

VOTAVA, Z.

Continuous rise in the incidence of phocomelia in newborn infants in western Europe and its relation to thalidomide administration. Current status of the problem. Cas. lek. cesk. 102 no.21:561-564 24 My '63.

1. Farmakologicky ustav lekarske fakulty hygienicke KU v Praze, prednosta prof. dr. Z. Votava.

(PHOCOMELIA) (THALIDOMIDE)  
(ABNORMALITIES, DRUG-INDUCED)  
(PREGNANCY COMPLICATIONS)  
(DRUG TOLERANCE)  
(INFANT NEWBORN) (PREGNANCY)

VORTEL, J.

"Mounted harrows."

p. 523 (Mechanisace Zemedelstvi) Vol. 7, no. 22, Nov. 1957  
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,  
April 1958

FINGERLAND, A.; VORTEL, V.

Causes of child mortality according to data of the pathologic and  
anatomic branch of the medical faculty of Charles University in  
Hradci Kralove in 1949. Cas.lek.cesk. 90 no.9:274-278 2 Mar 1951.  
(CML 20:7)

VORTĚL, V. I.

FINGERLAND, Ant., Prof. MUDr; VORTĚL, Vl., MUDr; ENDRYS, J., MUDr

Oesophagitis herpetica. Cas.lek.cesk. 91 no.16:473-475 18 Apr 52.

1. Z pathologicko-anatomickeho ustavu lecarske fakulty v Hradci  
Kral. Prednosta: MUDr Ant. Fingerland.  
(ESOPHAGUS, diseases,  
esophagitis ulcerative, pathol.)

VORTEL VI.

VORTEL VI. \*Akutni encefalomelitisakutni roztrousena sklerosa rozkernisni. Acute disseminated encephalomyelitis. - acute multiple sclerosis CAS.LEK.CES. 1953, 92/33-34 (915-920) illus. 3

Description of 4 cases of an acute inflammatory disease in which signs of meningeal irritation occurred, with bulbar symptomatology and flaccid paralysis that became spastic later. In one case a multiple sclerosis could be diagnosed with certainty, but in the other 3 cases neither post-mortem findings nor the clinical evolution allowed a definite differential diagnosis. The differentiation between acute multiple sclerosis and disseminated encephalomyelitis is in many cases impossible. Both belong to the same group of demyelinating diseases.

Henner - Prague

SO: EXCERPTA MEDICA, Section 8, Vol. 7. No.5 May 1954

SAZAMA, Leon, MUDr, doc.; JAROS, Otakar, MUDr; VOTEL, Vladimir, MUDr

Cerebral abscess of dental origin. Cesk. stomat. no.3:111-117  
June 54.

(BRAIN, abscess  
dental origin)

(TETH, abscess  
alveolar, causing brain abscess)

VORTEL V. VI.

FINGERLAND, A., prof. MUDr; VORTEL, Vl., MUDr; DVORAK, J., MUDr;  
ZDRAHAL, L., MUDr

Generalized cryptococcosis (torulosis). Cas. lek. cesk. 93 no.30:  
809-816 23 July 54.

1. Z kateder pathologicke anatomie, mikrobiologie a neurologie  
Vojenske lekarske akademie v Hradci Kralove.  
(CRYPTOCOCCOSIS,  
clin. aspects)

VORTEL, V.; KRAUS, Z.

Determination of the proteins in the skin and lymph nodes and their relation to cryoglobulinemia in acrodermatitis chronica atrophicans. Cesk. dermat. 39 no.2:129-132 Ap'64

1. Registracni stredisko histologie koznich nemoci pri patologickoanatomickem ustavu (vedouci: prof. dr. A. Fingerland, DrSc.) a pri kozni klinice (prednosta: prof. dr. B. Janousek) lekarske fakulty KU v Hradci Kralove.

\*



VORTEL, V.

EXCERPTA MEDICA Sec.10 Vol.8/11 Obstetrics Nov 55

2042. FINGERLAND A., VORTEL V., PIETROVSKI E. and HANOUSEK J. Embolus amniotický tekutiny. Amniotic fluid embolism ČSL.GYNAEK. 1954, 19/5 (327-333) Illus. 7

In a III-para, after premature rupture of the membranes, after unsuccessful induction of labour and after preparation for forceps delivery, embolism brought about sudden death. The macroscopical autopsy findings were negative, save for subendothelial haemorrhages, which are explained as manifestations of a haemorrhagic diathesis due to blocking of the fibrinogen by the amniotic fluid. The diagnosis was confirmed by the finding of meconium, leucocytes and vernix caseosa in the vessels of the patient. The value of administration of spasmolytics and oxygen in the treatment of pulmonary embolism due to amniotic fluid is emphasized.

Poradovský - Žilina

481

FINGERLAND, Ant., Prof.; VOITEL, Vl., doc., Hradeo Kralov)

Diabetes mellitus; pathological anatomy. Cesk. gastroenter.  
9 no.3:161-169 Sept 55.

(DIABETES MELLITUS, pathology.)

VORTEL, Vlad., Doc., Dr.; FINGERLAND, A., prof., Dr.

Perinatal mortality causes; statistical report from the  
Anatomopathological Department, Hradec Kralove Military  
Medical School, 1949-53. Cesk. pediat. 11 no.11:867-874  
Nov 56.

(INFANT MORTALITY  
perinatal, causes, statist. (Cz))

EXCERPTA MEDICA Sec 7 Vol 10/11 Pediatrics Nov 56

1961. VORTEL V. Pathol. Inst. Univ. Hradec Králové. \*Generalisierte Speicheldrüsenvirusinfektion bei Säuglingen und Kindern. Generalized salivary gland virus infection in infants and children FRANKFURT Z. PATH. 1956, 67/2 (153-169) Illus. 17

Report on 21 cases of generalized infection due to salivary gland virus in infants and young children. Enlarged cells, containing inclusions bodies, can often be found in the submandibular gland (so-called cytomegalies). Under certain circumstances, especially in decreased resistance, generalized spreading of the viruses, which are usually present in the organism as saprophytes, develops. In a severe infection, this may be the cause of death. In 10 cases, interstitial pneumonia was found with numerous cytomegalies in the interalveolar septa. In 8 cases the disease developed as an acute enterocolitis. The liver was involved in 8 cases; especially in this organ disseminated miliary necroses which had formed round cytomegalies, were found. The disease may also show the appearance of acute or subacute hepatitis. The adrenals were involved in 6 cases; necrotizing inflammation of the medulla, as well as miliary necroses in the zona fasciculata of the cortex could be observed. The kidneys were involved in 6 cases; in only one case was the damage of a higher degree, in which the cytomegalies filled numerous convoluted tubules.

Busch - Vienna (V, 7)

PROCHAZKA, Jar.; VORTEL, V.; MYDLIL, F.

Malignant bronchial adenoma. Cas. lek. cesk. 95 no.37:  
1005-1008 14 Sept 56.

1. Chirurgická klinika VLA J. Ev. Putkyně, přednosta akademik  
J. Bedrna, patolog. anatom. ústav, přednosta prof. Dr. A. Fingerland  
a plicní léčebna v Zamberku, přednosta prim. Dr. F. Mydlil.

(BRONCHI, neoplasms

differ. diag. from middle lobe synd., case report (Cs))

(ATELECTASIS, differ. diag.

middle lobe synd. from bronchial adenoma, case report (Cs))

EXCERPTA MEDICA Sec 5 Vol. 10/9 Pathology Sept 57

2536. VORTEL V. and HEROUT V. Pathol. Inst., Med. Akad., Hradec Králové (CSR). \*Generalisierte Infektion mit dem Virus des Herpes simplex bei Kindern. General infection with virus of herpes simplex in children ZBL. ALLG. PATH. PATH. ANAT. 1957, 96/1-2 (51-55) Illus. 4

An increasing number of cases of generalized herpes simplex in the newborn and young children is being reported. Two cases are presented, one in a 16-day-old infant and the other in an 8-month-old child. In the newborn, infection is apparently acquired from the genitalia of the mother at the time of birth. Characteristic pathological findings were reported in both cases. In one, the virus was proven by animal inoculation. The newborn infant began the disease with fever, inflammation of the nasopharynx, followed by vomiting, dyspnoea, diarrhoea, icterus and bleeding. Gross findings showed bleeding in the cerebellum, ulceration of the oesophagus, liver and adrenal necrosis. Microscopically, the characteristic feature is the appearance of acidophilic nuclear inclusions in the organs involved with bland necrosis of tissue. In the older child, the bronchial and intestinal epithelium was also involved.

Lubitz - Wood, Wis. (V, 7+)

VORTEL, V. MUDr. (Hradec Kralove, Tylovo 367)

Organ changes in fatal chickenpox. Cesk. pediat. 13 no.1:10-14 5 Jan 58.

1. Pathologickoanatomicky ustav VIA J. Ev. Purkyne v Hradci Kralove,  
prednosta prof. Dr. A. Fingerland.  
(CHICKENPOX, pathol.  
post-mortem (Cz))

*007114, U.*  
STEPAN, J.; VOTEL, V.; FRIDRICH, E.

~~Aluminum~~  
Aluminum in guinea pig organs in normal & pathological conditions.  
Cas. lek. cesk. 97 no.6-7:214-217 14 Feb 58.

1. Ustav lekárske chemie university Karlovy, pobočky v Plzni (prednosta doc. J. Stepan) Ustav pathologicke anatomie VIA J. Ev. P. v Hradci Kralove (prednosta prof. Fingerland) Vyskumny ustav organickych synthes Pardubice Rybitvi.

(PNEUMONIA, metab.

aluminum in guinea pigs (Cz))

(PERICARDITIS, metab.

same)

(ALUMINUM, metab.

in pericarditis & pneumonia in guinea pig (Cz))



EXCERPTA MEDICA Sec 5 Vol 12/9 General Path. Sept 59

2637. THE AETIOLOGY OF MESENTERIAL LYMPHADENITIS - Zur Aetiologie der Lymphadenitis mesenterialis - Vortel V., Jindrak K. and Vymola F. Pathol. Inst. u. Zentr. Lab., Med. Akad. J. Ev. Purkyně, Hradec Králové - VIRCHOWS ARCH. PATH. ANAT. 1958, 331/6 (631-640)  
Graphs 1 Tables 1 illus. 3

In 20 cases of mesenterial lymphadenitis (Wilensky-Struthers) with a clinical course of acute appendicitis, the characteristic picture of a reticulocytic suppurative lymphadenitis (Maschhoff) was found. Specific antibodies against Pasteurella pseudotuberculosis were demonstrated in the serum of the patients by the CFT. Mesenterial lymphadenitis is a pasteurellosis. (V. 4)

VOHNRACKOVA, A.; VYMOLA, F.; VORTHL, V.; ONDRACEK, J.; KRAL, L.

Atypical form of lyssa. Cas. lek. cesk. 98 no.29-30:933-937  
17 July 59

1. Ustredni mikrobiologicka laborator, prednosta MUDr. F. Vymola.  
Ustav patologicke anatomie, prednosta prof. MUDr. D. Sc. A. Fingerland.  
Klinika nemoci infekcnich, prednosta doc. MUDr. J. Ondracek. Vojenska  
lekarska akademie Jana Ev. Purkyne v Hradci Kralove.  
(RABIES, case reports)

KRAUS, Z.; VORTEL, V.

Epidermodysplasia verruciformis. Cesk. dermat. 35 no.2:95-99 Ap '60.

1. Registracni stredisko histologie koznich nemoci pri patologicko-anatomickem ustavu (prednosta Dr. Sc. prof. dr. A. Fingerland) a pri kozni klinice (prednosta prof. dr. B. Janousek) lekarske fakulty v Hradci Kralove.

(SKIN dis)

"VORTEL' V.; PLAKHIY, V. [Plachy, V.]

Generalized cytomegaly and its clinical significance in  
childhood. *Pediatrics* 38 no.11:73-78 N '60.

(MIRA 13:12)

1. Iz Patologoanatomicheskogo instituta (rukovoditel' - doktor  
med.nauk A.Fingerland)'i detskoy kliniki (rukovoditel' - prof.  
Ya.Blekha) meditsinskogo fakul'teta Karlova universiteta  
v Gradtse Karlove (Chekhoslovakiya).

(VIRUS DISEASES in inf. & child)

ACC NR: AP6032244

SOURCE CODE: UR/0016/66/000/009/0062/0066

AUTHOR: Kintera, F.; Vortel', V.

ORG: Military-Medical Scientific Research Institute, Karlov University (Voyenno-meditsinskiy nauchno-issledovatel'skiy institut Karlova universiteta); Institute for Post-graduate Training of Physicians im. Purkin'ye, Karlov University (Institut dlya usovershevstvovaniya vrachey Karlova universiteta)

TITLE: Experimental airborne tularemia

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 9, 1966, 62-66

TOPIC TAGS: infective disease, animal disease, tularemia, guinea pig, bacterial aerosol, biomedical chamber, immunization, *VACCINE*

ABSTRACT: Normal and immunized guinea pigs (average weight 320 g) were exposed to 1 and 100 Dlm aerosol doses of *F. tularensis* no. 2713 (a virulent strain isolated in Czechoslovakia) in the biomedical chamber shown schematically in Fig. 1.

Card 1/4

UDC:616.981.455-092.9

ACC NR: AP6032244

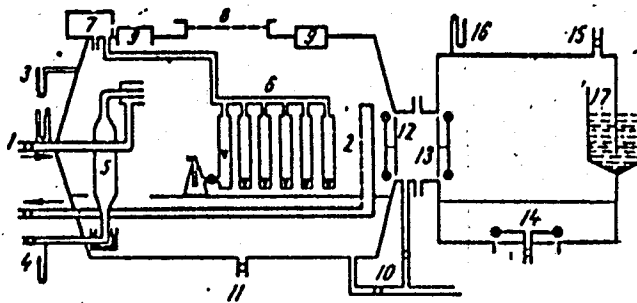


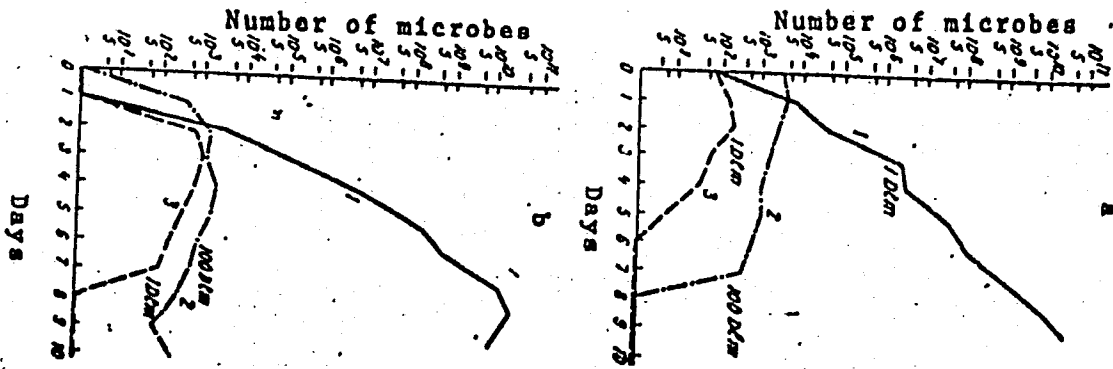
Fig. 1. Experimental chamber

- 1 - Air feed; 2 - air outflow; 3 - manometer;
- 4 - pressurized air; 5 - atomizer; 6 - flow meters;
- 7 - air pump; 8 - aperture; 9 - lamps; 10 - pres-
- surized steam feed; 11 - condensate drain; 12 -
- main valve of chamber; 13 - main valve of movable
- box; 14 - drain valve with disinfecting mechanism;
- 15 - air outlet to oven for combustion; 16 - ma-
- nometer; 17 - liquid filter with disinfectant.

Card 2/4

ACC NR: AP60322111

The particle size of the aerosol was between 0.5—4.5 microns. Conditions in the chamber were kept constant at 8 mm water pressure, air temperature of 18—20°C, and 85% relative humidity. Immunization of 120 guinea pigs was accomplished with *F. tularensis* strain 15 live vaccine in an intradermal dose of  $94 \cdot 10^4$  microbial cells, and five weeks later the animals were exposed to the aerosol doses indicated. The results of comparison of proliferation of *F. tularensis* in normal and immunized guinea pigs are shown in Fig. 2.



Card 3/4

ACC NR: AP60322111

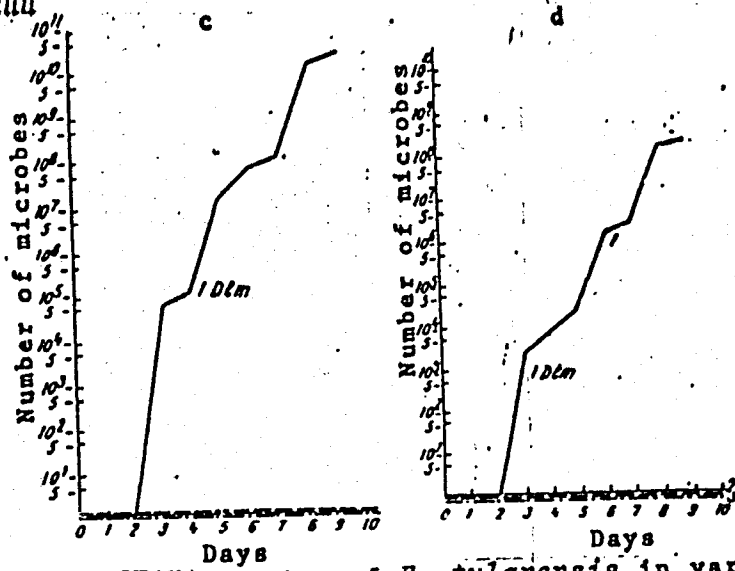


Table 2 cont.

Fig. 2. Proliferation of *F. tularensis* in various organs of immunized and normal guinea pigs a - Lungs; b - lymph nodes; c - spleen; d - liver; 1 - normal guinea pigs; 2,3 - immunized guinea pigs.

SUB CODE: 06/ SUBM DATE: 08Jul65

orig. art. nos; 2 figures [WA-50; CBE No. 14] [EL]

Card 11/11



VORTEL, Vladimir; PIACHY, Vladimir

Brain lesions in general cytomegaly in the neonatal age. Sborn.  
ved. prac. lek. fak. Karlov. Univ. 8 no.5:537-542 '65.

1. Patologicko-anatomicky ustav (prednosta - prof. MUDr.  
A. Fingerland, DrSc); Detska klinika (prednosta: prof. MUDr.  
J. Blecha, DrSc) v Hradci Kralova.

JINDRICOVA, Jirina; VOTEL, Vladimír; FINGERLAND, Antonin; JINDRAK, Karel;  
CHROBAK, Ladislav

Fatal panmyelophthisis degenerated to subacute myeloid leukemia  
caused by benzene. Vnitřní lek. 11 no.10:995-999 0 '65.

1. Krajský ústav národního zdraví, oddělení chorob z povolání,  
Hradec Králové (prednosta: doc. MUDr. Jirina Jindrichova, CSc.),  
Patologicko anatomický ústav lékařské fakulty Karlovy University  
v Hradci Králové (prednosta: prof. MUDr. Antonin Fingerland, Dr.Sc.)  
a I. vnitřní klinika lékařské fakulty Karlovy University v Hradci  
Králové (prednosta: prof. MUDr. František Černík).

VORTEL, V.; PLACHY, V.; FINGERLAND, A.

Hepatitis in infants after transfusion of pooled plasma.  
Cesk. pediat. 20 no.10:879-882 0 '65.

1. Patologickoanatomicky ustav (prednosta prof. dr. A. Fingerland, DrSc.) a detska klinika (prednosta prof. dr. J. Blecha, DrSc.) lekarske fakulty Karlovy University v Hradci Kralove.

KRAUS, Z.; VORTEL, V.; FINGERLAND, A.; SALAVEC, M.; KRCH, V.

Uncommon skin manifestations in Wegener's granulomatosis.  
Cesk. dermat. 40 no.6:378-382 D '65.

1. Registracni stredisko histologie koznich nemoci pri  
patologickoanatomickem ustavu (prednosta prof. dr. A.  
Fingerland), kozni klinika (prednosta prof. dr. B. Janousek)  
a I. interni klinika (prednosta prof. dr. F. Cernik) lecarske  
fakulty Karlovy University v Hradci Kralove.

KRAUS, Zdenek; VORTEL, Vladimir; BARTA, Vaclav.

Carcinoma metastasizing to the skin. (Report of cases in the Registration Center during the period 1958-1962). Sborn. ved. prac. lek. fak. Karlov. univ. (Hrad. Kral.) 6 no.5 suppl.: 589-599 '63

1. Registracni stredisko histologie koznich nemoci pri patologicke-anatomickem ustavu (prednosta: DrSc. prof. MUDr. A.Fingerland) a pri kozni klinice (prednosta: prof. MUDr. B.Janousek), Radiologicka klinika (prednosta: DrSc. prof. MUDr. J.Bastecky), Karlova universita v Hradci Kralovs.

ENDRYS, Jiri; KVASNICKA, Jiri; STEINHART, Leo; VORTEL, Vladimir; BRZEK, Vladimir; VYSLOUZIL, Jan; KRAVEC, Miroslav.

Method of measuring the volume of flow through broncho-pulmonary anastomoses. Storn.ved.prac.lek.fak.Karlov.Univ. (Hrad.Kral) 6 no.3:219-228 '63.

1. Kardiochirurgicke stredisko (prednosta: prof. MUDr. J. Prochazka); I. interni klinika (prednosta: prof. MUDr. J. Rehor); Radiologicka klinika (prednosta DrSc., prof. MUDr. J. Bastecky); Patologicko-anatomicky ustav (prednosta DrSc., MUDr. A. Fingerland) a Chirurgicka klinika (prednosta: prof., MUDr. J. Prochazka), Universita Karlova.

\*

VORTEL, Vladimir; BRZEK, Vladimir

Myoglobinuric nephrosis after embolotomy in the common iliac artery. Sborn.ved.prac.lek.fak.Karlov.Univ. (Hrad.Kral.) 6 no.3:291-294 '63.

1. Patologicko-anatomicky ustav (prednosta: prof., DrSc., MUDr. A. Fingerland) a II chirurgicka klinika (prednosta: prof. MUDr. J. Prochazka), Universita Karlova.

\*

PETR, R.; VORTEL, V.; JINDRAK, K.

Results of surgical treatment of intracranial aneurysms.  
Cesk. neurol. 26 no.5:297-300 S '63.

1. Neurochirurgicka klinika lekarske fakulty KU v Hradci  
Kralove, prednosta prof. dr. R. Petr Patologickoanatomicky  
ustav lekarske fakulty KU v Hradci Kralove, prednosta prof.  
dr. A. Fingerland.

(CEREBRAL ANEURYSM) (VASCULAR SURGERY)  
(SUBARACHNOID HEMORRHAGE) (CEREBRAL HEMORRHAGE)



VORTEL, V.; KRAUS, Z.; KYNTERA, F.

A case of clinically, bacteriologically and histologically confirmed tularemia. Cas. lek. cesk. 102 no.32/33:914-916 16 Ag '63.

1. Patologickoanatomicky ustav lekarske fakulty KU v Hradci Kralove, prednosta prof. dr. A. Fingerland Dermatologicka klinika lekarske fakulty KU v Hradci Kralove, prednosta prof. dr. B. Janousek.

(TULAREMIA)

STEPAN, Jan; VORTEL, Vladimir

Contribution to a possibility of damages of the organism during therapy with PAS and other tuberculostic drugs. Cas.lek.cesk. 99 no.3/4:111-117 22 Ja '60.

1. Ustav lekárske chemie lekárske fakulty KU v Plzni, prednosta doc.dr. Jan Stepan. Ustav patologické anatomie a histologie lekárske fakulty KU v Hradci Kralove, prednosta prof.dr. A. Fingerland.

(PARAAMINOSALICYLIC ACID eff.inj.)  
(ANTITUBERCULAR AGENTS eff.inj.)

CZECHOSLOVAKIA

PETR, R., MD, Prof., VOJTEK, V., and JINDRAK, K., Clinic of Neurosurgery (Neurochirurgická klinika), Faculty of Medicine (Lékařská fakulta), Charles University, Hradec Kralove, Dr R. PETR, director; and Institute of Pathological Anatomy (Patologickoanatomický ústav), Faculty of Medicine, Charles University, Hradec Kralove, prof. A. FINGERLAMB, MD, director [except for PETR affiliations cannot be determined].

"Results of Surgical Treatment of Intracranial Aneurisms."

Prague, Ceskoslovenska Neurologie, Vol. LXVI(LIX), No 5, September 63, pp 297-300.

Abstract [Authors' English summary]: A surgical treatment of saccular intracranial aneurisms at a stage when clinical symptoms are absent is fully justified. Good results are due partly to the favorable state of health of the patient and partly to the advance made in surgical technique. The purpose of the operation is to prevent further hemorrhage. Results of surgical treatment at an acute stage are poor and an operation alone is not enough to improve conditions. Tables are including with information on surgical treatment. Twenty-two references, including 1/1 3 Czech and 7 Russian.

GRADSKIY, Mikulash [Gradsy, M.], doktor med.nauk; VORTEL', Vladimir,  
~~GRADSKIY, Mikulash~~ doktor med.nauk; GEROUT, Vladimir [Herout, V.], doktor  
med.nauk (Chekhoslovakiya)

Stomach biopsy in clinical practice. Klin.med. no.7:12-19  
'61. (MIRA 14:8)

1. Iz kliniki propedeutiki vnutrennikh bolezney meditsinskogo  
fakul'teta Karlova universiteta v Gradtse Karlove (rukovoditel' -  
dotsent, doktor med.nauk F.Chernik) i iz patologoanatomicheskogo  
instituta meditsinskogo fakul'teta Karlova universiteta v Gradtse  
Karlove (rukovoditel' - doktor med.nauk prof. A. Fingerland).  
(STOMACH) (BIOPSY)

AFANAS'YEVA, E.L.; VERBOLOV, V.I.; YOTINTSEV, K.K.; KROTOVA, V.A.;  
MAN'KOVSKIY, V.I.; MESHCHERYAKOVA, A.I.; SHIMARAYEV, M.N.

Comprehensive synchronous limnological studies of Baikal waters.  
Izv. AN SSSR. Ser. geog. no. 2:120-125 Mr-Apr '64. (MIRA 17:5)

1. Limnologicheskiy institut Sibirskogo otdeleniya AN SSSR.

PA 228733

USSR/Medicine - Infectious Diseases May/June 52

"Treatment of Dysentery in Children with Levomycetin," N. V. Vortintseva, Dept of Children's Acute Infectious Diseases, Inst of Pediatrics, Acad Med Sci USSR

"Pediatry" No 3, pp 50-58

Article states that levomycetin is a synthetic antibiotic, completely identical in its chem and biol characteristics with the natural antibiotic chloromycetin (levorotatory). If administered in time, it notes, levomycetin is very effective in

228733

VORTINTSEVA, N. V.

the over-all treatment of dysentery in children. Clinical material and exptl data show that this antibiotic has a strong bacteriostatic effect not only on agents producing dysentery, but also on some other disease-producing agents. According to article, its action is superior to that of other antibiotics: it is effective and produces the least secondary complications in the organism. Head of Dept of Children's Acute Infectious Diseases, Inst of Pediatrics, Acad Med Sci USSR: Prof A. I. Dobrokhotova, Hon Sci. // Director of Inst of Pediatrics, Acad Med Sci USSR // Prof M. M. Karantsev // attached to Children's Hospital Ruzhikov.

NOTE: *[Handwritten signature]*  
228733

POLYAK, M.U.; VORTMAN, M.S.

Innovators of Russian communication engineering. Vest.svyazi 7  
no.11:11 N '55. (MIRA 9:1)

1.Nachal'nik Tekhnicheskogo otdela Ministerstva svyazi (for  
Vortman).2.Starshiy inzhener Byuro izobreteniy.  
(Telecommunication)

CHISTYAKOVA, A.M., kand.med.nauk, VORTMAN, M.G., starshiy laborant,  
TRET'YAKOVA, Ye.I., laborant

Protein content of diets in pulmonary tuberculosis [with summary  
in French]. Probl.tub. 36 no.5:49-58 '58 (MIRA 11:8)

1. Iz kafedry gigiyeny pitaniya Stalinskogo meditsinskogo instituta  
i iz kafedry gigiyeny pitaniya Leningradskogo sanitarno-gigiyenicheskogo  
meditsinskogo instituta.

(TUBERCULOSIS, PULMONARY, ther.  
diets, protein composition (Rus))

(DIET, in var. dis.  
pulm. tuberc., protein composition (Rus))

(PROTEIN, metabl.  
requirements in pulm. tuberc. (Rus))



8 (5)

SOV/112-57-5-10182

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 5,  
pp 86-87 (USSR)

AUTHOR: Vortman, V. Kh.

TITLE: Electric Motors -- From Blueprints to Shipping Room  
(Elektromotory -- ot chertezha do ekspeditsionnogo sklada)

PERIODICAL: Nemetskiy eksport, 1956, Nr 2, pp 65-67

ABSTRACT: The work of "people's industry of the German Democratic Republic," the Elektromotorenwerk, Wernigerode, is briefly described. The plant builds standard squirrel-cage-rotor motors and wound-rotor motors, as well as other special machinery (crane-type motors, change-pole motors, etc.). Electric motors with aluminum winding are manufactured. After five years of experience, aluminum windings look promising. Tropicalized electrical machinery for India, Egypt, Indonesia, and China is also manufactured. Tropicalized machines are subjected to careful insulation tests in special

Card 1/2

SOV/112-57-5-10182

**Electric Motors -- From Blueprints to Shipping Room**

weather chambers. Uniformity of batch production is noted; it is insured by a suitable preparation of processing. Procedure of electric machinery testing is described. Each fifth machine is tested for starting, stalling, and normal working torques. Model medical and personnel services are organized at the plant.

I.A.R.

Card 2/2

VORTMAN, Z.M.

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USSR/Engineering - Hydraulics. Dec 51.  
Equipment

"Ground Water Lowering With Needle Filter Installations," Z. M. Vortman, Engr

"Gidrotekh Stroi" No 12, pp 8-11

Describes equipment and operational procedure for lowering level of ground water by 8-9 m, using 2-storied system of needle filters. Considers method most expedient among all others. Discusses several examples of practical application.

200793

DOBROVOL'SKIY, A.V., redaktor; SKACHKOV, I.A., inzhener, redaktor; CHERKASOV,  
N.A., redaktor; VORTMAN, Z.Ya., tekhnicheskiy redaktor

[Structural ceramics; a catalog and handbook] Stroitel'naya keramika;  
katalog-spravochnik. Pod red. A.V.Dobrovol'skogo i I.A.Skachkova.  
Izd. 2-e. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1954. 119 p. (MLRA 8:3)

1. Ukraine. Upravleniye po delam arkhitektury i stroitel'stva. 2.  
Chlen-korrespondent Akademii arkhitektury SSSR. (for Dobrovol'skiy)
3. Deystvitel'nyy chlen Akademii arkhitektury USSR (for Dobrovol'skiy)  
(Ceramic materials)

PEREPEL'KIN, V.S.; ZABOLOTNOV, V.I.; VORTYNTSEV, D.I.; NEKRASOV, I.L.

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Escherichia coli. Zhur. mikrobiol., epid. i immun. 40 no. 8:  
122-125 Ag '63. (MIRA 17:9)

SHVED, Anatolii Petrovich; VORUSHILO, Vladimir Ivanovich; SERGEYEV,  
D.I., red.

[Marine power plants and their operation; practical exercises  
for a course] Sudovye silovye ustanovki i ikh ekspluatatsiia;  
prakticheskie zaniatiia po kursu. Moskva, Transport, 1965.  
101 p. (MIRA 18:3)

PECHENENKO, V., kandidat tekhnicheskikh nauk; ~~XXXXXXXXXXXX~~ VORUSHILOV, V., inzhener.

Increasing steam parameters in existing steam power plants. Mor.  
flot 16 no.4:19-21 Ap '56. (MLRA 9:8)

1. OVMU.

(Boilers, Marine)

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VORUSHKIN, V., mayor.

Experience operating a field lumber mill. 7oen-insh.zhur. 101  
no.9:26-27 S '57. (MLRA 10:9)

(Sawmills)



VORZHNEVA, L. V.

"The Harmful Entomofauna of Transbaykal Fruit Trees and Factors in Its Formation." Dr Biol Sci, Inst of Zoology, Acad Sci USSR, Leningrad, 1954. (KL, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (13) SO: Sum. 500, 29 Jul 55

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BC

Determination of the insoluble matter in extracts and in solutions as a method for controlling the processes of tannin-extraction plants. B. VONSTRAS (Koch-Obava. Proc., 1934, 13, 470-473). —Inaccuracies in the determination of % of extracts and tanning solutions are discussed. Ch. Ann. (p)

ABB-514 METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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VORSATZ, B

New method for carbon and sulfur determination in metal alloys. Bruno Vorsatz (Környösi Fiz. Kutató, Budapest). Magyar Tudományos Akad. Közvetlen Fiz. Kutató Intézetének Közleményei 4, 116-22 (1956).—Metal alloy scrap is weighed in a Cu crucible. This is placed in an arc furnace, burned in an O stream. The CO<sub>2</sub> and SO<sub>2</sub> content of the gas is measured by the usual methods. This combustion equipment operates fast, is inexpensive, and is suitable for serial tests. Andrew W. Zalay—

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1.27.50

VORUSHILO, V.I., starshiy преподаvatel'

Adjusting single-eccentric drives. Sud. sil. ust. no.2:39-47 '63.  
(MIRA 17:1)

1. Odesskoye vyssheye inzhenernoye morskoye uchilishche.

VORYKHANOV, A., predsedatel'.

More tractors for agriculture. Sov.profsoiuzy 1 no.4:28-31 D '53.  
(MLBA 6:12)

1. Zavodskiy komitet professional'nogo soyusa Vladimirskogo traktornogo zavoda.  
(Tractor industry)



DASHKEVICH, L.L.; SURAZHSKIY, D.Ya.; USOL'TSEV, V.A.; AZBEL', M.Ye.;  
BOZHEVIKOV, S.N.; VORZHENEVSKIY, N.S.; MANUYLOV, K.N.;  
GLAZOVA, Ye.F.; KARPUSHA, V.Ye.; PROTOPOPOV, N.G.; SHADRINA,  
Ye.N.; IGRUNOV, V.D.; NECHAYEV, I.N.; HESPALOV, D.P.;  
ILLARIONOV, V.I.; GLEBOV, F.A.; GLAZOVA, Ye.F.; KAULIN, N.Ya.;  
GORYSHIN, V.I.; GAVRILOV, V.A.; TIMOFEYEV, M.P., retsenzent;  
YEFREMYCHEV, V.I., retsenzent; KRASOVSKIY, V.B., retsenzent;  
V'YUNNIK, A.P., retsenzent; STERNZAT, M.S., otv. red.;  
RUSIN, N.P., otv. red.; YASNOGORODSKAYA, M.M., red.; VOLKOV,  
N.V., tekhn. red.

[Instructions to hydrometeorological stations and posts] Nastavle-  
nie gidrometeorologicheskim stantsiam i postam. Leningrad,  
Gidrometeoroizdat. No.3. Pt.3. [Meteorological instruments and  
observation methods used on a hydrometeorological network] Me-  
teorologicheskie pribory i metody nabludeni, primenyaemye na  
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(Continued on next card)



DASHKEVICH, L.L.--- (continued) Card 2.

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gidrometeorologicheskoy sluzhby. 2. Glavnaya geofizicheskaya observatoriya Nauchno-issledovatel'skogo instituta gidrometeorologicheskikh priborov i Gosudarstvennogo gidrologicheskogo instituta (for Dashkevich, Surazhskiy, Usol'tsev, Azbel', Bozhevikov, Vorzhenevskiy, Manuylov, Glazova, Karpusha, Protopopov, Shadrina, Igrunov, Nechayev, Bernalov, Illarionov, Glebov, Glazova, Kaulin, Goryanin, Gavrilov). 3. Komissiya Glavnogo upravleniya gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR (for Nechayev, Usol'tsev, Timofeyev, Yefremychev, Krasovskiy, V'yunnik)  
(Meteorology)

*Vokzhetsova I.N.*

POPOV, Nikolay Vasil'yevich; ZASLAVSKIY, I.I.,redaktor:VORZHETSOVA,  
L.H.,redaktor; SOKOLOVA, R.Ya.,tekhicheskiy redaktor

[Homemade visual aids in geography] Samodel'nye posobiya po  
geografii. Pod red. I.I. Zaslavskogo. Moskva, Izd-vo Akad.  
pedagog. nauk RSFSR, 1957. 110 p. (MLRA 10:4)

(Physical geography--Study and teaching--Audiovisual aids)

TARASOVA, Ol'ga Titovna; SVADKOVSKIY, I.F., red.; VOLKOVA, Ye.I.,  
red.; VOZHZHETSOVA, L.N., red.; MARKOVA, T.A., red.;  
MIKHAYLOVA, L.V., red.; PANFILOVA, T.S., red.; SLAVINA,  
L.S., red.; ZAGIK, L.V., red.; GARNEK, V.P., tekhn. red.

[How to protect children from common colds] Kak uberech'  
detei ot prostudy. Moskva, Izd-vo APN RSFSR, 1963. 15 p.  
(MIRA 16:12)

VORONOV, P.V., inzhener.

Device for assembling and testing pipe banks and meters. Sbor.mat.o  
nov.tekh.v stroi. 15 no.10:19-20 '53. (MIRA 6:12)  
(Pipe)

VORZHEVA, L.V.

Codling moth in the orchards of the Baikal Lake region. Priroda 42 no.9:119  
S '53. (MLda 6:8)

1. Irkutskiy pedagogicheskiy institut.  
(Baikal, Lake--Codling moth) (Codling moth--Baikal, Lake)

VORZHEVA, Lyudmila Vladimirovna

(Irkutsk State Pedagogic Inst) Academic Degree of Doctor of Biological Sciences, based on her defense, 24 December 1954, in the Council of the Zoological Inst AcadSci USSR, of her dissertation entitled: "Harmful entomofauna of fruit-trees of the Prebaykal and factors of its formation."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 24, 26 Nov 55, Byulleten' MVO SSSR, No. 20, Oct 57, Moscow, pp 22-24, Uncl. JPRS/NY-471

VORZHEVA, L. V.

1365 Vrednaya Entomofauna plodovykh derev'ev. Predbaykal'yn Ifactory zee formiravani  
L., 1954. 32 s. 20 sm. (300 l. in-t Akad Nauk SSSR). 100 eks. B. ts. -(54-52109)

SO: Knizhaya Letopis', Vol. 1, 1955

VORZHEVA, L.V.

USSR/ Agriculture - Fruit growing

Card 1/1 Pub. 86 - 19/36

Authors : Vorzheva, L. V., Cand. of Biol. Sc.

Title : Fruit growing in the Baikal Lake region

Periodical : Priroda 2, 101-103, Feb 1954

Abstract : The development of the fruit growing industry (apples, pears) in the region of Lake Baikal is discussed.

Institution : The Pedagogical Institute in Irkutsk

Submitted : .....



VORZHEVA, L.V.

VORZHEVA, L.V.

Occurrence of the lesser apple worm (*Laspeyresia pomonella* L.)  
in eastern Siberia. *Biul. MOIP. Otd. biol.* 59 no.3:49-52 My-  
Je '54. (MLRA 7:7)  
(Siberia, Eastern--Apple worm) (Apple worm--Siberia, Eastern)

USSR/General and Special Zoology - Insects.

P-6

Abs Jour : Ref Zhur - Biol., No 5, 1958, 21087

Author : Vorzheva, L.V.

Inst : Kuybishev State Pedagogical Institute.

Title : The Facts of the Areal Disruption of Some Insects Injurious to Fruit Trees and Their Explanation.

Orig Pub : Uch. zap. Kuybyshevsk. gos. ped. in-t, 1956, vyp. 16, 143-153

Abstract : The climatic peculiarities of the spring season when the insects intensified their feeding explained the absence in the gardens of East Siberia (the Pre-Baikal and the Near-Angara regions) of the brown tail moth, the apple beetle Nitidulidae, the snout beetle and the rare occurrence of the gypsy moth and the apple moth. A short and dry spring creates conditions for a rapid development of the

Card 1/2

VORZHEVA, L.V., prof.

Bacterial control of leaf rollers. Zashch. rast. ot vred. i bol.  
3 no.4:23-24 J1-Ag '58. (MIRA 11:9)

1. Kuybyshevskiy pedagogicheskiy institut.  
(Leaf rollers)  
(Insects, Injurious and beneficial-- Biological control)

VORZHEVA, L.V.

Biology and harmfulness of some little-known microlepidopteran fruit tree pests in the southern part of Irkutsk Province [with summary in English]. Ent.oboz. 37 no.4:820-828 '58. (MIRA 11:12)

1. Kuybyshevskiy pedagogicheskiy institut, g. Kuybyshev. (Irkutsk Province--Leaf rollers) (Fruit--Diseases and pests)

VARGUZINA, Z.; ISAYEVA, N.; VORZHEVA, L.V., prof., nauchnyy rukovoditel'

Testing lower fungi and bacteria against insect pests of fruit trees. Uch.zap.Kuib.gos.ped.inst. no.37:23-25 '62. (MIRA 16:1)

(Fruit trees--Diseases and pests)  
(Insects, Injurious and beneficial--Biological control)

LAZAREV, Ye.; SAFONOVA, L.; GODOVKINA, E.; VORZHEVA, L.V., prof.,  
nauchnyy rukovoditel'

Effect of microelements on the growth and development of young  
birds. Uch.zap.Kuib.gos.ped.inst. no.37:27-32 '62. (MIRA 16:1)

(Trace elements)

(Poultry—Feeding and feeds)

VORZHEVA, V. V.

55

PHASE I BOOK EXPLOITATION 801/6012

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.

Avtomaticheskoye regulirovaniye i upravleniye (Automatic Regulation and Control) Moscow, Izd-vo AN SSSR, 1962. 526 p. Errata slip inserted. 9000 copies printed.

Resp. Ed.: Ya. Z. Tsypkin, Professor, Doctor of Technical Sciences; Ed. of Publishing House: Ye. N. Grigor'yev; Tech. Ed.: I. N. Dorokhina.

PURPOSE: This book is intended for scientific research workers and engineers concerned with automation.

COVERAGE: The book is a collection of articles consisting of papers delivered at the 7th Conference of Junior Scientists of the Institute of Automation and Telemekhanics, Academy of Sciences USSR, held in March 1960. A wide range of scientific and technical questions relating to automatic regulation and control is covered.

Card 1/12

Automatic Regulation (Cont.)

SOV/6012

The articles are organized in seven sections, including automatic control systems, automatic process control, computing and decision-making devices, automation components and devices, statistical methods in automation, theory of relay circuits and finite automatic systems, and automated electric drives. No personalities are mentioned. References are given at the end of each article.

TABLE OF CONTENTS:

PART I. AUTOMATIC CONTROL SYSTEMS

Andreychikov, B. I. The effect of dry friction and slippage [play] on error during reverse gear operation of servo-feed systems	3
Andreychikov, B. I. Dynamic accuracy of machine tools with programmed control	14

Card 2/12



Automatic Regulation (Cont.)

SOV/6012

- Vorzheva, V. V. Obtaining partial minimal forms of Boolean functions for avoiding race conditions in switching networks 437
- Didenko, V. P. Minimization and construction methods for bridge structures in relay systems 444
- Kazakov, V. D., and V. V. Naumenko. The realization of Boolean functions and variables in contactless logical switching circuits by the additional determination method 461
- Kazakov, V. D. The form of minimal expressions of symmetrical Boolean functions of an arbitrary number of variables 468

PART VII. AUTOMATED ELECTRIC DRIVE

- Vershinin, N. D. Application of the invariance principle in stabilizing the speed of d-c motors 474
- Card 11/12

ACCESSION NR: AT4031770

S/0000/63/000/000/0170/0179

AUTHOR: Vorzheva, V.V.

TITLE: Investigation of the structures of relay devices from the point of view of their operation on real contacts

SOURCE: AN SSSR. Strukturnaya teoriya relaynykh ustroystv (Structural theory of relay devices). Moscow, Izd-vo AN SSSR, 1963, 170-179

TOPIC TAGS: control system, automatic control, feedback, relay, relay structure, relay operation, electromagnetic relay

ABSTRACT: For convenience's sake, only electromagnetic relays are considered in this article. The coils of these relays are designated, in the nomenclature adopted by the author, by capital letters, while their contacts are designated by small letters. The results obtained in the study are applicable to relay devices using elements of various types. The conductivity of an individual circuit or of the entire system is, the author claims, a function of the system structure and of the variation of the input values of the system. Circuit conductivity is designated by the letter  $F$ ; when the circuit or system conducts,  $F = 1$ ; when it does not,  $F = 0$ . The output operating conditions of

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a relay device are described by a Boolean function, represented in the conjunctive or disjunctive normal form. The author notes that in relay device analysis and synthesis normally no consideration is given to the possible changes in the sequence of interaction of the different contacts of one and the same relay (normally open and normally closed); that is, such studies are based on the concept of ideal contacts and on the assumption that, when the relay is tripped, the normally closed contact is broken simultaneously with the making of the normally open contact. Under such assumptions, systems which have been correctly designed or analyzed from the theoretical point of view may, under real operating conditions, fail to function properly. The reason for this improper operation is seen, by the author, in the competition (race condition) between the normally open and normally closed contacts of the same relay. This situation is analyzed in some detail and it is pointed out that in a real device operational disruptions in the system as a result of race conditions can be eliminated by adjustments of the tension of the contact springs. Such adjustment does not normally, in the opinion of the author, meet the requirements of satisfactory operational reliability. Following this introductory section, there is a general review of existing works dealing with the study of relay systems operating with real contacts. The point is made that in all these papers the approach to the investigation of real-contact-

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operating systems have been essentially the same: they are based on ready-made systems (of whatever method of construction), the operational correctness of which on ideal contacts is beyond any question, with a determination then made of the necessary and sufficient conditions which will guarantee proper system functioning when operating on real contacts. Three papers employing this general technique are reviewed and their findings are analyzed. The author's approach to the problem of achieving structures exempt from race conditions in the synthesis of systems operating under real conditions is fundamentally different; that is, the problem as formulated in the present paper is not one of finding a method of eliminating the race conditions from already designed relay systems, but rather one of finding a method of achieving, in the process of synthesis itself, systems free of such conditions. It is assumed that the operating conditions of the output of a relay device are described by a Boolean function

$$F = (\bar{x} \vee \bar{y} \vee \dots \vee \bar{z}) (\bar{x} \vee \bar{y} \vee \dots \vee \bar{z}) \dots \dots \dots (1)$$

$$F = (\bar{x} | \bar{y} | \dots | \bar{z}) \vee (\bar{x} | \bar{y} | \dots | \bar{z}) \vee \dots \dots \dots$$

A perfect normal form (disjunctive) of a Boolean function is considered. The problem of achieving the minimal form of the function  $F_{min}$  corresponds in a

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ACCESSION NR: AT4031770

contact system to the minimum number of contacts. By way of example, the author has analyzed the synthesis of a system, the operating conditions of which are described by the function

$$F = xyz + xy\bar{z} + \bar{x}y\bar{z} + x\bar{y}z + \bar{x}\bar{y}z + \bar{x}y\bar{z}. \quad (2)$$

$F_{min}$  is derived through the Quine method (W. Quine. A way to simplify truth functions. Amer. Math. Monthly, v. 59, n. 8, 1952; v. 62, n. 9, 1955). An entire set of simple implicants is first derived in the minimization. In his treatment of the problem, the author also makes use of tables given by McCluskey (E.J. McCluskey. Minimization of Boolean functions. Bell System Tech. J. XXXV, No. 6, 1956). Orig. art. has: 2 tables and 3 figures.

ASSOCIATION: none

SUBMITTED: 14Nov63

SUB CODE: IE, EO

DATE ACQ: 16Apr64

NO REF SOV: 004

ENCL: 00

OTHER: 004

Card 4/4

S/044/63/000/001/047/053  
A060/A000

16.7577  
16.0602  
AUTHOR:

Vorzheva, V. V.

TITLE:

Obtaining partial minimal forms of boolean functions which do not interfere under circuit realization

PERIODICAL:

Referativny zhurnal, Matematika, no. 1, 1963, 33 - 34, abstract  
IV146 (In collection: "Avtomat. regulirovaniye i upr.", Moscow,  
AN SSSR, 1962, 437 - 443)

TEXT:

In the operation of a relay mechanism it is possible for interference to arise, i.e. the vanishing of a signal for a short duration, or the appearance of a false signal during the change of states of the variables due to the presence of an operation time in the relay. The author formulates the problem of obtaining the minimal form of a boolean function which is free of interference during the change of states of one variable. The general minimal form of a boolean function is free of interference. Further, the author describes a procedure by following which it is possible to derive from the general minimal form special minimal forms free of interference, if any such forms other than

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Obtaining partial minimal forms of boolean...

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A060/A000

the general minimal form are existing. The plan of solution is a modernization of the Quine and MacCluskey minimization method.

R. G. Bukharayev

[Abstracter's note: Complete translation]

Card 2/2

FOLDES, I.; VOSA, C.; ROSZ, A.; DOBRONYI, J.

Experimental influencing of the blood calcium level by  
hypothalamus lesion. Acta physiol. hung. 10 no.2-4:229-  
238 1956.

1. Institute of Anatomy, Histology and Embriology, University  
Medical School, Debrecen; Institute of Inorganic Chemistry,  
Kossuth Lajos University of Sciences, Debrecen.

(HYPOTHALAMUS, physiol.

eff. of exper. lesions on blood calcium & potassium  
in rats)

(CALCIUM, in blood

eff. of exper. lesions of hypothalamus in rats)

(PHOSPHORUS, in blood

same)



VOSAHLIK, M.

Method for the quantitative determination of zooplankton. p.136.  
(Vodni Hospodarstvi, No. 5, May 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) IC. Vol. 6, No. 9, Sept. 1957. Uncl.

20992

Z/031/61/009/005/003/004  
D007/D102

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AUTHORS: Poláček, J., Engineer; Lauterbach, J.; Vošahlik, R.;  
and Kulišek, B.

TITLE: Theory and application of explosive metal forming

PERIODICAL: Strojírenská výroba, v. 9, no. 5, 1961, 240 - 245, 248

TEXT: The Závody na výrobu vzduchotechnických zařízení, n. p. Milevsko, (Plant for the Production of Pneumatic Equipment, Milevsko) is preparing the introduction of explosive forming for VIC pressure containers mounted on RR carriages. The article describes tests on a one-third-size model (actual dimensions of the vessel are shown in Fig. 1), performed to study the technology of this advanced metal forming method. Factors which must be considered in explosive forming are: (1) Choice of a suitable explosive charge; (2) the transmitting medium; (3) shape, dimensions and material of the mold; (4) material for forming; and (5) technological preparation of the working site. All types of brisant explosives are suitable for explosive forming. Those used in the described tests were cast TNT, plastic

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D007/D102

Theory and application...

NP 10, gelatine high explosive (Perunit 20) and ammonium nitrate high-explosive powder. Properties of Czechoslovak commercial explosives are listed in Table I. The plastic NP 10 explosive was chosen for testing of annular-, ball-, rod-, and pear-shaped charges. The annular shape is not suitable since it is not possible to ignite the entire ring simultaneously and the blank corrugates and tears. The ball-shaped charge (Fig. 4) is more suitable and can be ignited with one detonator placed in the center. However, great pressure acts on the bottom of the mold and a secondary reaction presses the blank upwards with a resultant negative influence on the final shape of the forging. Better results were achieved with rod-shaped charges which can be ignited either at the top, at the middle, or at the bottom (Fig. 6). When bottom ignition is applied (Fig. 7), shock-waves disperse conically and the pressure acting on the mold bottom is considerably smaller, reaching only 2,000 - 2,500 kg/cm<sup>2</sup>. Since the top part could not be drawn out completely with any of these charge shapes, a modified pear-shaped charge was tested which was suspended with the smaller end downwards and ignited at the bottom.

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Theory and application...

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D007/D102

However, the desired effect was still not reached. Since empirical results are still insufficient, the proper charge shape and initiation point will have to be experimentally found for each specific case. Water was used in the tests to transmit the explosive force to the blank. The more advantageous closed mold (requiring smaller charges) could not be used since the mold in this specific case would have been too heavy. However, in the upper regions of an open mold, the transmitted pressure rapidly decreases due to the dilution of the transmitting medium, which explains the fact that the upper regions of the blank were not drawn out completely. The mold used in the tests consisted of two welded halves made of 11 523 grade steel sheet. The mold shell was reinforced by 2 strong hoops and a number of radial struts. The mold was not annealed, despite the large number of welds which caused considerable stresses, and was loosely placed on the base plate. The blank was secured either by clay to the steel base plate, or by a 50 mm thick rubber lining clipped to the blank. The tests revealed that the mold bottom should be made of a material with elastic properties. The originally used 50 and 80 mm thick plates of rolled 11 370 steel bent and

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Z/031/51/009/005/003/004  
D007/D102

Theory and application...

ruptured after several tests with the grain structure of the fracture resembling that of cast steel. When covered with a 50 mm rubber lining, the steel bottom plates resisted shock waves till the lining was mechanically damaged. A gap formed by placing spacers between the two mold halves facilitated air escape from the space between the mold and the blank. The gap width was varied within the range of 2 - 6 mm. Since the tests were made in an open mold, adequate safety measures had to be taken. When observing the safety regulations of Edict no. 305, published in issue 132 of the Úřední listy (Official Bulletin), dated Oct 24, 1952, explosive forming does not imply any more danger than common pressing. Approximately 45 tests were performed on the rather large one-third-size model. They revealed some technological problems which would not have been recognized had the tests been performed with a smaller model. The gathered experiences, which led to the final design of the mold, can be summarized as follows: (1) Most advantageous is a rod-shaped charge with bottom initiation; (2) the shock-wave effect on the bottom of the mold must be reduced by increasing the distance

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Z/031/61/009/005/003/004  
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Theory and application...

between the charge's lower end and the bottom; (3) the upper part of the blank must be extended by 50 mm to achieve complete drawout; (4) the effect of the explosive must be increased by raising the water level above the charge; (5) a better securing of the blank must be developed to prevent its damage at each explosion; (6) rubber with a hardness of 60 - 70° Sh offers the best resistance to shock waves; (7) the sheet thickness of the actual-size blanks must be increased 10% to obtain the desired wall thickness of pressings. The actual-size mold, designed according to these experiences, is shown in Fig. 9. The reinforced shell-type mold is horizontally split into 2 halves (1 and 2). The upper half is provided with an extension for a higher water level. Due to the large dimensions, the air between the mold and the blank cannot be evacuated, but escapes through a gap between the 2 mold halves and an annular slit in the upper section of the mold. The rather curved bottom (7) is embedded in a reinforced-concrete bed. On the inside, the bottom is lined with a 200 mm thick rubber layer (8). The molds for both the scaled-down model and the actual-size pressings were made of 11 373 and 11 523

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grade steels. Steel was chosen since the effect of shock waves on other potential mold materials is not yet known. However, test results obtained thus far indicate that plastic materials and reinforced concrete can probably be used for molds. The test blanks (Fig. 10) were made of certificated 11 373.1 - size sheets, welded from 1 or 2 pieces with BH 48 electrodes. The welds were made using backing bars. To prevent cracking of the pressings observed in previous tests, blanks were normalized after welding. However, this treatment produced no substantial improvement and was abandoned in later tests. The thinout of the material was measured with micrometers at several points and results are listed in Table II. During explosive forming, the material is compressed which results in thinout of the final pressed product. This material reduction, which is rather uniform despite differences in material stretching ranging from 6.90 to 11.64%, must be compensated for by adding a 10% allowance to the blank. The material used for explosive-forming tests was 3 mm thick, 11 373.1 sheet metal, certificated according to ČSN 41 1373. The original properties of the material underwent

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the following changes by explosive forming: The strength increased from 36 - 38 kg/mm<sup>2</sup> to 49 - 52.9 kg/mm<sup>2</sup> at the place of greatest deformation; to 43.5 - 50.3 kg/mm<sup>2</sup> in the top section; and to 43.3 - 50.6 kg/cm<sup>2</sup> in the bottom section. (The maximum permissible standard strength for this material is 48 kg/mm<sup>2</sup>). The ductility increased from 26.4 - 28.8 kg/mm<sup>2</sup> to 38.8 - 49.8 kg/mm<sup>2</sup> (in one case even to 50.8 kg/mm<sup>2</sup>). The elongation decreased considerably and ranged from 6.6 - 18.9%, extreme values being 6 and 24.4% respectively. Contraction values ranged from 59 - 67.8%. Notch-bar strength for 6 mm wall thickness ranged from 5.3 - 19.6 kgm/cm<sup>2</sup>; in one case only was it as low as 3.7 kgm/cm<sup>2</sup>. Microstructure tests made on samples taken from welds and other places revealed ferritic structure with a small amount of fine-grained perlite. The weld metal had the same structure. The ferrite grains had the same shape as those of the unformed material, which means that deformation (grain stretching), typical for cold-forming, did not take place. A central part, explosively formed during the tests in June 1960, was used for the construction of a one-third-size pressure vessel assembled 4 months

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later. This test vessel was filled with water and the pressure was increased until failure. At 20 - 25 atm, deformation took place rounding both conical sections, however, failure did not occur until 30 atm. The rupture originated in the bottom section at a distance of 20 mm from and parallel to the weld. The central part remained undamaged, which proves that explosive forming influences the properties of the formed material which retains its toughness despite increased strength and reduced ductility. However, the effects of various explosives on the change of mechanical properties of the formed material are still completely unknown. The insufficient knowledge of laws governing the explosive-forming technique is the greatest obstacle to a wider, economical use of this method. A contribution towards solving this problem was made by Soviet scientist N.Akulov who discovered the laws of plastic flow of metals. To comply with the above safety regulations, a site for explosive-forming was chosen at a sufficient distance from factory buildings. Fork lifts and a truck-mounted crane were used for handling the mold. The mold was partially installed underground in a forming pit (Fig.

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17) surrounded by a protective earth embankment. The curved bottom of the mold was embedded into the reinforced-concrete base plate. Surroundings of the mold bottom were also concreted with a slope towards a drain to draw-off water ejected from the mold. The drainage pipes end in a river at a distance of about 50 m. The top part of the mold is lifted by three HZ 5 hydraulic jacks. A shelter at a distance of 25 m protects the blastman and houses the controls for water pump and hydraulic jack operation. In conclusion, the author states that explosive-forming, a suitable metal-working method for large, intricate forgings and very hard materials, is not yet used in the ČSSR, partly because little is known about the properties of explosives except their destructive properties. There are 20 figures and 2 tables. X

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33198  
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R073/E535

11210

AUTHORS: Poláček, J., Engineer, Lauterbach, J., Kulíšek, B.  
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TITLE: Equipment for explosive forming of hollow bottomless  
vessels. Patent Application Class 7c, 14, PV 7700-60  
dated December 23, 1960

PERIODICAL: Hutnické listy, no.2, 1962, 137

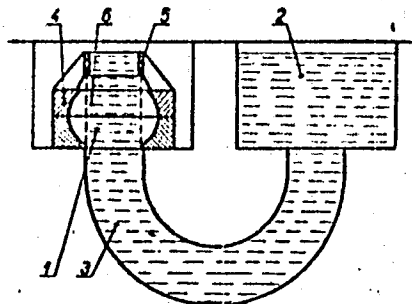
TEXT: The die 4 (Fig.3), together with the hollow blank to  
be formed, are fitted watertight on one arm of the communicating  
vessels 1, 2, 3. Prior to forming, the fluid level is equal or  
higher than the level of the top edge of the blank 6 which is to  
be formed. The attachment 5 permits using a higher fluid level.  
The fluid dampens the unutilised energy during forming. Compared  
to forming in a die submerged into a container with a fluid, this  
equipment has the advantage that a large and deep container is  
not required and that the level of the fluid can be easily  
regulated. There is 1 figure. X

[Abstractor's note: Complete translation.]

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Fig.3



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