophones, far smaller than those used for the past 10 years, will soon be manufactured. They are designated the KRP-2M and REK-1. The All-Union Institute of Medical Equipment and Instrumentation is now producing a TEK-1 radio electrocardiograph developed by T. Ye. Timofeyeva and V. A. Antselevich in 1960. It is concluded that, as the miniaturization and technology of biotelemetric devices progresses, reclassification of systems will be necessary. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 20Mar64 ATD PRESS: 3089 ENCL: 00

SUB CODE: LS,EC NO REF SOV: 021 OTHER: 018

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L 24678-65 EWG(j)/EWT(d)/FBD/FSS-2/EWG(r)/EWT(1)/FS(v)-3/EEC(k)-2/EWG(v)/EPR/EWG(a)/EEC(c)-2/EWG(c)/FS(b) Pb-4/Pn-4/Po-4/Pe-5/Pq-4/Pac-4/Pg-4/Ps-4/Pae-2/Ph-4/Pk-4/Pl-4
ACCESSION NR: AP5004710 IJP(c) BC S/0239/64/050/009/1191/1193

118
B

AUTHOR: Parin, V. V.; Rozenblat, V. V.

TITLE: Second symposium on biotelemetry in Sverdlovsk

SOURCE: Fiziologicheskiy zhurnal SSSR, v. 50, no. 9, 1964, 1191-1193

TOPIC TAGS: telemetry, telemetry equipment, medical science, biotelemetry

ABSTRACT: The Second Symposium on Radiotelemetry in Physiology and Medicine was held in Sverdlovsk, 9 -- 11 December 1963. Of the 34 reports presented, half were by individuals from Sverdlovsk, the Soviet center for telemetry. Listed below are some of the contributors, together with the subjects discussed.

V. V. Parin and R. M. Bayevskiy. Biotelemetry classification system based upon the types of apparatus used and their proximity to the subject being investigated.

V. G. Denisov and V. I. Yazdovskiy. Present state of biotelemetry and its use in space.

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3

Ye. B. Babskiy. Use of internal radio transmitters for studies of the gastrointestinal tract.

V. V. Rozenblat. Physiological studies of sports and labor through the use of biotelemetry.

B. V. Panin. Physiological studies of the gastrointestinal tract of domestic animals under pasture conditions by means of external radiocapsules which transmit data over a distance of a few kilometers.

I. T. Akulinichev. Characteristics of the biotelemetric systems used for physiological measurements aboard Vostok 5 and 6.

R. M. Bayevskiy and others. Dynamic telemetric systems and their applications in space medicine, particularly in long future space flights where cosmonauts will have to be fitted with systems which will allow them to move freely inside and outside the space craft.

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ACCESSION NR: AP5004710

10

R. S. Dadashev and G. M. Erdman. Radiotelemetric monitoring of atmospheric pollution around industrial sites.

R. V. Unzhin. Selection of a symmetrical multivibrator as a far more acceptable transformer in semiconductor transmitting devices used for the registration of a number of physiological parameters.

V. M. Forshtadt. Registration of the volumetric indices of respiration by means of a pickup on the base of a rotating anemometer with a photoelectric or magnetoelectric contactless transformer.

E. I. Rimskikh. Miniature (200-g) transistorized supergenerator receiver, and a sensitive FM receiver for ARS-2 mobile radio stations with biotelemetric applications.

V. G. Denisov, M. M. Sil'vestrov, and B. A. Soshin. Use of biotelemetry in studies of spacecraft control systems with cosmonaut participation.

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L 24676-65
ACCESSION NR: AP5004710

7

B. M. Stolbun and V. M. Forshtadt. First radiotelemetric investigation of the velocity of pulse waves during muscular activity, and the possibility of evaluating shifts in arterial tonus under these conditions.

A. T. Vorob'yev. Radioelectrocardiography of heavy athletes during training, and observation of short-term pathological shifts which disappear following exercise.

S. M. Ganyushkin. Radiotelemetric investigation of pulse and respiration rates in miners at work.

Yu. G. Solonin. Radiopulsometry to evaluate the burden of work in a hot microclimate; a change in the pulse rate from 180 to 192 in one minute was observed.

B. I. Yazburskis and B. P. Kushelevskiy. Use of biotelemetry in clinical studies.

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L 31331-65

ACCESSION NR: AP4047235 S/0219/64/058/010/0011/0015

AUTHOR: Lugovoy, L. A.; Parin, V. V.

TITLE: Blood circulation in separate cerebral cortex areas during light and olfactory stimuli

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 58, no. 10, 1964, 11-15

TOPIC TAGS: animal, rabbit, blood flow, cerebral cortex, parietal area, occipital area, olfactory area, thermoelectric method, light stimulus, olfactory stimulus

ABSTRACT: Blood circulation changes in the parietal, occipital, and olfactory areas of the cerebral cortex during light and olfactory stimuli were investigated in 15 nonanesthetized rabbits. Thermoelectrodes were implanted in the cortex areas at a depth of 1 mm to record blood circulation rate changes by a thermoelectric method. Arterial pressure and respiration were recorded at the same time. An intermittent light signal served as a light stimulus and a weak ammonia solution served as an olfactory stimulus. Findings show that light

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stimuli selectively increase blood circulation in the occipital area, and olfactory stimuli selectively increase blood circulation in the olfactory area. However, in both cases arterial pressure changes very little or not at all. Apparently increased functional activity of a given cerebral cortex area is accompanied by an increased blood supply to that area, and at the same time blood circulation of the other cortex areas does not change or changes very little depending on the strength and duration of the stimulus. Blood supply changes in the different cerebral cortex areas are found to correspond to the type of cortex excitation and the blood supply increases possibly are related to the more intense metabolism in the active cortex areas. Orig. art. has: 3 figures.

ASSOCIATION: Laboratoriya fiziologii i patologii dy*khaniya i krovoobrashcheniya Instituta normal'noy i patologicheskoy fiziologii AMN SSSR, Moscow (Physiology and Pathology of Respiration and Blood

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L 27408-65

ACCESSION NR: AP5003895

level of the blood was very marked and was in direct relation to the severity of the radiation sickness, while in rats and mice the drop in the concentration of serotonin was less marked and did not depend on the extent of radiation injury. The first group of animals developed a sharply defined hemorrhagic syndrome during the course of radiation sickness while the second group (rats and mice) did not evidence hemorrhagic symptoms. The chief reason for the drop in the serotonin level of the blood during radiation sickness is the disruption of the formation of serotonin in the digestive tract. The concentration of serotonin in the blood of mice and dogs carried on the fourth and fifth orbital spaceships dropped 8—10 times in mice and 3.5—10 times in dogs, on the first or second day after return, in comparison with the control level (0.12—0.2 μg/ml). After 10 days the serotonin level of these animals returned to normal. During the period of 80—240 days after space flight, the serotonin level in dogs remained normal. Mice and guinea pigs subjected to vibration (frequency: 35 and 70 cps, amplitude: 0.4 mm), for fifteen minutes also showed a drop in the serotonin level of the blood during the first two days, with a subsequent return to normal. The authors conclude that vibration is one of the factors responsible for a drop in the concentration of serotonin in the blood during space flight. Orig. art. has: 4 tables. [BM]

ASSOCIATION: none

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ACCESSION NR: AP5003895

SUBMITTED: 00 ENCL: 00 SUB CODE: PH,LS

NO REF SOV: 009 OTHER: 019 ATD PRESS: 3192

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

LEBEDEVA, L.N. (Moskva, ul. Chaykovskogo, 25, kv.16)

Morphological changes in lymphoid organs in induced sarcoma. Vop. onk. 10 no.5:73-78 '64. (MIRA 18-2)

1. Iz laboratorii eksperimental'noy patomorfologii (zav. - [illegible] korrespondent AMN SSSR A.A.Solov'yev) Instituta normal'noy i patologicheskoy fiziologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V.Parin).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ARKHIPOV, G.N.

Dominant mechanisms in the process of carcinogenesis as exemplified by the interrelations between reparative regeneration and tumor formation. Pat. fiziol. i eksp. terap. 8 no.6:65-69 N-D '64. (MIRA 18:6)

1. Laboratoriya eksperimental'noy patologii (zav. - prof. S.I. Lebedinskaya) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR, Moskva.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ROZANOVA, L.S.; VORONYUK, N.P.

Influence of the level of cardiac contractile function on the realization of the sympathetic effect. Biul. eksp. biol. i med. 60 no. 10:29-32 O '65 (MIRA 19:1)

1. Laboratoriya fiziologii i patofiziologii miokarda (zav. - doktor med. nauk F.Z. Meyerson) Instituta normal'noy i patologicheskoy fiziologii (direktor - deystvitel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR, Moskva. Submitted April 22, 1964.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

KURILOVA, L.M.

Results of the study of the acoustic analyzer in man by the method of examining the functional mobility. Biul. eksp. biol. i med. 60 no.11:6-10 N '65. (MIRA 19:1)

1. Laboratoriya fiziologii i patologii organov chuvstv (zav. - prof. P.G. Snyakin) Instituta normal'noy i patologicheskoy fiziologii (direktor - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR, Moskva. Submitted February 5, 1964.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

SMOLIN, L.N.; GAYDINA, G.A.

Changes in the electrical activity of the brain caused by pathologically changed tissues on the periphery. Pat. fiziol. i eksp. terap. 8 no.1:10-15 Ja-F '64. (MIRA 18:2)

1. Iz laboratorii sravnitel'noy patologii nervnoy sistemy (zav.- prof. S.I. Frankshteyn) Instituta normal'noy i patologicheskoy fiziologii (dir.- deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR.

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GROMOVA, Ye.A.; FEDOROV, B.M.; TKACHENKO, K.N.; PODREZOVA, N.A.; PROVODINA, V.K.

Correlation between disorders of the cardiac activity and functional changes in the brain in experimental diphtheria intoxication. Pat. fiziol. i eksp. terap. 8 no.5:31-35 S-O '64. (MIRA 18:12)

1. Institut normal'noy i patologicheskiy fiziologii (direktor - deystvitel'nyy chlen AMN SSSR prof. V.V.Parin) AMN SSSR, Moskva. Submitted February 16, 1963.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ANOKHIN, B.V.; BOLDYREV, A.I.

Characteristics of the adaptive function of the visual system in epilepsy patients. Biul. eksp. biol. i med. 58 no.8:[illegible] Ag '64. (MIRA 18:3)

1. Laboratoriya organov chuvstv (zav. - prof. P.G. Snyakin) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR i Institut psikhiatrii (dir. - prof. P.D. Fedotov) Ministerstva zdravookhraneniya RSFSR, Moskva. Submitted July 8, 1963.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

MIRZABAYEVA, L.A.

Changes in the conditioned reflexes in respiratory arrhythmia. Biul.eksp.biol.i med. 58 no.10:8-11 O '64.

(MIRA 18:12)

1. Laboratoriya klinicheskoy fiziologii (zav. - akademik AN UkrSSR Ye.B.Rabskiy) Instituta normal'noy i patologicheskiy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR, Moskva. Submitted October 13, 1963.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ARKHIPOV, G.N.

Methodology for implantation of bipolar electrodes for nerve stimulation on chronic experiments. Biul. eksp. biol. i med. 57 no.4: 140-141 Ap '64. (MIRA 18:3)

1. Laboratoriya eksperimental'noy patologii (zav. - prof. S.I. Lebedinskaya) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR, Moskva. Submitted April 5, 1963.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

DMITRIYEVA, T.M.; KURILOVA, L.M.; SUKHOVSKAYA, N.A.

Reflex reactions of thermoreceptors. Biul. eksp. biol. i med. 56 no.8:14-17 Ag '63. (MIRA 17:7)

1. Iz laboratorii fiziologii i patologii organov chuvstv (zav. - prof. P.G. Snyakin) Instituta normal'noy i patologicheskoy fiziologii (direktor - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR, Moskva. Predstavleno deystvitel'nym chlenom AMN SSSR V.V. Parinym.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

KROKHINA, Ye.M.; MEYERSON, F.Z. (Moskva)

Dynamics of cholinesterase activity in the neural apparatus of the heart and myocardium in compensatory hyperfunction and hypertrophy. Arkh. pat. 25 no.8:34-37 '63 (MIRA 17:4)

1. Iz laboratorii neyrogistologii imeni B.I. Lavrent'yeva (zav. - prof. Ye.K. Plechkova) i laboratorii fiziologii i patologii serdtsa (zav. - deystvitel'nyy chlen AMN SSSR. V.V. Parin) Instituta normal'noy i patologicheskoy fiziologii AMN SSSR (direktor - deystvitel'nyy chlen AMN SSSR V.V. Parin).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

Parin, V.V.

ZAMYCHKINA, K.S.

Effect of atropine on the rate of absorption from the gastrointestinal tract of inorganic phosphate ($Na_2HP^{32}O_4$) and the rate of its utilization from the blood under normal conditions and in liver pathology. Biul. eksp. biol. i med. 54 no.8:44-46 Ag '62. (MIRA 17:11)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I. Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvetel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR, Moskva.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

SUDAKOV, K.V.

Electroencephalographic analysis of the neurohumoral mechanism of satiety. Biul. eksp. biol. i med. 59 no.2:3-6 F '65 (MIRA 18:7)

1. Laboratoriya obshchey fiziologii tsentral'noy nervnoy sistemy (zav. - deystvitel'nyy chlen AMN SSSR prof. P.K. Anokhin) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR, Moskva.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

TEREGULOV, R.G.

Analysis of changes in the tonus of the vagus innervation center of the heart in hypoxic and anemic hypoxia in adult dogs. Biul. eksp. biol. i med. 59 no.4:22-25 Ap '65. (MIRA 18:5)

1. Laboratoriya vozrastnoy fiziologii i patologii (zav. - prof. I.A. Arshavskiy) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR, Moskva.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

LUGOVOY, L.A.

Changes in the velocity of the blood stream in the cortical and medullar layers of the kidney in introduction of adrenaline and compression of the trachea. Biul. eksp. biol. i med. 59 no.6:20-23 Je '65. (MIRA 18:6)

1. Laboratoriya fiziologii i patologii dykhaniya i krovoobrashcheniya (zav. - chlen-korrespondent AMN SSSR prof. M.Ye. Marshak) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V. Parin) AMN SSSR, Moskva.

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GAAZE-RAPOPORT, M.G., otv. red.; YAKOBI, V.E., otv. red.; BERG, A.I., red.; GURFINKEL', V.S., red.; KOVALEVSKIY, V.A., red.; KLEYNENBERG, S.Ye., red.; MANTEYFEL', B.P., red.; NAUMOV, N.P., red.; PARIN, V.V., red.; POLYANTSEV, V.A., red.; SOTSKOV, B.S., red.;

[Bionics] Bionika. Moskva, Nauka, 1965. 475 p. (MIRA 18:12)

1. Akademiya nauk SSSR. Nauchnyy sovet po kompleksnoy probleme "Kibernetika."

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L 21508-66 FSS-2/EWT(1)/EWA(d) IT/DD/RD/GW

ACC NR: AN6008015 (N) SOURCE CODE: UR/9008/66/000/064/0001/0001

AUTHOR: Parin, V.; Pravetskiy, V.; Yegorov, B.

ORG: none

TITLE: Unique experiment - the flight of the Kosmos-110 satellite is completed

SOURCE: Krasnaya zvezda, 18 Mar 66, p. 1, col. 3-7, p. 4, col. 1-4

TOPIC TAGS: space biologic experiment, EKG, blood pressure, life support system, drug effect, respiration, spacecraft, space telemetry, space TV, space flight, weightlessness, cardiovascular system, dog

ABSTRACT: The biomedical experiments carried out on Kosmos-110 represent the first step in a planned program of biomedical experiments on orbital spaceships designed to answer two questions: Can man adapt himself to the state of weightlessness, and if so, how dangerous will the return to terrestrial gravitation be? Taking into account the fact that weightlessness acts in a selective manner on the circulatory system, it was decided to give primary emphasis to the study of how prolonged weightlessness affects the neuroreflex regulation of the cardiovascular system. The two dogs used in the experiment underwent certain surgical

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L 21508-66
ACC NR: AN6008015

alterations which made it possible to study the responses of the cardiovascular system to the administration of standard type stimulants during space flight. One of the dogs served as an experimental animal and received the whole complex of stimulants, while the second dog served as a control. Electrocardiographs, seismocardiographs, and sphygmographs were used to monitor such parameters as average blood pressure and pulse and respiration frequencies. Information telemetered to Earth from on-board television, physiological sensors, and the operation of the life support systems indicated that the condition of the animals during the twenty-two day flight was satisfactory.

Some changes in the heart action of the two dogs were observed during the course of the flight. The fact that arrhythmia became more pronounced toward the end of the flight indicates that some kind of changes took place in the system of regulation of cardiac activity. However, these changes are not considered serious. The heart rate of Veterok (the experimental dog) varied between 70 and 120, and that of Ugolek (the control dog), between 60 and 90. It is considered significant that the individual differences of the dogs were maintained over the entire duration of weightlessness.

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L 21503-66 FSS-2/EWT(1)/EWA(d) IT/DD/RD/GW
ACC NR: AN6008015

The function of external respiration, which is essential for normal gas and humidity exchange, did not change significantly either. The respiration rate rose from 12 to 14 in Veterok and dropped from 18 to 11 in Ugolek.

The use of television made it possible to observe the coordination of movements of the animals in weightlessness. For the first eight or nine days some disruption of coordination was particularly noticeable in sweeping head movements. After the ninth day, the dogs became calmer and their movements became more purposeful and better coordinated, indicating that some degree of adaptation to weightlessness had taken place. The data from television also threw additional light on the functions of the vestibular apparatus, which is responsible for a series of changes in the organism exposed to weightlessness.

The present article has examined only such data as were obtained as a result of operational monitoring of the animals. On 16 March the dogs were returned to Earth in good condition. The data obtained from

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the flight of Kosmos-110 will require special processing before a definitive evaluation concerning their condition can be made. However, it is already possible to conclude that the experiment has, without any doubt, great significance for assuring the flight safety of future space ventures. Orig. art. has: 2 figures. [ATD PRESS: 4195-F]

SUB CODE: 06, 22, 17 / SUBM DATE: none

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Card 4/4

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ACC NR: AT6036616 SOURCE CODE: UR/0000/66/000/000/0300/0302

AUTHOR: Parin, V. V.; Agadzhanyan, N. A.; Kuznetsov, A. G.; Barer, A. S.; Isabayeva, V. A.; Mirrakhimov, M. M.; Davydov, G. A.; Kalinichenko, I. R.; Korobova, A. A.; Karpova, L. I.; Nikulina, G. A.; Tikhomirov, Ye. P.; Sokol, Ye. A.; Gavrilov, B. A.

ORG: none

TITLE: Establishing the possibility of using alpine acclimatization for the preparation and training of cosmonauts [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 300-302

TOPIC TAGS: hypoxia, high altitude physiology, alpine acclimatization, cosmonaut training

ABSTRACT:

Tasks of the present study were to:

1. Conduct complex physiological and clinical investigations during the process of acclimatization at altitudes of 3300 to 4100 m.

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ACC NR: AT6036616

2. Study the influence of alpine acclimatization on human tolerance to extremal spaceflight factors.

3. Study the comparative resistance of alpine inhabitants, valley inhabitants, and alpinists to extremal factors.

4. Develop a system of alpine acclimatization for cosmonauts and issue recommendations on the application of alpine acclimatization for the preparation and training of cosmonauts and on the creation of alpine camps for cosmonauts.

Acclimatization was conducted at the alpine station of the Kirgiz State Medical Institute (Tuya-Ashu mountain pass, altitude, 3300 to 4100 m). A total of 28 male subjects were studied of whom: 11 were indigenous to alpine conditions as farmers of the Tien-Shan--Pamir region (2000 to 2500 m), 11 were valley inhabitants, and 6 were accomplished alpinists. The following indices were studied under alpine conditions and using test stands: Functional condition of the central nervous system; external respiratory and cardiovascular system function; some biochemical indices; the state of the blood coagulation and anticoagulation capacity; and in separate experiments; cerebral circulation using an electroplethysmographic method.

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The experiments showed that after 45 days of alpine acclimatization, human tolerance to prolonged, back-chest accelerations (8 to 10 G) was improved. This was reflected in a relative increase in the amplitude of rheoencephalograms for all subjects and consequently, improved cerebral circulation and lowered pulse rate. EKG changes indicated that the heart was undergoing less strain after alpine acclimatization. After residence in alpine conditions, a decrease in basic metabolic indices and a slight increase in arterial blood oxygen saturation was noted in alpine inhabitants during accelerations.

A study of heat tolerance showed that there was a drop in basic physiological parameters (heat accumulation and basal metabolism) after alpine acclimatization in all three groups. These changes were more pronounced in indigenous alpine inhabitants and less pronounced in alpinists.

The resistance of the organism to hypoxia before and after acclimatization was studied using two approaches; exposure to a certain "altitude ceiling" in a pressure chamber and a method of reverse respiration using a spirograph first filled with atmospheric air. In the latter case as a measure of oxygen consumption, oxygen content under the bell jar of the spirograph decreased and exhaled carbon dioxide was chemically absorbed.

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These tests demonstrated that resistance to hypoxia was substantially higher after alpine acclimatization. In pressure chamber tests, the "altitude ceiling" increased by 30% and "reserve time" at H = 7500 m was doubled. Its greatest increase was observed in alpine inhabitants while a more substantial increase in "altitude ceiling" was experienced by alpinists.

To study the effectiveness of alpine acclimatization for increasing overall physical work capacity, tests were conducted using an ergometer and treadmill. Maximum work rate increased by 0.4 and 0.5 m/sec in valley inhabitants and alpinists respectively. No changes were noted in foothill inhabitants. Endurance was evaluated according to running duration on the treadmill at a steady rate of 4.5 m/sec. The results of the tests established that after alpine acclimatization, both valley and alpine inhabitants had increased their endurance while alpinists, whose endurances were already high before acclimatization, did not show any substantial changes.

The literature together with experience accumulated by alpinists indicates that alpine acclimatization is far more effective if active (physical exercise) and gradual, each stage entailing a 1000-1500 m increment. The problem of acclimatization periods and methods for the prolonged maintenance of acclimatization effects require further investigation.

[N. A. No. 22; ATD Report 66-116] SUB CODE: 06,22 / SUBM DATE: 00May66

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ACC NR: AT6036662 SOURCE CODE: UR/0000/66/000/000/0297/0300

AUTHOR: Parin, V. V.

ORG: none

TITLE: Space physiology as a new scientific discipline [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 297-300

TOPIC TAGS: space physiology, biologic acceleration effect, weightlessness, hypodynamia, isolation, vestibular analyzer, biologic metabolism, thermoregulation

ABSTRACT:

Space physiology is a science concerned with the effects of spaceflight factors on vital functions of organisms. The most important tasks facing space physiology today are studies of the effects of weightlessness, prolonged isolation, and hypodynamia on the organism. It is also important to study the effects of spaceflight factors on individual systems. Thus, increased attention should be given to the effect of spaceflight factors on energy metabolism, on the thermoregulatory system, on external respiration, on the neuroskeletal system, and on endocrine regulators. In addition, studies

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of the effects of spaceflight on blood circulation, on the central nervous system, and on the interaction of analyzers (with special attention to vestibular problems) should be continued.

The development of new techniques for conducting spaceflight experiments deserves special attention. In particular, there is a need for developing a medical monitoring system for assuring quantitative, as well as qualitative, analysis of the physical reactions of the organism to the effects of spaceflight. In order to accomplish this, biotelemetry must develop onboard devices for automatic processing of information.

As spaceflights of ever-longer duration become possible, scientists will be called upon to solve such problems as development of controllable anabiosis and the creation of biologically controlled hardware.

At present, space physiology is in a transitional period. The stage of short-term manned spaceflights is over. This stage had to demonstrate man's ability to exist in space. The next stage -- the conquest of nearby space -- will require not only that man remain in space for periods of weeks or even months, but that he also actively participate in performing a large number of tasks in space. Space physiologists will have to learn how to

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ACC NR: AT6036662

regulate physiological functions under spaceflight conditions.

The regulation of function is among the most complex of physiological problems to be solved. As far as spaceflight experiments are concerned, one of the most important problems is to determine the reliability of regulatory physiological mechanisms, and the reliability of man himself as a link in a complex system. We have to assume that in the immediate future this problem of reliability of physiological control systems will become one of the most important areas in the study of space physiology.

[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ACC NR: AT7011640 SOURCE CODE: UR/0000/66/000/000/0001/0019

AUTHOR: Parin, V. V.; Yegorov, B. B.; Bayevskiy, R. M.

ORG: none

TITLE: Physiological measurements in space: Principles and Methods

SOURCE: International Astronautical Congress. 17th Madrid, 1966. Doklady. no. 2. 1966. Fiziologicheskiye izmereniya v kosmose. Printsipy i metody, 1-19

TOPIC TAGS: space medicine, weightlessness, radiation belt, cardiovascular system, carotid sinus, arterial pressure, arterial pulse, dog, space biologic experiment / Kosmos 110 space biologic experiment

ABSTRACT:

The Kosmos-110 experiment with two dogs on board was not only the first flight experiment to pass through part of the radiation belts, but was also the first of a series of experiments designed to investigate the adaptation of the cardiovascular system to weightlessness and its post-flight re-adaptation to conditions

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of terrestrial gravity. Primary attention was paid studies of the neuro-regulatory mechanisms of the cardiovascular system. The dogs were in specially ventilated containers in restraint corsets. They were force-fed through a stomach fistula. This permitted the dogs to be fed prescribed doses at prearranged intervals.

Ugolek, the control dog, had a loop of the carotid artery externalized into a loop of skin, with a catheter implanted in the carotid artery and an electrode implanted in the sinus nerve. These surgical alterations made it possible to administer stimuli upon command from Earth. Occlusion of the carotid artery could be performed by measured clamping of the externalized loop of the carotid artery. The carotid zone of the sinus nerve could be electrically stimulated, and a drug could be administered into the carotid artery. Arterial pressure was measured by a probe suspended in the lumen of the descending aorta at the distal end of the catheter.

In addition, the following measurements were recorded: carotid artery pulse. EKG. seismocardiogram,

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respiration rate, and some other physiological parameters. All of this information was recorded by on-board devices, and the EKG, seismocardiograms, and carotid artery pulse were transmitted to ground control by telemetry.

An analysis of the accumulated data revealed no noticeable pathological changes in the cardiovascular system during the 22-day flight. Thus, it can be concluded that three-week long exposure to weightlessness does not cause any serious shifts in the regulatory mechanisms of the circulatory system.

On-board TV used to monitor movements of the dogs indicated disorientation and impaired coordination of motor activity which began to improve by the 3rd of 4th day. Complete adjustment to weightlessness took place by the 8th or 9th day. The first postflight examination showed significant changes in the motor apparatus. However, improvement was rapid and complete recovery took place after 8 or 9 days.

Postflight examination showed a decrease of muscular mass, but biopsy examination of the liver and other organs gave evidence of adequate nutrition.

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Water was supplied to the dogs at a higher level than in laboratory conditions; thus, weight losses and body dehydration should be regarded as a specific reaction to the flight environment. Calcium metabolism studies showed an increased calcium concentration in the blood and urine on the first postflight day. Calcium washout was confirmed by x-ray examinations of the skeletal bones. During the first few postflight days the animals exhibited some hyporeactivity, a lack of orthostatic reaction, changes in the morphological composition of the peripheral blood, and a high pulse rate (up to 130 beats/min). Normalization tended to set in by the 5th postflight day. The results obtained cannot be considered to be the effect of weightlessness alone but must, to some degree, be due to the unusual experimental environment. It is anticipated that this experiment will lead to others of greater duration.

Orig. art. has: 8 figures.

[ATD PRESS: 5098-E]

SUB CODE 06,03 / SUBM DATE: none / ORIG REF: 010

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

L 31933-66 EWT(1) SCTB DD

ACC NR: AP5017760 SOURCE CODE: UR/0216/65/000/004/0481/0490

AUTHOR: Parin, V. V.; Vasil'yev, P. V.; Belay, V. Ye.

ORG: none

TITLE: The problem of reactivity in space medicine

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 4, 1965, 481-490

TOPIC TAGS: biologic acceleration effect, acceleration test, experiment animal, cardiovascular system disease, centrifuge test, drug effect, biologic respiration

ABSTRACT: The use of pharmacological agents to increase the tolerance of white mice, rats, rabbits, and dogs to acceleration was investigated. The animals were centrifuged for periods up to 86.2 min; the animals were injected (before and after centrifuging) with various narcotics, cardiac glycosides, vasoconstrictors and vasodilators: strichnine, adrenalin, noradrenalin, benzedrine, phenatrin, ephedrine, caffeine, Coraizol, strophanthin-K, nitroglycerine, dibazol, chloral hydrate and thiopental sodium. The results of these injections on the various animals are presented in the form of graphs, tables, and electrocardiograms. The criteria used to evaluate changes in reaction to acceleration were (in experiments on mice and rats) the number that survived the experiment and (in the case of dogs and rabbits) the time of onset and the degree of cardiac and respiratory malfunction. The authors conclude that the use of pharma-

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ACC NR: AP5017760

cological preparations is a promising means of increasing tolerance to G-forces. Orig. art. has: 9 figures, 1 table.

SUB CODE: 06/ SUBM DATE: 05Jan65/ ORIG REF: 031/ OTH REF: 006

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

ASRATYAN, E.A.; VORONIN, L.G.; GRASHCHENKOV, N.I.; PARIN, V.V.; RUSINOV, V.S.; SOKOLOV, Ye.N., prof.; CHERNOV, A.G.; NIKOLAYEV, V.R., red.

[Problems of contemporary physiology] Problemy sovremennoi fiziologii. Moskva, Izd-vo "Znanie," 1965. 31 p. (Novoe v zhizni, nauke, tekhnike. VIII Seriia: Biologiia i meditsina, no.11) (MIRA 18:6)

1. Vsesoyuznoye fiziologicheskoye obshchestvo imeni I.P. Pavlova. 2. Chlen-korrespondent AN SSSR (for Asratyan, Grashchenkov). 3. Chlen-korrespondent Akademii pedagogicheskikh nauk RSFSR (for Voronin). 4. Deystvitel'nyy chlen AMN SSSR (for Parin). 5. Chlen-korrespondent AMN SSSR (for Rusinov).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

BABSKIY, Ye.B., akademik, red.; PARIN, V.V., red.; GOLUBYKH, L.I., red.

[Achievements of modern technology in medicine] Dostizheniia sovremennoi tekhniki v meditsine. Moskva, Meditsina, 1965. 171 p. (MIRA 18:9)

1. Akademiya nauk Ukr.SSR (for Babskiy). 2. Deystvitel'nyy chlen AMN SSSR (for Parin).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

L 6533-66 EWT(1)/FS(v)-3/EEC(k)-2/EEC(g) DD

ACC NR: AP5022849 SOURCE CODE: UR/0375/65/000/009/0032/0037

AUTHOR: Parin, V. V. (Vice president AMN SSSR)

ORG: None

TITLE: Man learns from living nature [Bionics]

SOURCE: Morskoy sbornik, no. 9, 1965, 32-37

TOPIC TAGS: bionics, simulation

ABSTRACT: Bionics, a new trend in science and engineering, is concerned with establishing analogies between animate and inanimate nature, and developing the methods and means of using these analogies for solving various engineering, technological, and other problems, a list of which is given. The following types of methods are employed: functional mathematical simulation, physicochemical simulation, program simulation, and reverse simulation. Military applications of bionics are expanding steadily: in 1963, the United States Air Force spent $1 million, and the Navy, a little under $1 million on research in this field; in 1965, these funds were considerably increased. Universities (Stanford, Illinois, Northwestern, Florida, Princeton, MIT, and MIT Lincoln Laboratory) are conducting research in bionics under Air Force and Navy contracts. It is concluded that the problems solved by bionics are highly important, and that officers of the Soviet Navy should be familiarized with this science.

SUB CODE: LS, MA, MS / SUBM DATE: 00 / ORIG REF: 000 / OTH REF: 000

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V. (Moskva)

Way of living and the prevention of cardiovascular diseases.
Vest. AMN SSSR 20 no.6:5-9 '65. (MIRA 18:9)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, Vasiliy Vasil'yevich; MEYERSON, Feliks Zal'manovich; SHENDEROV, S.M., red.

[Studies on the clinical physiology of blood circulation] Ocherki klinicheskoi fiziologii krovoobrashcheniia. Moskva, Meditsina, 1965. 499 p. (MIRA 18:8)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

FARIN, V.V., prof.

Way of life and heart diseases. Priroda 54 no.10:30-33 '65. (MIRA 18:10)

1. Daystvitel'nyy chlen AMN SSSR.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.

Man learns from living nature. Mor. flot. 23 no.9:34-37 S '65. (MIRA 18:8)

1. Vitse-prezident Akademii meditsinskikh nauk SSSR.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.; VASIL'YEV, P.V.; BELAY, V.Ye.

Problem of reactivity in space medicine. Izv. AN SSSR. Ser. biol. no.4: 481-490 Jl-Ag '65. (MIRA 18:7)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.; BABSKIY, Ye.B.

Main tendencies and immediate prospects in the use of modern technology in medicine. Vest. AMN SSSR 19 no.2:8-26 '64. (MIRA 18:1)

1. Institut normal'noy i patologicheskoy fiziologii AMN SSSR, Moskva.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V. (Moskva); MCHEDLISHVILI, G.I. (Tbilisi)

Achievements and tasks in the study of microcirculation. Vest. AMN SSSR 19 no.6:3-9 '64. (MIRA 18:4)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V., red.

[Physiology and pathology of blood circulation; materials of the conference held Dec.19 - 21, 1962] Fiziologiia i patologiia krovoobrashcheniia; materialy konferentsii (19 - 21 dekabria 1962 g.) Moskva, 1962. 161 p. (MIRA 18:6)

1. Akademiya meditsinskikh nauk SSSR, Moscow. Institut normal'noy i patologicheskoy fiziologii.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

PARIN, V.V.

20 years of the Academy of Medical Sciences of the U.S.S.R.
VEST. AMN SSSR 19 no.9:3-24 '64. (MIRA 18:3)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3

L 23402-66

ACC NR: AP6014008 SOURCE CODE: UR/0219/65/060/007/0102/0104

AUTHOR: Kaplun, N. A.; Dronova, L. M.; Belich, Ye. M.--Belich, E. M.; Emanuel', N. M.--Emanuel, N. M. (Professor; Corresponding member AN SSSR); Parin, V. V. (Active member AMN SSSR)

ORG: Department of Chemical and Biological Processes /headed by Corresponding member AN SSSR, Professor N. M. Emanuel'/, Institute of Chemical Physics /directed by Academician N. N. Semenov/, AN SSSR (Otdel khimicheskikh i biologicheskikh protsessov Instituta khimicheskoy fiziki AN SSSR); Department of Balneological Physiotherapy /headed by Corresponding member AMN SSSR, Professor A. N. Obrosov/, Central Scientific Research Institute of Health Resorts and Physiotherapy /directed by Candidate of medical sciences G. N. Pospelova/, Ministry of Public Health Services, SSSR, Moscow (Otdel bal'neofizioterapii Tsentral'nogo nauchno-issledovatel'skogo instituta kurortologii i fizioterapii Ministerstva zdravookhraneniya SSSR)

TITLE: Effect of direct current on the development of transplanted leukosis in mice

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 60, no. 7, 1965, 102-104

TOPIC TAGS: bone marrow, mouse, electrophysiology, direct current, hematopoiesis

ABSTRACT: Investigations were conducted to determine the effect of different doses of direct currents on the development of leukosis. Eighty male mice with transplanted La leukosis were under observation. The weight of the

Card 1/2 UDC: 615.843-03: 616-006.446-092.9+616-006.446-085.843/-092.9

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ACC NR: AP6014008

spleen, the number of leukocytes and hemocytoblasts in one square millimeter of blood, and the percent content of hemocytoblasts in the bone marrow of controls, and in the animals to which direct current was applied were studied. The current was applied to the experimental mice by placing electrodes on both shaved sides of the animals. The electrode placed on the right side was connected to the positive pole of a galvanizing apparatus; the electrode placed on the left side of the animals was connected to the negative pole. The current was applied at different intensities for various periods. Four series of experiments were carried out. The animals were sacrificed at different times. Examinations established that a direct current not only did not increase the weight of the spleen, but in some cases decreased it; it practically caused no change in the number of leukocytes and hemocytoblasts in the blood; neither did it have any effect on the number of hemocytoblasts in bone marrow. It was thus established that direct current, regardless of the dosage applied, has no effect on the development of transplanted leukosis. This paper was presented by V. V. Parin, Active member AMN SSSR. The authors thank N. V. Puchkov and N. A. Vinogradov for assistance in the work. Orig. art. has: 3 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: 10Dec63 / ORIG REF: 008

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001239220018-3"