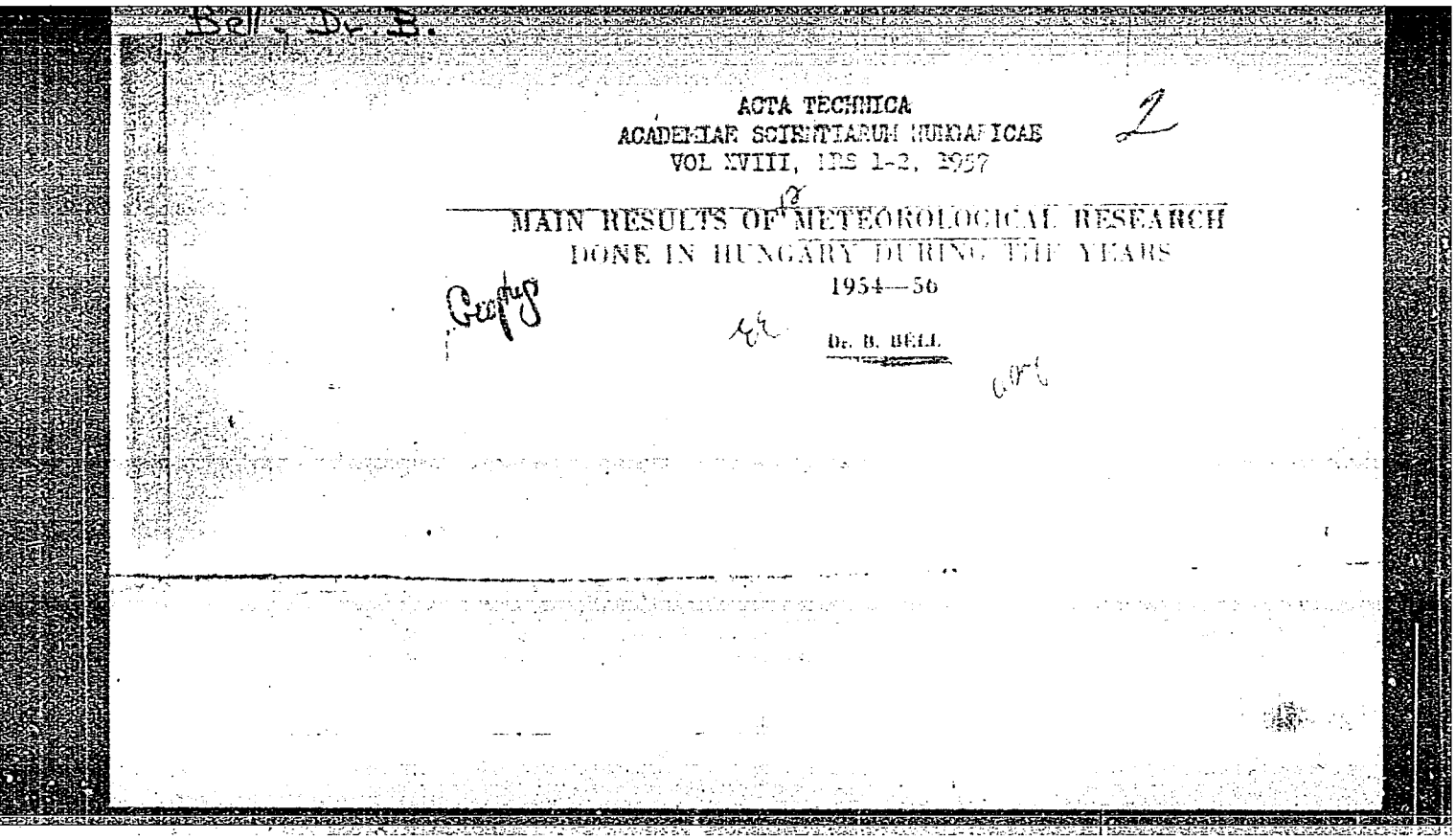


Bell, Dr. B.

ACTA TECHNICA
ACADEMIAE SCIENTIARUM HUNGARICAE
VOL XVIII, FPS 1-2, 1957

MAIN RESULTS OF METEOROLOGICAL RESEARCH DONE IN HUNGARY DURING THE YEARS 1954—56

Dr. B. BELL

Bíll, Béla

551.5:061.1(51)

9.10-64

Bíll, Béla. Látogatás a pekingi Meteorológiai Intézetben. [A visit to the Peking Meteorological Institute.] *Időjárás*, Budapest, 61(1):61-64, Jan./Feb. 1957. 4 figs. DLC—The author visited the Meteorological Institute at Peking and gives a good insight into the activities and accomplishments of Chinese meteorologists. We learn that the first part of the Climatic Atlas of China was published in 1953 (the second part is in press). A. Lu published a study on the climatic regions of China. The number of climatological stations has increased from a few hundred to over 1200 in five years; the analysis center at the Institute is equipped with statistical equipment. An aerological network was developed during the last decade and will soon reach the required density of 200 km between radiosonde stations. Much is being done to improve the accuracy of radiosondes (at the Meteorological Department of Peking University and at the Meteorological Institute). At the Geophysical Institute of the Academy of Science, general circulation and numerical forecasting are the principal objects of study. The Geophysical Institute (which has a library containing 30,000 volumes) also conducts climatological and agrometeorological research. China actively participates in the IGY program. The Meteorological Institute has a professional school (with 1800 students attending at present) where meteorologists are trained in a 3-year program. The universities of Peking and Nanking offer 5-year curricula in meteorology. Photographs show the main building of the Peking Meteorological Institute, its instrument yard, etc. *Subject Headings:* 1. Peking Meteorological Institute 2. Progress in meteorology 3. History of meteorological services 4. China.—*G.T.*

TA

BELL, B.

Session on the Eurasian area of the International Geophysical Year held in Moscow.

p. 185. (IDOJARAS) Vol. 61, no. 3, May/ June 1957
Budapest, Hungary

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3, March 1958

BELL, B.

"Regional session of the International Geophysical Cooperation held in Moscow." p. 62.

IDOJARAS. (Meteorologiai Intezet ex Magyar Meteorologiai Tarsasag). Budapest, Hungary, Vol. 63, No. 1, Jan./Feb. 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.
Uncla.

BELL, B.

Composite halo phenomenon over Budapest. P. 102.

IDOJARAS. (Meteorologiai Intezet es Magyar Meteorologiai Tarasag) Budapest, Hungary. Vol. 63, No. 2, Mar./Apr. 1959

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

S/169/62/000/011/034/077
D228/D307

AUTHOR: Béll, Béla,

TITLE: Air pressure and temperature measurements in the vicinity of a winter thunderstorm

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1962, 56, abstract 11B325 (Országos meteorol. int. Hivatal. kiadv., 21, 1960, 72-81 (Hun.; summary in Ger.))

TEXT: An aerologic analysis is made of the conditions in which a winter thunderstorm originated in Budapest on January 17, 1955. Kinematic investigation of the sharply expressed field disturbance, connected with the synoptic storm position, showed that from January 11 to 19, 1955, a number of closed isallobaric centers passed across Europe from the west. Their trajectories (in 5 cases out of 7) disintegrated into the following typical sections: a) oceanic, where issallobaric centers intensified and their velocity mostly increased; b) central, over the continent of Europe to the Carpathians, where the intensity and velocity of centers was almost

Card 1/2

constant; and c) eastern, from the Carpathians to the Urals, where the velocity decreased and the intensity was variable. An aerologic analysis is given (in the form of isopleths) of the air pressure and temperature to a height of 12 km above Budapest on January 15-18, 1955. The origin of the energy of instability of the winter thunderstorm is studied on temperature stratification grounds. It is shown, too, that intensive cooling due to strong instability in the lower troposphere occurred at a height of 4 km for approximately 17 hrs before the passage of a cold front.
[Abstracter's note: Complete translation]

H/016/60/010/06/06/008
B016/B011

AUTHOR: Béll, Béla, Doctor, Director

TITLE: Development of Aerology in Hungary and the "György Marczell" Aerological Observatory

PERIODICAL: Fizikai Szemle, 1960, Vol. 10, No. 6, pp. 184-189

TEXT: The Aeronautic Committee of the International Meteorological Organization had recommended already in 1909 the construction of an aerological observatory for the exploration of higher atmospheric strata in Hungary. Although the observatory was built only 40 years later, Hungary participated, as from 1913, in the international aerological exploration with measurements by means of balloons and airplanes. György Marczell, after whom the later observatory was named, conducted the measurements. Meteorological measurements made at the same time in higher atmospheric strata gave rise to a new scientific branch, synoptic aerology, whose task it was to explore the flow phenomena influencing aeronautics. For such measurements, the radiosonde was devised by the Soviet researcher Molchanov and the German Duckert in the early 30's.

Card 1/3

Development of Aerology in Hungary and the "György Marczell" Aerological Observatory

H/016/60/010/06/06/008
B016/B011

Systematic radiosonde measurements were begun in Hungary as from 1949. In the time from 1950 to 1954, the National Meteorological Institute established the Aerological Observatory in the 18th District of Budapest, Pestlőrinc (Fig. 4). Since 1952, radiosondes have been launched by the observatory, and regular observations of climate, solar radiation, and ionospheric measurements have been conducted since 1954. The Climatic Research Department was attached in 1959. The Observatory has a staff of 56, 38 of whom are meteorologists with academic degrees. The Observatory has six departments: radiosonde department, aerological laboratory, radiation-, atmospheric electricity-, climatic departments, and weather department. The latter consists of a team concerned with weather forecast on a hydrodynamic basis. The Observatory was at this stage of organization and development early in the International Geophysical Year 1957. Beside the organization of the national meteorological program, its tasks include the ever expanding international geophysical cooperation. The meteorological program of the International Geophysical Year aimed at propagating aerological measurements throughout the Earth. The first tasks were those of studying the energy source of atmospheric phenomena, solar radiation, and their changes in the atmosphere, in

Card 2/3

Development of Aerology in Hungary and the "György Marczell" Aerological Observatory

H/016/60/010/06/06/008
B016/B011

order to study the general circulation on the Earth thoroughly. The system of permanent circulations can be derived from numerous wind measurements on the ground. Beside this, the turbulent air currents must be observed. Aside from international tasks, the eight Hungarian aerological stations and the Meteorological Observatory working out the information have the task of studying the wind-altering actions from the Alps and the Carpathians in order to find hitherto unknown weather characteristics. There are 10 figures.

ASSOCIATION: Aerological Observatory

Card 3/3

BELL, B.

Main results of meteorological research done in Hungary during the years 1957-1959. Acta techn Hung 30 no.1/2:29-52 '60. (EEAI 10:1)
(Hungary--Meteorology)

BELL, Bela; TITKOS, Ervin

12th General Assembly of the International Union of Geodesy and Geophysics. Idojaras 64 no.4:250-254 Jl-Ag '60. (EEAI 10:2)

1. Orszagos Meteorologiai Intezet.
(International Union of Geodesy and Geophysics)
(Hungarians in Finland)

BELL, B., Dr.

Ninety years of the Hungarian Meteorologic Institute. Idojaras 64 no.5:257-270 S-O '60. (EEAI 10:9/10)

(Meteorology)

BELL, Bela,dr.

Correlation between the wind direction and temperature in the air space of Budapest. Idojaras 64 no.6:356-365 '60. (EEAI 10:7)

1. Szerkeszto bizottsagi tag, Idojaras.
(Budapest--Climate) (Hungary--Climate) (Rona, Zsigmond)

BELL, Bela

Wind direction modifying effect of the configurations of the ground as a function of the altitude. Orsz meteor int besz tud kut 25:16-17 '61 (publ.'62).

BELL, Bela, dr.

Historic windstorms. Elet tud 16 no.35: Suppl Tarkatudomany 2 no.18: 137-138 27 Ag '61.

BELL, B., dr.

"International Year of the Quiet Sun." Idojaras 65 no.2:124 Mr-Ap '61.

1. "Idojaras" szerkeszto bizottsagi tagja.

BELL, Bela, Dr.

Measuring wind with captive balloons. Idojaras 65 no.6: 355-360 D '61.

1. Szerkeszto Bizottsag, "Idojaras."

BELL, B., dr.

Meteorological Committee of the Presidium of the Hungarian Academy of Sciences. Idojaras 66 no.4:254-255 Jl-Ag '62.

1. "Idojaras" szerkeszto bizottsagi tagja.

BELL, Bela, dr.

The 6th conference of the Europe-Asia region of the international geophysical cooperation. Idojaras 66 no.5:314-315 S-O.'62.

1. "Idojaras" szerkeszto bizottsagi tagja.

BELL, Bela, dr.

Winds and storms. Elet tud 16 no.39:1239-1242 24 S '61.

1. Orszagos Meteorologiai Intezet Obszervatoriumanak vezetoje.

L 18338-65 EWT(1)/FCC AFETR GW
ACCESSION NR: AT4046223 H/0000/63/000/000/0181/0194

AUTHOR: Bell, B.

TITLE: Variation with height of the orographic modification of wind directions

SOURCE: Konferentsiya po meteorologii Karpat. 2d, Budapest, 1961. Vliyaniye Karpat na pogodu (Climatic effects of the Carpathian Mountains); doklady* konferentsii. Budapest, AK, 1963, 181-194

TOPIC TAGS: wind direction, Carpathian wind direction, underlying surface effect

ABSTRACT: Characteristic anomalies noted in a study of the changes in frequencies with which wind directions occur at ground- and upper air- levels are explained as being caused by the topography of the underlying surface. The data used were obtained at the Pestlorine Observatory (Hungary) by means of radiotheodolite and visual observations. The upper air frequency of distribution of wind directions at six Hungarian upper air wind stations are deduced.

ASSOCIATION: none
Card 1/2

BELL, B. (Budapest)

Professor H. Ertel at 60. Idojaras 68 no.2:125 Mr-Ap '64.

1. Editorial board member, "Idojaras."

BELL, Bela, dr.

Regional sessions arranged by the German Democratic Republic for some European and Asiatic countries within the framework of the international geophysical cooperation. Idojaras 67 no.1:59-60 Ja-F '63.

1. "Idojaras" szerkeszto bizottsagi tagja.

BELL, Bela, dr.

Advective heat circulation in the free atmosphere over the Carpathian Basin. Idojaras 67 no.2:65-74 Mr-Ap '63.

1. "Idojaras" szerkeszto bizottsagi tagja.

HOHNE, Werner,dr.; BELL, Bela,dr. [translator]

Process of reset in lithium chloride dew-point hygrometer. Idojaras 67 no.4:213-225 Jl-Ag '63.

1. Forschungsinstitut fur Instrumentenwesen der Akademie fur Wissenschaften der D.D.R. [Deutsche Demokratische Republik], Berlin-Friedrichshagen, Stillerzeile 5 (for Hohne).
2. "Idojaras" szerkoszto bizottsagi tagja (for Bell).

BELL, Bela,dr.

"Frequency of wind directions and wind velocities over Vienna up to 30 km, 1952-1960" by F. Steinhauser, K. Cehak. Reviewed by Bela Bell. Idojaras 67 no.4:250-252 Jl-Ag 63.

1. "Idojaras" szerkeszto bizottsagi tagja.

BELL, Bela, dr.

The 1963 general meeting of the Hungarian Academy of Sciences.
Idojaras 67 no.2:127-128 Mr-Ap '63.

1. "Idojaras" szerkeszto bizottsagi tagja.

BELL, B., dr.

Dr. H.M. Ertel on the editorial board of "Idojaras". Idojaras 67 no.5: 313 S-O '63.

1. "Idojaras" szerkeszto bizottsagi tagja.

BELL, B., dr.

Committee on Meteorology of the Presidium of the Hungarian Academy of Sciences. Idojaras 67 no.6:383-384 N-D '63.

1. Editorial board member, "Idojaras."

BELL, Bela, dr.

Pilot balloons over the arctic region. Elet tud 19 no. 24: 1144 12 Je '64.

BELL, Bela

Meeting of the Eurasian section of the International Geophysical Cooperation. Idojaras 68 no.4:251 Jl-Ag '64.

1. Editorial Board Member, "Idojaras", Budapest.

BELL, Bela

An account of the 7th conference of directors of hydro-meteorological (meteorological) service of the European socialist countries. Idojaras 68 no.5:306-310 S-O '64.

Report on the 8th meteorological conference of the Alps. Ibid.:316-317

1. Editorial Board Member, "Idojaras", Budapest.

BELL, Bela, dr.

Work of the Committee on Meteorology of the Presidium of the Hungarian Academy of Sciences in 1964. Idojaras 68 no.6:378 N-D '64.

1. Editorial Board Member, "Idojaras", Budapest.

KOPPANY, Gy.; HILLE, Alfred; KAKAS, Jozsef; FUTO, Jozsef; KERI, Menyhert; PECZELY, Gyorgy; KOZMA, Bela; SZAPPANOS, Andras; AMBROZY, Pal; GOTZ, Gusztav; PAPP, Laszlo; BELL, Bela; MARTOS, Andras; BACSO, Nandor; HAJOSY, Ferenc; CSAPODY, Istvan; NAGY, Laszlo, igazgato foorvos; DONASZY, Erno; BORONKAI, Pal; ANTAL, Emanuel; TANCZER, Tibor; OZORAI, Zoltan

The 10th itinerant meeting of the Hungarian Meteorological Society in Sopron. Idojaras 68 no.4:249-250 Jl-Ag '64.

1. President, Hungarian Meteorological Society (for Hille). 2. Editor, "Idojaras" (for Kakas). 3. Editorial Board Member, "Idojaras", Budapest (for Ambrozy, Bell, Keri, Ozorai).

L 31367-66 FCC

ACC NR: AP6021120 SOURCE CODE: HU/0033/65/069/04-/0198/0212

17
B

AUTHOR: Bell, Bela (Budapest)

ORG: none

TITLE: Inversion of the circulation of the stratosphere over Budapest during the spring

SOURCE: Idojaras, v. 69, no. 4-5, 1965, 198-212

TOPIC TAGS: stratosphere, anticyclone, climatic condition, atmospheric circulation

ABSTRACT: Extensive data were compiled and investigated to show that the conversion to summer-type circulation begins earlier and proceeds faster if well-developed Aleutian anticyclones move across the stratosphere than under the usual circumstances where such movement does not take place. Under normal circumstances the local pressure differentials between horizontal layers are relatively small and the interactions between the polar vortex and the Aleutian anticyclone are not very pronounced. The course of circulation over Budapest appears to follow a two-year pattern. Orig. art. has: 8 figures and 2 tables. [JPRS]

SUB CODE: 04 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 006

Card 1/1 cc

7

An error in the synthesis of 2,4-dinitrobenzaldehyde according to G. M. Bennett and E. V. Bell. I. Tănăsescu and V. Fîrăgan (V. Babeş Univ., Cluj, Romania). *Acad. rep. Populare Romîne, Filiala Cluj, Studii cercetări chim.* 8, 169–72(1957)(French summary).—In an attempt to synthesize 2,4-dinitrobenzaldehyde according to the method proposed by Bennett and Bell in *Org. Syntheses, Collective Vol.* II, 223(1943), T. and F. obtained 2,4-dinitrotoluene (I). The error is due to the absence of Na_2CO_3 necessary for the condensation of I with *p*-nitrosodimethylaniline.

Gary Gerard

Distr; 4E2o(J)/4E3d

BELLA, Ede, dr., a muszaki tudomanyok kandidatusa; GULYAS, Jozsef, tudómányos munkatars

Hot gathering experiments with copper at medium deformation rates. Koh lap 97 no.5:228-232 My'64.

LOWY,A.; BELL, H., ing.

Savings realized through modernizing some shedding harness mechanisms of cotton weaving looms. Ind text Rum 14 no.8: 353-356 Ag'63

BELL, L.

PA 54T71

USSR/Nuclear Physics - Counters, Jul/Aug 1946
Electronic
Nuclear Physics - Cosmic Radiation

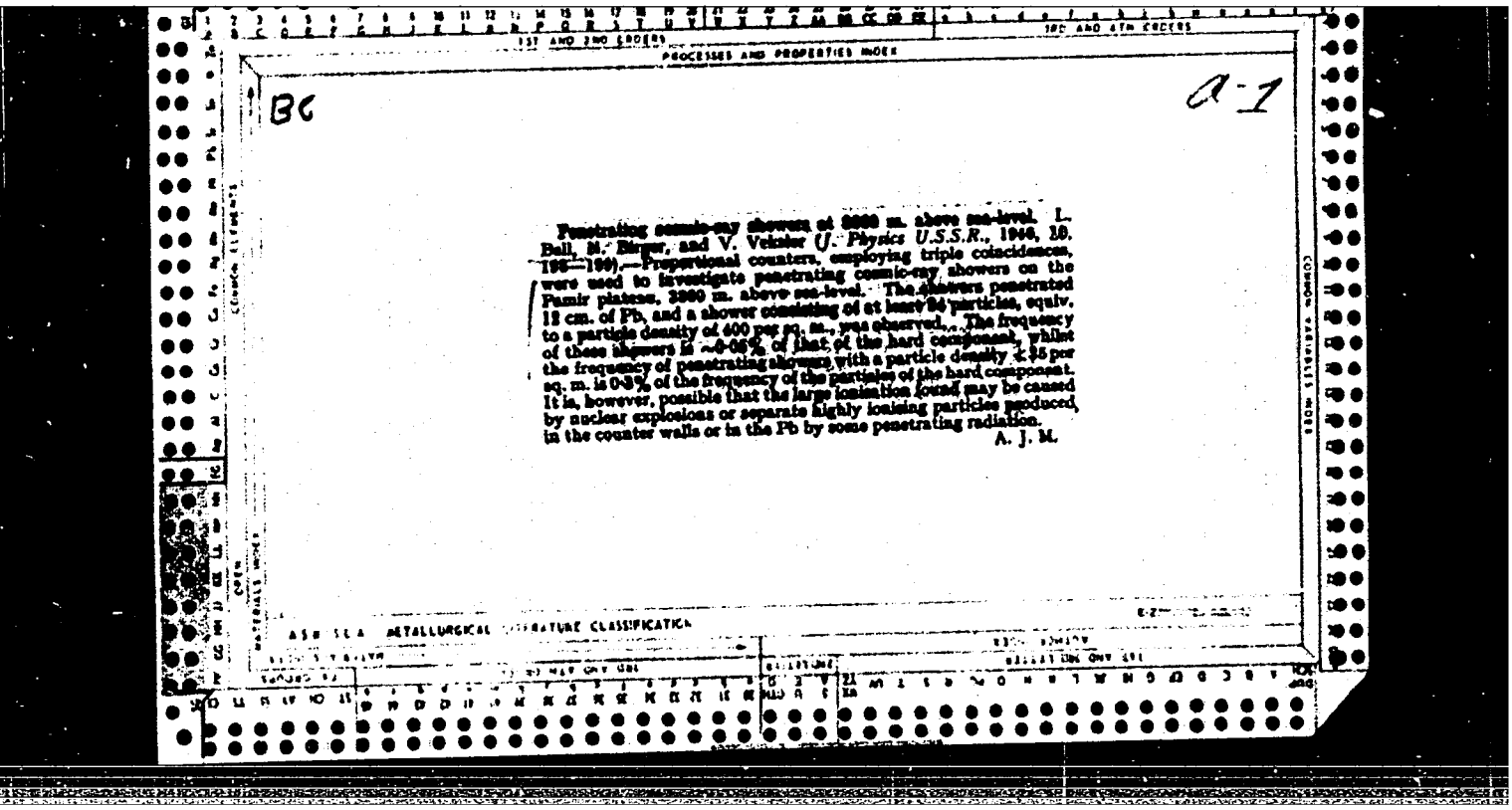
"A Flat Proportional Counter," L. Bell, V. Veksler, Lebedev Phys Inst, Acad Sci USSR, 2 pp

"Journal of Physics USSR" Vol X, No 4

Description and investigation of characteristics of a flat proportional counter. Result indicates that it possesses all properties usually required of proportional counters and, in addition, certain advantages resulting from special geometry. Received, 2 Jun 1946.

[redacted] 54T71

Stack of 1944 Pamir Expedition



PROCESSES AND PROPERTIES INDEX

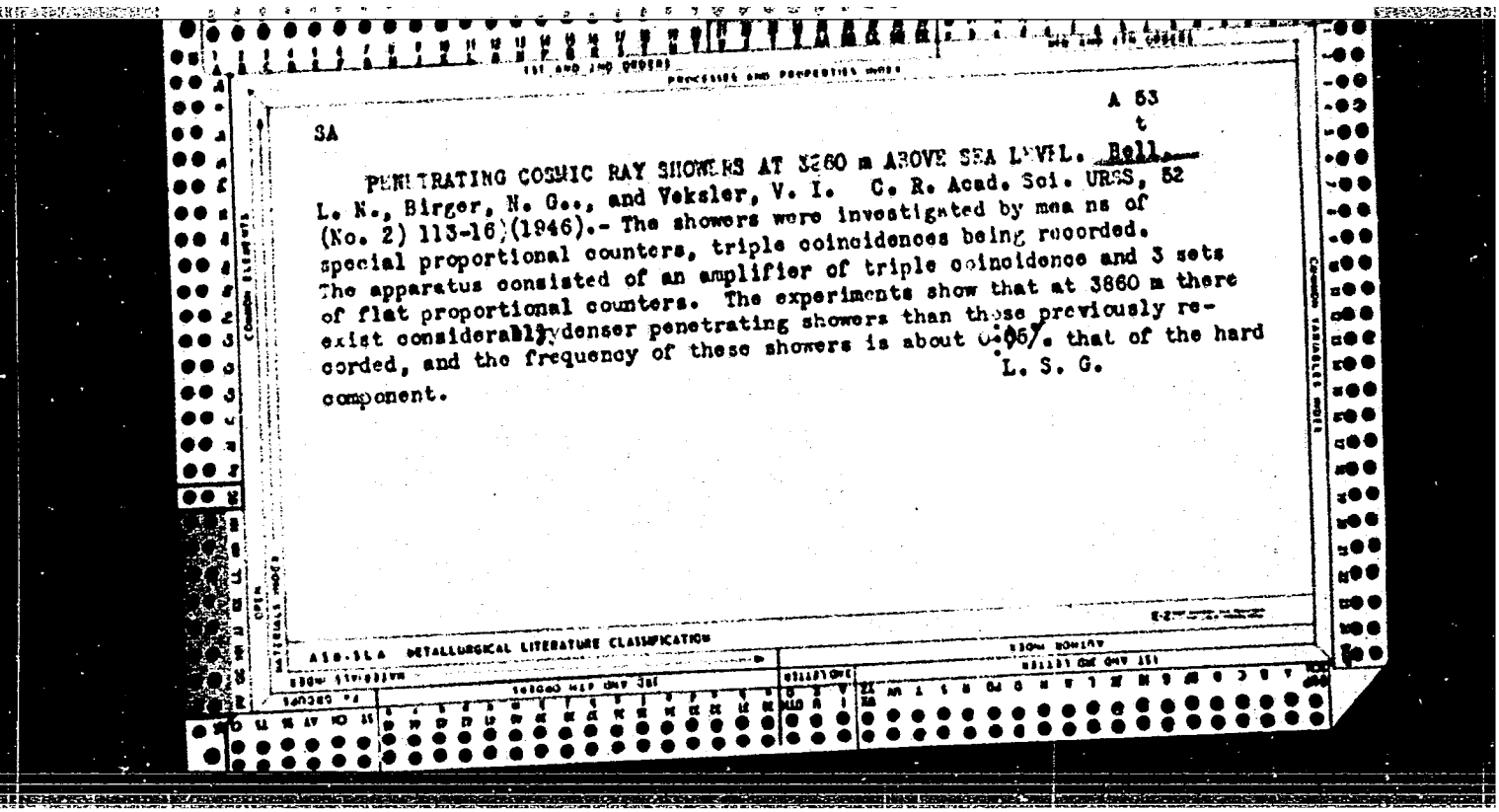
BC

a-1

Penetrating cosmic-ray showers at 3860 m. above sea-level. L. Bull, M. Birger, and V. Veksler *U. Physics U.S.S.R.*, 1946, 10. 196—199).—Proportional counters, employing triple coincidences, were used to investigate penetrating cosmic-ray showers on the Pamir plateau, 3860 m. above sea-level. The showers penetrated 15 cm. of Pb, and a shower consisting of at least 94 particles, equiv. to a particle density of 400 per sq. m., was observed. The frequency of these showers is ~0·05% of that of the hard component, whilst the frequency of penetrating showers with a particle density ≥ 15 per sq. m. is 0·3% of the frequency of the particles of the hard component. It is, however, possible that the large ionisation found may be caused by nuclear explosions or separate highly ionising particles produced in the counter walls or in the Pb by some penetrating radiation.

A. J. M.

ASM SEA METALLURGICAL LITERATURE CLASSIFICATION



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A 63
t

PENETRATING COSMIC RAY SHOWERS AT 3860 m ABOVE SEA LEVEL. Bell.
L. N., Birger, N. G., and Veksler, V. I. C. R. Acad. Sci. URSS, 52 (No. 2) 113-16 (1946).- The showers were investigated by means of special proportional counters, triple coincidences being recorded. The apparatus consisted of an amplifier of triple coincidence and 3 sets of flat proportional counters. The experiments show that at 3860 m there exist considerably denser penetrating showers than those previously recorded, and the frequency of these showers is about 0.05% that of the hard component.

L. S. G.

USSR/Nuclear Phys - Counters, Proportional Feb 1947
Nuclear Phys - Equipment

"Flat Proportional Counter," L. Bell, V. Veksler, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 5½ pp

"Zhur Eksper i Teoret Fiz" Vol XVII, No 2 170-175

Describes flat proportional counter. Makes study of its properties and shows that it fulfills all requirements usually demanded. Shows that special attention must be paid to elimination of formation of negative ions in the working gas. Article was also published in English in "Journal of Physics" Vol X, p 386, 1946.

[redacted] 57T68

Staff of 1944 Pamir Expedition

34

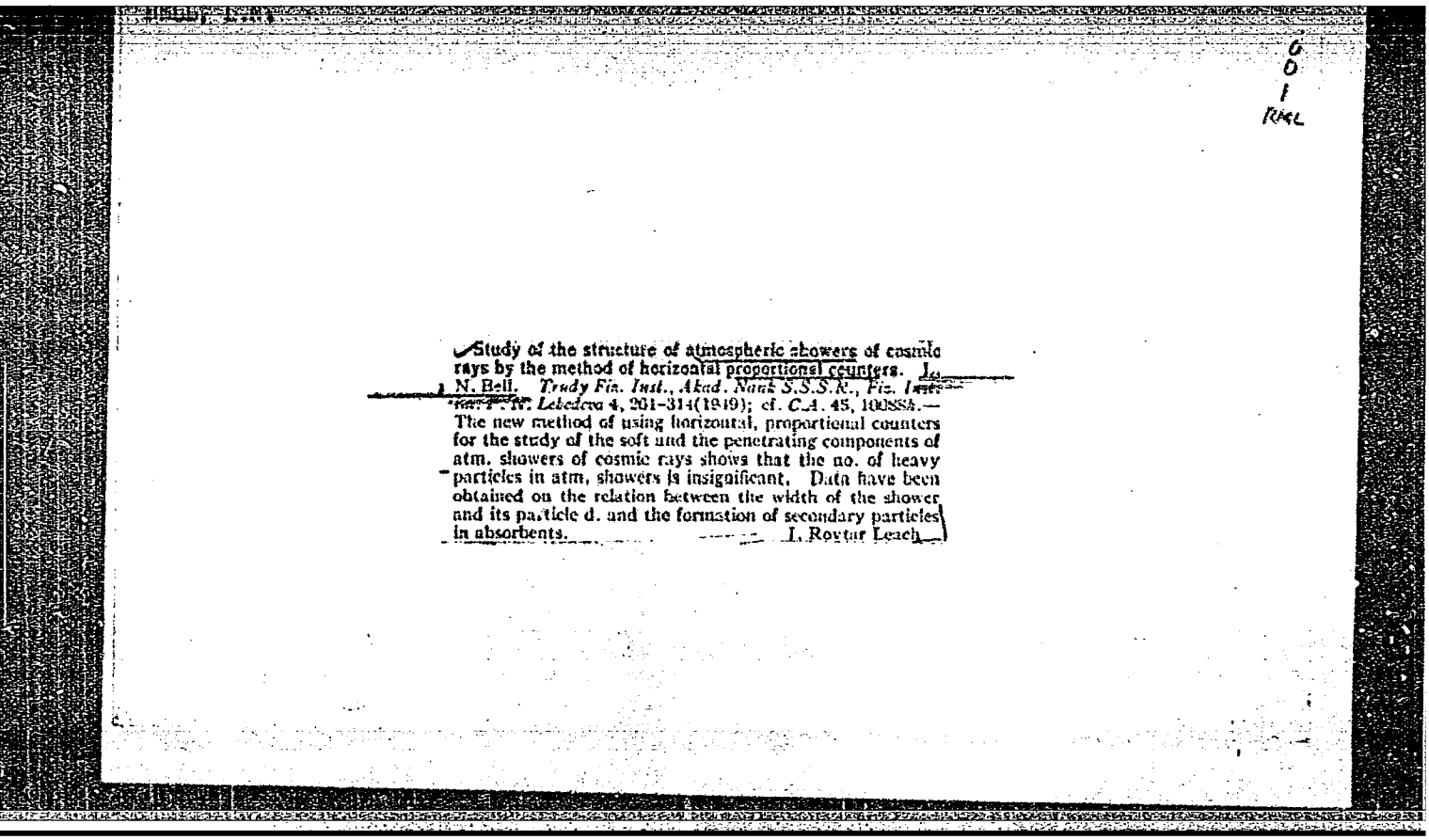
Structure of penetrating atmospheric showers of cosmic rays. L. N. Bell. *Zhur. Eksptl. Teoret. Fiz.* 18, 249-58(1948); cf. preceding abstr.—At 3800 m. above sea level 2 counter telescopes with or without Pb filters and placed at varying distances were used in a study of penetrating showers. The measurements indicate that the particles causing coincidences between the telescopes (with Pb filters) generate penetrating particles in Pb; to 9 m. distance Auger showers and hard showers are similar functions of d. and are genetically related.

F. H. Murray

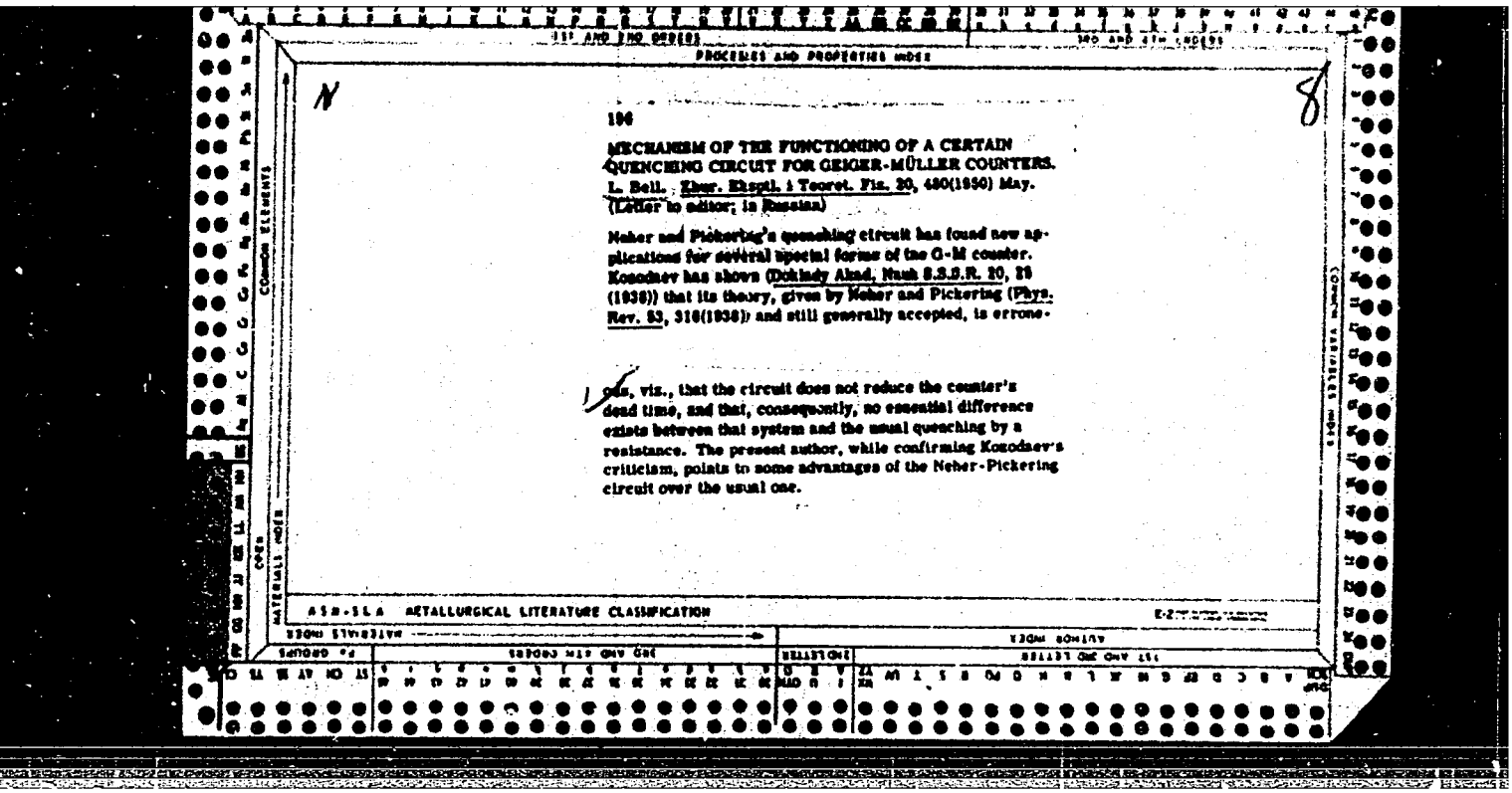
BELL, L.

L. Bell. Ionization methods of investigation of emissions, by V. Veksler, L. Groshev and B. Isaev. 424p. 1949. P. 162 (Bibliography)

SO: Uspekhi Achievements in Physical Sciences, 43, No. 1 (Jan. 1951)



Study of the structure of atmospheric showers of cosmic rays by the method of horizontal proportional counters. L. N. Bell. *Trudy Fiz. Inst., Akad. Nauk S.S.S.R., Fiz. Inst. im. P. N. Lebedeva* 4, 291–314(1949); cf. *C.A.* 45, 10085h.—The new method of using horizontal, proportional counters for the study of the soft and the penetrating components of atm. showers of cosmic rays shows that the no. of heavy particles in atm. showers is insignificant. Data have been obtained on the relation between the width of the shower and its particle d. and the formation of secondary particles in absorbents. I. Roytar Leach



196

MECHANISM OF THE FUNCTIONING OF A CERTAIN QUENCHING CIRCUIT FOR GEIGER-MÜLLER COUNTERS.
L. Bell. Zhur. Eksptl. i Teoret. Fiz. 20, 480(1950) May.
(Letter to editor; in Russian)

Neher and Pickering's quenching circuit has found new applications for several special forms of the G-M counter. Kozodaev has shown (Doklady Akad. Nauk S.S.S.R. 20, 25 (1938)) that its theory, given by Neher and Pickering (Phys. Rev. 63, 316(1938)) and still generally accepted, is erroneous, viz., that the circuit does not reduce the counter's dead time, and that, consequently, no essential difference exists between that system and the usual quenching by a resistance. The present author, while confirming Kozodaev's criticism, points to some advantages of the Neher-Pickering circuit over the usual one.

BELL, L.

USSR/Physics - Radioactive Tracers Aug 51

"Review of George Hevesy's 'Radioactive Indicators,'" L. Bell

"Uspekh Fiz Nauk" Vol XLIV, No 4, pp 649, 650

Reviewed book was translated from the English into Russian by the Foreign Lit Press, Moscow, 1950. In Bell's opinion, Hevesy's book is not of great interest to physicists, but is intended mainly for biologists. Reviewed book supplements English-language "Isotopic Tracers and Nuclear Radiations," by W. Siri, which is intended mainly for physicists.

192T103

PA 192T103

BELL, L. N.

USSR/Nuclear Physics - Protons Nov 52

"Measurement of the Velocity of Protons According to the Chernkov Effect," L. N. Bell

Priroda, Vol 41, No 11, pp 104-106

In order to observe Cherenkov's effect, protons have to be accelerated to at least 170 Mev. Such energy was attained only recently (see R. L. Mather: Phys. Rev. v. 84, p. 181 (1951)) and Cherenkov's effect could be observed experimentally. It permitted estimation of proton energy to an accuracy of 0.2 Mev for total energy of 340 Mev.

249T102

BELL, L. N.

USSR 600

Photosynthesis

Quantum yield in photosynthesis. Priroda 41 No. 3, 1952

9. Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

CH

Dependence of absorption of radiant energy by leaves on photosynthesis. I. Bak (K. A. Timiryazev Plant Physiol. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 83, 477–80 (1952).—Detn. of radiant energy absorbed by a corn leaf was accomplished by detn. of the incident energy (per given area) from a standard lamp, and of the reflected energy (detd. by photocells suitably located about the specimen). The amt. of reflected energy almost does not depend on intensity of photosynthesis, *i.e.*, concn. of CO_2 as shown by expts. with CO_2-rich atm. (7–10%). Irradiation of the specimen with various wavelength groups (from 350 to 670 mμ) indicated that an increase of intensity of photosynthesis is accompanied by increased absorption of radiant energy, the relative change being about 0.8%. The results indicate that the effective life during photosynthesis of excited chlorophyll mols. is shorter than that of excited mols. without photosynthesis. The lower limit of the latter is estd. at 0.02 sec.

O. M. Kosolapoff

BELL, L. N.

Chem Abs
U-48 25 Jan 54

Botany

Additional absorption of light by plant leaves in the presence of carbon dioxide. L. N. Bell. *Doklady Akad. Nauk S.S.S.R.* 92, 165-8(1953).—A differential photoelec. photometer was used for accurate light control in expts. in which corn plant leaves were subjected to natural or artificial light under varying concn. of CO_2 in the atm. Initially 12% CO_2 concn. resulted in a gradual decline of light transmission through the leaf; when the atm. was flushed free of CO_2, the light transmission rose rapidly, and declined again when CO_2 was readmitted. Generally the proportion of transmitted light was independent of the incident light intensity and was not altered by photosynthetic activity. The effect can be caused by the dark fixation of CO_2.

G. M. Kosolapoff

Bell, L.N.

USSR/ Biology - Plant physiology

Card 1/1 Pub. 86 - 12/36

Authors : Bell, L. N.

Title : Continuous after-glow of plant leaves

Periodical : Priroda 2, 82-84, Feb 1954

Abstract : The phenomenon of continuous light emission by plant leaves as result of chemical reactions (chemiluminescence) is explained. It is shown that the chemiluminescence process occurs mostly in the biological system of the plant in which one of the most important biological processes - photosynthesis - takes place. A direct connection between the continuous afterglow of the leaves and the photosynthesis processes was established. One USA reference (1951). Drawing.

Institution : Acad. of Scs., USSR, The K. A. Timiryazev Institute of Plant Physiology

Submitted : .....

USSR/Miscellaneous - Book review

Card 1/1 Pub. 118 - 6/6

Authors : Bell, L. [redacted]

Title : The Bochkarev-Kerim-Markus-Lvova-Pruslin book entitled, "Measurement of the Activity Beta and Gamma Radiation Sources"

Periodical : Usp. fiz. nauk 54/4, 643-645, Dec 1954

Abstract : A critical review is presented of the book by V. Bochkarev, I. Kerim-Markus, M. Lvova and Ya. Pruslin entitled, "Measurement of the Activity of Beta and Gamma Radiation Sources," published by the Academy of Sciences, USSR in 1953.

Institution: .....

Submitted: .....

Mechanism of action of carbon dioxide on absorption of radiant energy by plant leaves. L. N. Bell (K. A. Timiryazev Inst. Plant Physiol., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 95, 669–71 (1954).—The use of sensitive multi-cell installation of photoelec. elements permits the observation of changes in light transmission by a plant leaf in dependence on the presence of CO_2 in the atm. surrounding the leaf (*C.A.* 46, 7623*i*; 48, 819*b*). A new distribution of photoelements is described and a diagram is shown, which assures a reliable reproduction of the results. The effect is not observed in albino leaves or on illumination of the leaf by infrared light which is not absorbed by the leaf pigments. The effect varies regularly with CO_2 concn. (graph shown) and the ratio of the transmitted light energy corresponds to that expected of the total CO_2 adsorbed by the leaf; the effect is not connected with photosynthesis. Introduction of AcOH vapor decreases the effect, while NH$_3$ at high concn. irreversibly decreases the effect. Thus the effect appears to be connected with pH-induced changes in the cell protoplasm. Egg yolk treated with CO_2 gas also shows a similar reversible variation of light transmission and the effect should be observable in a great variety of pigmented protein systems. G. M. Kosolapoff

BELL, L.N.

Photoelectric instrument for measuring radiation actively used in photosynthesis. Trudy Inst.fiziol.rast. 10:257-264 '55. (MLRA 8:9)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva Akademii nauk SSSR.
(Solar radiation) (Photosynthesis) (Spectrophotometer)

BRESLAVETS, L.P.; BELL, L.N.

Comparative study of the effect of ultraviolet and infrared rays on the prothallium of ferns (Dryopteris spinulosum). Biofizika 1 no.3:237-241 '56. (MLRA 9:9)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.
(ULTRAVIOLET RAYS--PHYSIOLOGICAL EFFECT)
(INFRARED RAYS--PHYSIOLOGICAL EFFECT)
(FERNS)

BELL, L.N.

Similarity in the dispersion of light and electrons through scattering media. Biofizika 1 no.7:657-659 '56. (MLRA 9:12)

1. Institut fiziologii rasteniy Akademii nauk SSSR, Moskva.
(LIGHT--SCATTERING) (ELECTRONS)

BELL, L.N.

Use of luxmeters and selenium cells for measuring physiological radiation. Fiziol.rast. 3 no.2:176-178 Mr-Ap '56. (MLRA 9:7)

1.Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk SSSR, Moskva.
(Plants, Effect of light on)

VOSKRESENSKAYA, N.P.; BELL, L.N.

"Using radioactive carbon for studying photosynthesis." O.V.Zalenskii, O.A.Semikhateva, V.L.Veznesenskii. Reviewed by N.P.Voskressenskaia, L.N.Bell. Fiziol.rast. 3 no.4:387-388 Jl-Ag '56. (MLRA 9:9) (Photosynthesis) (Carbon--Isotopes)(Zalenskii, O.V.) (Semikhateva, O.A) (Veznesenskii, V.L.)

BELL, L.N.

Effect of reversible action of light on the light transmission of leaves. Dokl.AN SSSR 107 no.2:329-332 Mr '56. (MIRA 9:7)

1.Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk SSSR. Predstavleno akademikom A.N.Tereninym.
(Leaves) (Plants, Effect of light on)

AUTHOR BELL, L.N. PA - 3182

TITLE Reversible Formation of Several Photoproducts in Plant Leaves. (Ob obratimom obrazovanii neskol'kikh fotoproduktov v list'yakh rasteniy - Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 3, pp 695-698, (U.S.S.R.)

Received 6/1957 Reviewed 7/1957

ABSTRACT The results of investigations of the kinetics of spectral changes in plant leaves produced by light are described. The analysis of the kinetic curves obtained shows that at least two optically different compounds are formed in the leaves of the plants by the influnce of light. They differ in their spectral as well in their kinetic properties. The essence of the experiment consists of irradiating the leaf with red(>670 mμ) "irritating" light and of measuring the change of intensity of the weak ("measuring") light ray passing the leaf, which occurs on this occasion. The existence of two and more photoinduced pro cesses may be the reason for the difficulties which occur on the occasion of the determination of those substances which are responsible for the spectral changes observed. (With 3 illustrations and 1citation from a Slavis publication)

Card 1/2

PA - 3182

Reversible Formation of Several Photoproducts in Plant Leaves.

ASSOCIATION Institute for Physiology of Plants Timiryazev, K.A. of the Academy of Science of the U.S.S.R.
PRESENTED BY Kursanov, A.L., 15.1.1957
SUBMITTED 14.1.1957.
AVAILABLE Library of Congress.
Card 2/2

BELL, L.N.; CHMORA, S.N.

Effect of oxygen on spectral variations induced by light in plant leaves. Fiziol.rast. 6 no.1:91-92 Ja-F '59. (MIRA 12:2)

1. K.A. Timiryazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Plants, Effect of oxygen on) (Leaves--spectra)

HELL, L.N.; CHMORA, S.N.; KORNIL'YEV, V.P.

Apparatus for quantitative determination of radiation (photointegrator). Fiziol. rast. 6 no.4:504-507 Jl-Ag '59. (MIRA 12:10)

1.K.A. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.

(Botanical apparatus) (Solar radiation)

BELL, L. N. USSR Academy of Sciences, Moscow.

"On the Effect of Ultraviolet Rays on Photosynthesis in Chlorella."

paper submitted for the Third Intl. Congress on Photobiology, Copenhagen, 31 July - 5 August 1960.

BELL, L.N.; CIMORA, S.N. [Chmora,S.N.]; KORNILIEV, V.P. [Kornil'yev,V.P.]

Apparatus for determining the length of exposure, photointegrator. Analele biol 14 no.2:183-187 Ap-Je '60. (EEAI 9:11)
(LIGHT)

BELL, L.N.; MERINOVA, G.L.

Effect of the dose and wavelength of ultraviolet rays on photosynthesis in Chlorella. Biofizika 6 no. 2:159-164 '61. (MIRA 14:4)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva.
(PHOTOSYNTHESIS) (PLANTS, EFFECT OF ULTRAVIOLET RAYS ON)
(ALGAE—CULTURES AND CULTURE MEDIA)

BELL, L.N.; MERINOVA, G.L.

A new approach to the study of photosynthetic efficiency. Fiziol. rast. 8 no.2:161-171 '61. (MIRA 14.3)

1. K.A. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Photosynthesis)

BELL, L.N.; CHMORA, S.N.

Conference on the development of the investigation of photosynthesis and bioactinometry in the Estonian S.S.R. Fiziol.rast. 9 no.4:515-516 '62. (MIRA 15:9)

(PHOTOSYNTHESIS—CONGRESSES)

ACCESSION NR: AP4025945 S/0056/64/046/003/1117/1122

AUTHOR: Bell, L. N.

TITLE: Maximum efficiency of conversion of radiant energy into work

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 46, no. 3, 1964, 1117-1122

TOPIC TAGS: radiation, radiant energy, radiant energy conversion, radiant energy conversion efficiency, thermodynamics of irreversible processes, theoretical efficiency limit, endoergic photoprocess

ABSTRACT: The maximum energy efficiency, defined as the ratio of the increase in the free energy of an object to the total energy absorbed by it, is calculated by classical irreversible thermodynamics for an arbitrary endoergic photoprocess. It is shown that by virtue of the second law of thermodynamics the efficiency is a

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Card

function of the ratio of the radiation flux absorbed to the entropy of this flux, and 100% efficiency is possible only at infinite intensity. General formulas are derived for the efficiency of a system exposed to radiation of arbitrary intensity and spectral composition and of varying directivity. Specific calculations limited to either total or weak absorption yield for ... efficiency

$$\eta_m = 1 - T/T_0$$

where the effective temperatures are

$$T_0 = \frac{\sigma I_0}{2k\nu^3}\left[\left(1+\frac{\sigma I_0}{2k\nu^3}\right)\ln\left(1+\frac{\sigma I_0}{2k\nu^3}\right) - \frac{\sigma I_0}{2k\nu^3}\ln\frac{\sigma I_0}{2k\nu^3}\right]^{-1}$$

for total absorption of the incident light and

$$T_0 = \frac{h\nu}{k\ln(1+2k\nu^3/\sigma I_0)}$$

ACCESSION NR: AP4025945

for weak absorption (T -- temperature, I -- intensity; other symbols standard). Typical efficiencies at 20C ambient temperature and at sea level are 94% for direct sunlight, 78% for diffuse sunlight, and 90% for incandescent light with color temperature 2800K. "The author is grateful to M. V. Fok for a detailed discussion of this work." Orig. art. has: 14 formulas.

ASSOCIATION: Institut fiziologii rasteniy AN SSSR (Institute of Plant Physiology AN SSSR)

SUBMITTED: 24Sep63 DATE ACQ: 16Apr64 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 006

3/3
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BELL, L.N.; MERINOVA, G.L.

Energetics of photosynthesis in Chlorella grown under approximately compensatory light intensities. Dokl. AN SSSR 157 no.5:1221-1224 Ag '64. (MIRA 17:9)

1. Institut fiziologii rasteniy im K.A. Timiryazeva AN SSSR. Predstavleno akademikom A.N. Tereninym.

L 8815-65 EWG(j)/EWG(r)/EWT(l)/FS(v)-3/EWG(v)/EWG(a)/EWG(c) Pe-5/Pa-4/
Pb-4 AMD DD
ACCESSION NR: AP4043845 S/0020/64/157/005/1221/1224

AUTHOR: Hell, L. N.; Merinova, G. L.

TITLE: Photoenergetics of Chlorella at near-compensational light intensities

SOURCE: AN SSSR. Doklady*, v. 157, no. 5, 1964, 1221-1224

TOPIC TAGS: photoenergetics, Kok effect, Chlorella, energetic effectiveness, photosynthesis

ABSTRACT: Experiments have been performed for the purpose of determining the mechanisms involved in the sharp drop in efficiency of photosynthesis in certain algae as light intensities are increased. In order to investigate this phenomenon, known as the Kok effect, the authors constructed photocalorimetric equipment equally sensitive at both high and low light intensities. *Chlorella pyrenoidosa*, cultured in a plexiglas chamber at 9000 lm while air containing 0.5% CO_2 was bubbled through the suspension, was transferred to small silver cups with airtight clear quartz covers through which the culture was exposed to light of various wavelengths. Temperature was measured by means of thermals

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in order to determine the dependence of differential energetic effectiveness on the intensity of light at low intensity values. The differential energetic effectiveness is indicated by changes in the slope of the temperature curve of different light intensities. A total of 180 experiments was performed with light intensities ranging from 0 to 2500 erg/cm^2·sec. The following light wavelengths were used: red lights of 698 and 672 mμ; blue light of 465 mμ; and a blue-green light which ranged from 400 to 580 mμ. The Kok effect, sharp breaks in the energetic effectiveness which amount to a change of more than 3° in the slope of the temperature curve, was observed during increase in light intensity in 57 of the 180 cases. The effect was observed 41 times with blue light (465 mμ), 11 times with blue-green light (400—580 mμ), and only 5 times with the two red lights (698 and 672 mμ). In about 10% of the cases a reverse change was observed: there was an increase in energetic effectiveness with increase of light intensity. It was found that if a culture which had demonstrated a normal Kok effect is kept in the dark for several hours, no Kok effect is observed upon subsequent exposure to increasing light intensities. However, the slope of the temperature curve of this reaction is found to be identical to the slope of the original curve (before the culture was exposed to darkness) beyond the point of the

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ACCESSION NR: AP4043845

appearance of the Kok effect. Therefore, it is possible to conclude that the Kok effect depends on increased energetic effectiveness at low light intensities and not on the lowering of effectiveness after passing the point of change of the slope. An attempt at identification of conditions which assure the appearance of the Kok effect led to the conclusion that the effect depends on some special condition of the cells and that it manifests itself only if the light intensities are just sufficient to compensate for respiration. Consequently, the Kok effect is not only a gas-exchange but also an energetic phenomenon. Orig. art. has: 1 figure, 1 table, and 3 formulas.

ASSOCIATION: Institut fiziologii rastoniy im. K. A. Timiryazeva Akademii nauk SSSR (Institute of Physiology, Academy of Sciences, SSSR)

SUBMITTED: 26Sep63 ATD PRESS: 3106 ENCL: 00

SUB CODE: LS NO REF SOV: 003 OTHER: 005

Card 3/3

BELL, L.N.

Characteristics of absorption spectrophotometry of biological objects. Biofizika 10 no.2:374-385 '65. (MIRA 18:7)

BELL, L.N.

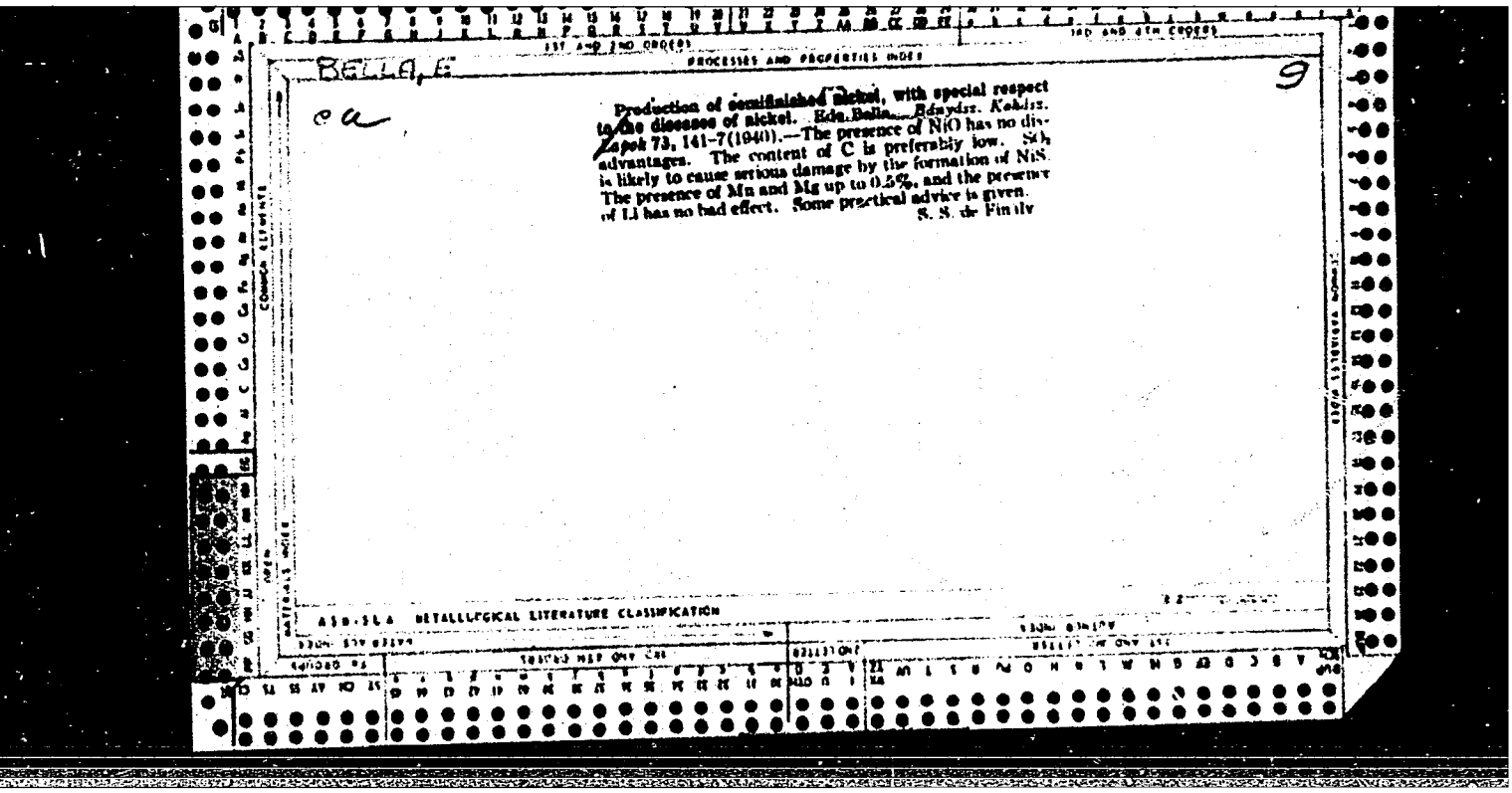
Characteristics of the absorption spectrophotometry of biological objects. Biofizika 10 no.3:543-553 '65. (MIRA 18:11)

BELL, S.R.

Intracutaneous novocaine block in stenocardia. Vop. pat. krovi i krovoobr. no.5:139-144 '59. (MIRA 15:4)
(NOVOCAINE) (ANGINA PECTORIS)

BELL, S.R.

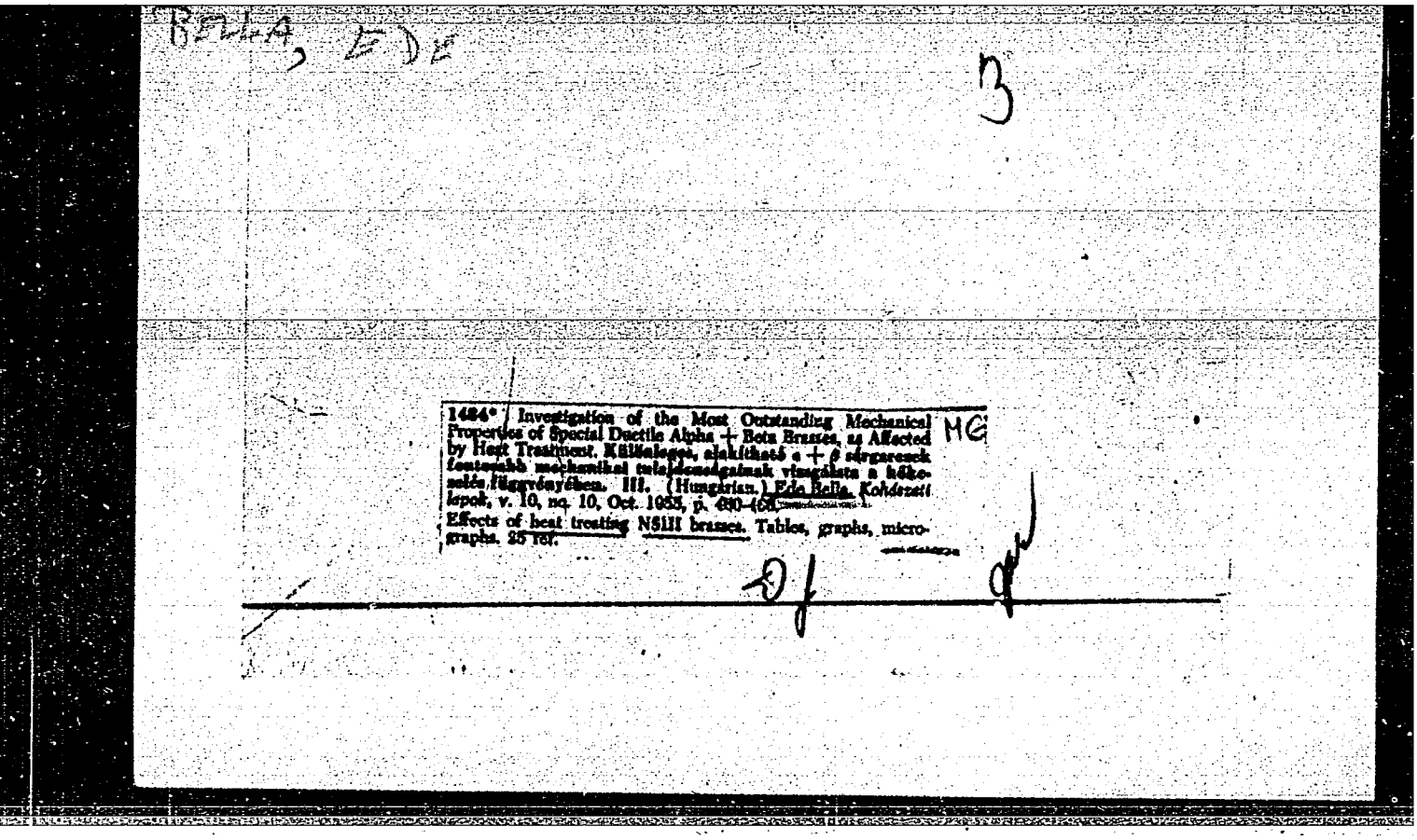
Thrombosis of the portal vein and its branches. Vop.pat.krovi i krovoobr. no.6:186-197 '61. (MIRA 16:3)
(PORTAL VEIN--DISEASES) (THROMBOSIS)



BELLA, E.

1494* Examination of the Properties of Spectal Ductile Alpha + Beta Yellow Brass as Affected by Heat Treatment. Különleges, alakítható α + β sárgarezek fontosabb mechanikai tulajdonságainak vizsgálata a hőkezelés függvényében. II. (Hungarian.) Ede Bella. *Kohászati lapok*, v. 10, no. 9, Sept. 1955, p. 425-427.

Most important mechanical properties of the experimental alloys. Heat-treatment experiments. Micrographs. (To be continued.)



BELA, EDE

B

1484* Investigation of the Most Outstanding Mechanical Properties of Special Ductile Alpha + Beta Brasses, as Affected by Heat Treatment. Különleges, alakítható α + β sárgarezek fontosabb mechanikai tulajdonságainak vizsgálata a hőkezelés függvényében. III. (Hungarian.) Éde Béla. *Kohászati lapok*, v. 10, no. 10, Oct. 1953, p. 480-(68).
Effects of heat treating NS111 brasses. Tables, graphs, micrographs. 25 ref.

MG

BELLA, E.

BELLA, E. Investigation of the important mechanical properties of specific, malleable α+β brasses as a function of heat treatment. (To be contd.) p. 378.

Vol. 10, No. 8, Aug. 1955.
KOHASZATI LAPOK
TECHNOLOGY
Budapest, Hungary

So: East European Accession, Vol. 5, No. 5, May 1956

74 Examination of the more important mechanical properties of special ductile [illegible] brasses as a function of heat [illegible]

[illegible] pp. 351–383, 35 figs, 10 [illegible]

The author investigates the range of ductile complex ($\alpha + \beta$) brasses for the changes occurring in some of the more important mechanical properties (tensile strength, yield point, Brinell hardness and elongation) as a function of heat treatment. The experiments were executed on brasses containing 54 to 62% copper and additions of manganese, nickel and aluminium. The experiments also served to elucidate the behaviour of four selected alloys. The first part of the paper deals with the changes in the mechanical properties of these four alloys as a consequence of cold working and annealing and after tracing curves of strength increase and strength decrease determines the most favourable annealing temperature. The second part of the paper raises the question of whether the heat treatment of binary brasses based on the $\beta \rightarrow \alpha$ transformation can be successfully applied to that range of complex brasses which has been investigated. The experiments prove that with certain alloys and under certain conditions such effective heat treatment can be carried out which causes changes in the structure and mechanical properties.

BELLA, E.

Investigation of the strain-hardening, softening, and alteration of the structure during hot-rolling of electrolytic copper. In German. p. 393.

ACTA TECHNICA. (Magyar Tudomanyos Akademia) Budapest, Hungary, Vol. 25, no. 3/4, 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959, Uncl.

BELLA, E., Dr.Ing., Kandidat der Technishen Wissenschaften

Hot bulbing experiments with copper at low forming rates. Acta techn Hung 32 no.1/2:221-246 '61. (EEAI 10:5)

1. Bericht Nr.13 der Metallurgischen Artbeitgemeinschaft der Ungarischen Akademie der Wissenschaften.
(Copper) (Electrolysis)

BELLA, Ede

An account of the 1953 Freiberg Congress. Koh lap 9 no. 2: 95-96 F '54.

BELIA, Ede, dr., a musaki tudomanyok kandidatusa; GULYAS, Jozsef, tudomanyos munkatas.

Hot-swelling tests on copper at medium deformation speeds. Koh lap 97 no.4:174-178 Ap'64

1. Magyar Tudomanyos Akademia Kohaszati Munkakozossege.

BELLA, E., Kandidat der technischen Wissenschaften [deceased]; GULYAS, J.

Testing hot-forged copper at medium deformation rates. Acta techn Hung 48 no.3/4:411-435 '64.

BELLA, J.

Printing of fabrics made of polyamide fibers. p. 25.

TEXTIL. (Ministerstvo lehkeho prumyslu) Praha, Czechoslovakia. Vol. 14, no. 1, January 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959.

Uncl.

COUNTRY : Czechoslovakia E-54
CATEGORY :

ABS, JOUR. : RZKhim., No. 22 1959 No. 80670

AUTHOR : Bella, J.
INST. : Not given
TITLE : The Printing of Fabrics Made from Polyamide Fibers

ORIG. PUB. : Textil (Czechoslovakia), 14, No 1, 25-28 (1959)

ABSTRACT : A number of processes used in the printing of fabrics made from polyamide fibers and the possibility of the application of various groups of dyes are discussed. Direct and acid dyes of Czech manufacture suitable for the above applications are listed. A production formulation and the results achieved are given. The bibliography lists 6 titles.

T. Zvareva

CARD: 1/1 313

BELLA, STEFAN

TECHNOLOGY

BELLA, STEFAN * Boj s vodou a o vodu. Bratislava, Slovenske vydavatelstvo technickej literatury, 1956. 312p. (Edicia teoretickej literatury)

Monthly List of East European Accessions (EEAI) LC VOL. 8, No. 2
May 1959, Unclass

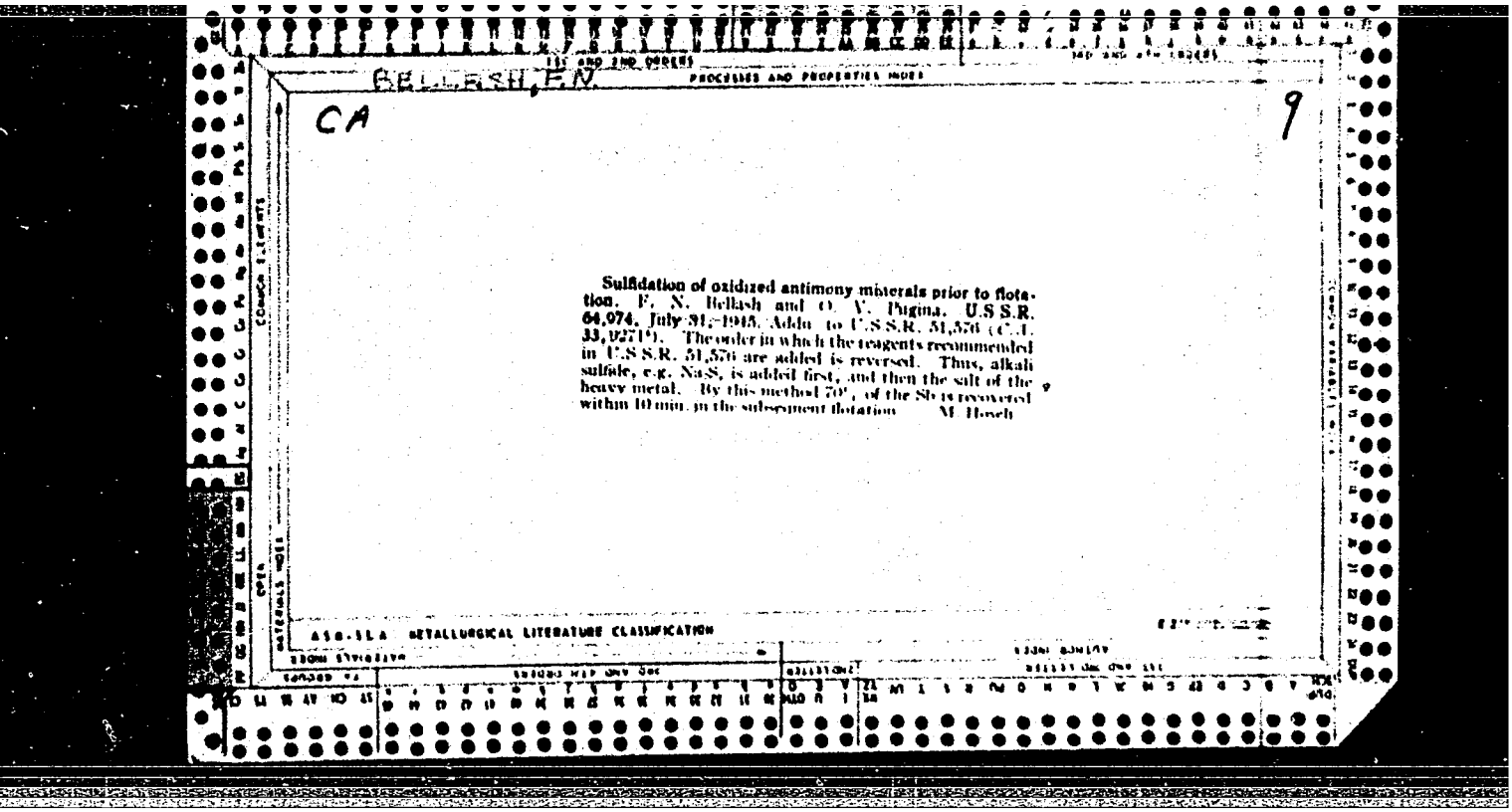
Deceased

BELLAN, BY.

BELLAN, BY. Meteorologic aspects of the so-called lung edema of hogs. p. 236.

Vol. 60, No. 4, July/Aug. 1956
IDOJARAS
SCIENCE
Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957


BELLASH, F.N.
CA
9
Sulfidation of oxidized antimony minerals prior to flotation. F. N. Bellash and O. V. Pugina. U.S.S.R. 64,074, July 31, 1945. Addn. to U.S.S.R. 51,576 (C.A. 33, 9271⁹). The order in which the reagents recommended in U.S.S.R. 51,576 are added is reversed. Thus, alkali sulfide, e.g. Na₂S, is added first, and then the salt of the heavy metal. By this method 70% of the Sb is recovered within 10 min. in the subsequent flotation. M. Hoseh
A58-51A METALLURGICAL LITERATURE CLASSIFICATION

BELLAVIN, G.V., laureat Stalinskoy premii.

[Hydraulic engineering and the problem of fish resources of the U.S.S.R.] Gidrotekhnicheskoe stroitel'stvo i problema rybnykh resursov SSSR. Moskva. Izd-vo Znanie, 1953. 31 p. (MLRA 6:7)
(Fishways)

BELLAVIN, G.V., laureat Stalinskoy premii; ROMASHKOV, E.G.

Artificial hatching of sturgeons. Nauka i zhizn' 20 no.7:27-28 Jl '53.
(MLRA 6:7)
(Sturgeons)

1. BELLAVIN, G.V.

2. USSR (600)

4. Fishways

7. Hydro-construction projects and the fish resources of the U.S.S.R., Priroda 42 no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

BELLAVIN, G.V., laureat Stalinskoy premii; ROMASHKOV, Ye.G.

Report on salmon. Znan.sila no.5:6-9 My '54. (MLRA 7:6)
(Salmon)