accounts for the selective mammalicidal activity of Amiton. In confirmation, O'Brien prepared six fluoro derivatives of Amiton whose pKa's varied from 8.9 to 4.2, and found that selectivity was markedly pKa-dependent.

The neuromuscular junction of the crustacean is probably noncholinergic also. The nature of the neuromuscular transmitter in arthropods is unknown.

B. Holmstedt spoke on the pharmacology of the quaternary alkylphosphate anticholinesterase agents. In past years a number of studies had indicated that such agents have actions independent of their cholinesterase-inhibiting power. It has also frequently been observed that many quaternary ammonium bases are relatively potent, reversible inhibitors of cholinesterase. Several of these reversible inhibitors are also potent neuromuscular blocking agents; less active drugs are, in general, far less efficient cholinesterase inhibitors. Strangely enough, it was not until more than 20 years after the discovery of the organophosphorus compounds that anyone investigated seriously the pharmacological potentialities of such compounds that contained also a quaternary ammonium group.

Compounds of this type can be conveniently grouped in the following categories: (i) phosphostigmines and related compounds, (ii) phosphorylthiocholines, (iii) phosphorylcholines, and (iv) fluorophosphorylcholines.

- 1) Burgen and Hobbiger (1957) reported a series of alkylphenolphosphates in which the carbamate grouping of neostigmine was replaced by various phosphates. All compounds in this series, including the completely reversible analogues, are more active against butyrocholinesterase than acetylcholinesterase.
- 2) The compounds in this group show reactivation curves (activity/time) identical with those of the corresponding organophosphoryl fluorides or anhydrides, when pyridine-2-aldoxime methiodide is used as a reactivator. Furthermore these compounds are relatively stable to hydrolysis, are not attacked by phosphorylphosphatases, and are also extremely toxic. There is probably a partial casual relationship between the latter two factors.
- 3) These compounds are weak, reversible inhibitors in vitro. In animals they produce effects similar to those of some synthetic choline esters. They are characterized by their production of respiratory stimulation, but not of bradycardia.

4) The compounds in this group include both potent inhibitors of acetylcholinesterase, and agents which have a direct choline ester-like effect in preparations in which the enzyme has been completely inhibited. Accordingly, there are three different types: those with only indirect, or anticholinesterase, cholinomimetic effects, represented by the sulfur analogues; those with mainly direct effects in vivo, exemplified by the oxygen analogues; and an intermediate group with both direct and indirect cholinomimetic effects, such as the fluorophosphorylcholines.

The dual qualities of the organophosphorylcholines of being both cholinesterase inhibitors and choline esters is striking. It is likely that the study of this interesting group of compounds will yield even more profitable results in the future. In the efforts to elucidate the action of drugs at a cellular and subcellular level, the property of some of them of being positively charged irreversible cholinesterase - inhibitors should make them suitable for intracellular application through microiontophoresis.

> GEORGE B. KOELLE ROBERT L. VOLLE

Department of Pharmacology, University of Pennsylvania, Philadelphia BO HOLMSTEDT

Department of Pharmacology, Karolinska Institutet, Stockholm

ALEXANDER G. KARCZMAR

Department of Pharmacology and Therapeutics, Stritch School of Medicine, Chicago

RICHARD D. O'BRIEN Department of Entomology, New York State College of Agriculture, Cornell University, Ithaca

Meeting Notes

The following are scheduled meetings to be held in the U.S.S.R. and other Eastern European countries. Similar lists will appear quarterly in this section. In cases where the dates, location or organizers and their addresses are not known, the Academy of Sciences of the nation in question is given as a source of infor-

July 1963

10-14. Czechoslovak Chemical Soc., Zilina, (Czechoslovak Chemical Hradcanske nam. 12, Prague 1-Hradcany) 15-17. Technique of Compacting by Vibration, Scientific Soc. for Mechanical Engineering, Budapest, Hungary. (Architectural Inst., Dioszegi ut. 37, Budapest

22-27. Molecular Spectroscopy, 7th Eu-

ropean congr., Budapest, Hungary. (I. Kovacs, Dept. of Atomic Physics, Polytechnical Univ., Budafoki ut. 8, Budapest 11)

July 1963 (no dates)

Prevention of Blindness in Rumania, Bucharest. (Acad. of the Rumanian People's Republic, Calea Victoriei 125, Buch-

August 1963

5-12. Peat, 2nd intern. congr., Leningrad, U.S.S.R. (Executive Committee, Presidium of Organization Bureau, Gorky St. 11, Moscow)

15-1. High Energy Particle Accelerators and Instrumentation, 3rd conf., Intern. Union of Pure and Applied Physics, Moscow, U.S.S.R. (Acad. of Sciences of the U.S.S.R., Lenin Prospekt 7, Mos-

19-25. Photogrammetry, East German Soc., intern. colloquium, Dresden. (Dres-Technical Univ., George-Baehr-Strasse 7, Dresden A-27)

20-23. Pharmacology, 2nd intern. congr., Intern. Union of Physiological Sciences, Prague, Czechoslovakia. (H. Rašková, Charles Univ., Albertov 4, Prague

26-30. Nephrology, 2nd intern. congr., Prague, Czechoslovakia. (Inst. of Cardiovascular Research, Budejovicka

Prague 4-Krc)

27-31. Scientific and Applied Photography, 4th Hungarian conf., Budapest. A. Polster, Secretary for Photochemistry, Hungarian Soc. for Optics, Acoustics and Cinematography, Szabadság ter. 17, Budapest 5)

August 1963 (no dates)

Lubricants, 5th symp., East German Technology Soc., Chemnitz, Karl-Marx-Stadt. [Scientific-Technical Center, Chemical Industry for Lubricants and Lubrication, Krumpa (Geiseltal) East Germanyl

August-September 1963

Microelements of the Far East, 2nd conf., Vladivostok, U.S.S.R. (Acad. of Sciences of the U.S.S.R., Lenin Prospekt Moscow)

Hemoglobins, symp., Berlin, East Germany. (East German Acad. of Sciences, Mohrenstrasse 38, Berlin W. 8)

Summer 1963

International Technical and Scientific Organization for Soaring Flight, world congr., Poland. (Polish Acad. of Sciences, Palace of Culture and Sciences, Dworkowa 3, Warsaw)

September 1963

1-2. Metallurgical congr., 30th, Prague, Czechoslovakia. (Czechoslovak Acad. of Sciences, Narodní Tr. 3, Prague 1)

Non-classical Shell Problems, symp., Warsaw, Poland. (A. Sawczuk, Intern. Assoc. for Shell Structures Symp., Wspolna 32/46, P. O. Box 155, Warsaw 1)

2-6. Fluid Dynamics, 6th symp., Zakopane, Poland. (W. Fiszdon, Inst. of Basic Technical Problems, Polish Acad. of Sci-



For the first time
—the key role
animals played
in space research

ANIMAL ASTRONAUTS

They Opened the Way to the Stars

By Clyde R. Bergwin and William T. Coleman

Foreword by General Schriever

The full story of the important contributions made by animals to space medicine research. More than a book about animals, this is the exciting story of the U.S. Air Force space program—an inside view of the history making launches.

You'll discover a wealth of neverbefore-available data on how animals are selected and trained for space flights, how they are launched, and what was learned from their flights that paved the way for man to go safely into space. You'll also see what role animals will continue to play in space flight. In the future, as in the past, animals will precede man into space—they will continue to open the way to the stars. \$3.95

Buy it from your bookseller, or order from the publisher. Write to Dept. 313,

PRENTICE-HALL, INC.,

Englewood Cliffs, N. J. Publisher will pay postage if payment is enclosed.

ences, Palace of Culture and Sciences, Dworkowa 3, Warsaw)

2-16. Carpatho-Balkan Assoc., 6th congr., Warsaw, Krakow, Poland. (St. Wdowiarz, Instytut Geologiczny, Grzegorzecka 81, Krakow)

6-9. Physicians of Serbia, 4th congr., Vrnjacka Banja, Yugoslavia. (Yuogslav Acad. of Sciences and Arts, Zrinski trg. 11, Zagreb 1)

8-14. Germination, intern. symp., Greifswald, East Germany. (H. Borriss, Botanisches Institut der Universitaet, Grimmerstrasse 88, Greifswald)

10-13. Testing and Research Laboratories for Materials and Structures, 17th meeting of the permanent commission, Warsaw, Poland. (Polish Acad. of Sciences, Palace of Culture and Sciences, Dworkowa 3, Warsaw)

12-13. **Tumor** Congr., Bratislava, Czechoslovakia. (Czechoslovak Medical Soc., Na Cvičišti 2, Prague 6)

16-19. Oscillographic Polarography, 2nd intern. conf., Smolenice, Czechoslovakia. (Dr. Pelnar, Czechoslovak Chemical Soc., Hradcanske nam. 12, Prague 1-Hradcany)

16-21. Stable Isotopes, 3rd work meeting, Leipzig, Markkleeberg, East Germany. (East German Acad. of Sciences, Mohrenstrasse 39, Berlin W. 8)

16-21. Postmagmatic Ore Formation, conf., Prague, Czechoslovakia. (M. Shtemprok, Central Geological Inst., Malostranski nam. 19, Prague 1)

16-21. Slavists, 5th intern. congr., Sofia, Bulgaria. (Bulgarian Acad. of Sciences, 7th November St., 1, Sofia)

18-21. Biogenic Macromolecules, Physical Chemistry, Jena, East Germany. (Inst. for Microbiology and Experimental Therapy, Reuthenbergstrasse 11, Jena)

18-22. Otorhinolaryngology, intern. conf., Budapest, Hungary. (Hungarian Acad. of Sciences, Akademia utca. 2, Budapest)

23-27. Industrial Chemistry, Intern. Assoc., 3rd congr. and exhibition, Belgrade, Yugoslavia. (I. S. Stankovic, Yugoslav Federation of Chemists and Technologists, Kneza Miloša Br. 7/III, Belgrade)

23-28. Czechosolovak Medical Soc., 21st intern. postgraduate medical course (on pancreas diseases and disorders of the digestive tract), Karlovy Vary, Czechoslovakia. (Czechoslovak Soc. of Physiatry, Czechoslovak Medical Soc., Albertov 7, Prague)

24-28. Role of Atomic Electrons in Nuclear Transformations, Warsaw, Poland. (M. Sujikowski, Polska Akademia Nauk, Instytut Fizyki, ul. Hoza 69, Warsaw)

25-27. Nitro-compounds, intern. symp., Warsaw, Poland. (T. Urbanski, Inst. of Technology, Politechnika Koszykowa 75, Warsaw 10)

25-28. Anesthesia, intern. symp., Budapest, Hungary. [Symposium Internationale Anaesthesiologiae, Sebeszeti Klinika (Surgical Clinic), Ul. ut. 78, Budapest 8]

September 1963 (no dates)

Cardiology, intern. congr., Budapest, Hungary. (G. Gottsegen, Natl. Inst. of Cardiology, Magyvard ter. 1, Budapest 9) Chemicals, 3rd Ostrava colloquium, Ostrava, Czechoslovakia. (Regional Committee, Czechoslovak Scientific-Technical Soc., Section for Chemical Industry, Ostrava)

Crude Oil conf., Czechoslovak Scientific-Technical Soc. (Section for Chemical Industry and group for liquid fuels), Zaluzi, near Most. (Industrial Branch, Czechoslovak Scientific-Technical Soc. of the Natl. Enterprise "Chemicke zavody Ceskoslovenskosovetskeho pratelstvi," Zaluzi)

Czechoslovak Ophthalmological Soc., 27th congr., Prague. [E. Dienstbier, First Ophthalmological Clinic, Faculty of General Medicine, Charles Univ., U nemocnice 2 (499) Prague]

Pharmacological and Clinical Evaluation of Drugs, symp., Prague, Czechoslovakia. (Czechoslovak Acad. of Sciences,

Narodní Tr. 3, Prague 1)

Neuropsychiatrists, 2nd congr., Ohrid, Yugoslavia. (Neuropsychiatric Clinic, Skoplje, Yugoslavia)

Electrical Thermodynamics and Kinetics, intern. committee, 14th meeting, Moscow, U.S.S.R. (Acad. of Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow)

October 1963

- 1-4. Virology, 3rd natl. conf., Bratislava, Czechoslovakia. (M. Ihnata, Inst. of Virology, Czechoslovak Acad. of Sciences, Narodní Tr. 3, Prague 1)
- 2. Electronic Calculating Machines, 4th colloquium, Magdeburg, East Germany. (Mathematics Inst., Technische Hochschule Otto von Guericke, Boleslav-Beirut-Platz 5, Postschiessfach 124, Magdeburg)
- 2-4. Rehabilitation in Internal Medicine, congr., Czechoslovak Medical Soc., Karlovy Vary. (A. Mecl, Internal Medicine Hospital, Klimentska ul. 1, Prague, Czechoslovakia)
- 3-4. Statistical Quality Control, 8th colloquium, Magdeburg, East Germany. (East German Acad. of Sciences, Subcommission on Statistical Quality Control, Section for Applied Mathematics and Mechanics, Mohrenstrasse 39, Berlin W. 8)
- 15-18. Electrotechnology, 8th intern. colloquium, Ilmenau, East Germany. (Ilmenau Inst. of Electrotechnology, Ilmenau)
- 16-18. Medicinal Plants, intern. conf., Sofia, Bulgaria. (Bulgarian Acad. of Science, 7th November St. 1, Sofia)
- 23-25. Surgery Section, Czechoslovak Medical Soc., congr., Brno. (J. Novak, Surgical Clinic, Inst. for Postgraduate Medical Training, Prague 8, Czechoslovakia)
- 30-1. Industrial Medicine, 8th natl. congr., Marianske, Lazne, Czechoslovakia. (F. Nuzl, Div. of Occupational Diseases and Industrial Toxicology, State Medical Facility, Marxova 13, Plzen, Czechoslovakia)

30-1. Modern Therapy, conf., Prague, Czechoslovakia. (L. Kremlicka, Ophthalmology Faculty, Inst. for Postgraduate Medical Training, Bulovka Hospital, Prague 8-Liben)

Chemical Engineering, Machine-Building, and Automation, 9th natl. conf., Karlovy Vary, Czechoslovakia. (Industrial Branch, Czechoslovak Scientific-Technical

Soc., Chemoprojekt, Stepanska 15, Prague 1)

Technical Microbiology, Berlin, East Germany. (East German Acad. of Sciences, Mohrenstrasse 39, Berlin W.8)

Microwire and Resistance Measuring Instruments, 2nd scientific technical conf., Kishinev, Moldavian S.S.R. (Moldavian Acad., Kishinev, Moldavian S.S.R.)

October 1963 (no date)

Pure and Applied Physics, Intern. Union, 11th general assembly, Warsaw, Poland. (Polish Acad. of Sciences, Palace of Culture and Sciences, Dworkowa 3, Warsaw)

Workers in Roentgenography, cong., Kutna Hora, Czechoslovakia. (Inst. for Mineral Raw Materials, Hlousecka 279, Kutna Hora)

Radiological Defense, symp., Yugoslavia. (Inst. for Medical Research and Industrial Medicine, Yugoslav Acad. of Arts and Sciences, Zrinski trg. 11, Zagreb)

October-November 1963

Technical and Scientific Films, 3rd intern. festival, Budapest, Hungary. (Hungarian Soc. of Mechanical Engineers, Szabadság ter. 17, Budapest 5)

Autumn 1963

Radiation Chemistry, 3rd all-union conf., U.S.S.R. (Acad. of Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow)

November 1963

7-9. East German Chemical Soc., annual, Leipzig, (East German Acad. of Sciences, Mohrenstrasse 39, Berlin W.8)

15-16. **Burns**, symp., Commission for Plastic Surgery of the Czechoslovak Medical Soc., Prague. (P. Pudlak, Czechoslovak Medical Soc., Sokolska 31, Prague 2)

21-23. Forensic Physicians, 10th conf., Prague, Czechoslovakia. (Czechoslovak Acad. of Sciences, Narodní Tr. 3, Prague 1)

November 1963 (no date)

Hematology, 2nd intern. conf., Pecs, Hungary. (I sz. Belgyogyaszati Klinika, Pecs I, Garau u 3 sz, Hungary)

December 1963

5-7. German Soc. of Miners and Metallurgists, 9th annual (Gesellschaft Deutscher Berg-und Huettenleute, Wallstrasse 68, Berlin C.2, East Germany)

December 1963 (no dates)

Rocket Technology and Astronautics, 2nd Czechoslovak conf., Liblice. (R. Pesek, Astronautic Commission, Czechoslovak Acad. of Sciences, Konviktska 22, Prague 1)

International Assoc. of **Dental Students**, congr., Zagreb, Yugoslavia. (Yugoslav Acad. of Sciences, Zrinski trg. 11, Zagreb 1)

Ionosphere conf., Kuehlungsborn, East Germany. (Heinrich-Hertz Inst. Adlershof, Geomagnetisches Inst., Potsdam, Telegraphenberg, East Germany)

Continuum Mechanics, applications of the theory of functions, symp., Tbilisi, U.S.S.R., (U.S.S.R. Natl. Committee on Theoretical and Applied Mechanics, Leningrad Ave. 7, Moscow A-40)

International Medico-Athletic Federation, 14th congr., Prague, Czechoslovakia. (Czechoslovak Acad. of Sciences, Narodní Tr. 3, Prague 1)

Society of **Obstetrics and Gynecology**, Craiva, Rumania. (Acad. of the Rumanian People's Republic, Calea Victoriei 125, Bucharest)

Roentgen Specialists and Radiologists, 2nd congr., Bulgaria. (Bulgarian Academy of Sciences, 7th November St. 1, Sofia)

Inquiries on the following meetings should be addressed to the Academy of Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow:

Atomic Structure, Soviet Summer Inst., Trakia, U.S.S.R.

Young Biologists, 4th all-union scientific conf., Krasnoyarks, U.S.S.R.

Inorganic Chemistry, 5th Ukrainian Republic conf., Ukrainian S.S.R.

Crystallochemistry, 5th conf., U.S.S.R. High Energy Particle Accelerators and Instrumentation, 3rd conf., Moscow.

Lithological conf., 6th all-union, U.S.S.R.

Manufacturing Methods: Physical properties and electron structure of refractory metals, compounds, and alloys, 5th allunion conf., U.S.S.R.

Medicinal Plant Resources, all-union conf., U.S.S.R.

Microminiaturization of radio and electronic equipment, 2nd conf., U.S.S.R.

Noble Metals, analysis, 6th all-union conf., Krasnoyarks, U.S.S.R.

Nuclear Fission, physics conf., U.S.S.R.

May 1964

6-10. East German **Geographic Soc.**, 7th meeting, Leipzig. (East German Geographic Soc., Georgie Dimitroff Platz 1, Leipzig C.1)

May 1964 (no dates)

Geodetic Conf., natl., Czechoslovakia. (B. Volfik, Research Inst. of Geodesy, Topography and Cartography, Trida Politickych Veznu 12, Prague, Czechoslovakia)

Heat and Mass Transfer, conf., Minsk, U.S.S.R. (Acad. of Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow)

June 1964

Balkan Medical Week, 7th, Sofia, Bulgaria. (M. Popescu-Buzeu, 10, rue Progresului, Bucharest, Rumania)

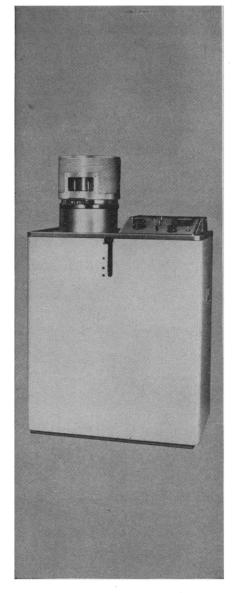
July 1964

15-19. Biological Sciences, intern. union, 15th general assembly, Prague, Czechoslovakia. (Czechoslovak Acad. of Sciences, Narodní Tr. 3, Prague 1)

July 1964 (no dates)

Materials and Structures, intern. union, Testing and Research Laboratories, 18th annual meeting of the permanent commission, Moscow, U.S.S.R. (Acad. of Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow)

Anthropological and Ethnological Sciences, 7th intern. congr., Moscow. (Secretariat, Inst. of Ethnography, Acad. of



Vac-Evap®

(A high speed vacuum evaporator from Bendix)

- 3½ minutes to 1 x 10-4 mm Hg.
- 10 minutes to 5 x 10-5 mm Hg.
- Single lever vacuum control.
- Hinged bell jar (8½" diameter) with protective cover.
- 2 extra feed-through ports for external vacuum connections.
- Specimen protecting shutters controlled from outside vacuum.
- Compact design—takes less than 3½ square feet of floor space. 36 inches high.
- All materials, tools, and accessories supplied, including carbon evaporation unit.

For information, write us at 3625 Hauck Road, Cincinnati 41, Ohio.

Cincinnati Division



Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow)

August 1964

2-8. International Assoc., Applied Psychology, 15th congr., Ljubljana, Yugoslavia. (Inst. of Psychology, Faculty of Philosophy, Askerceva 12, Ljubljana)

14-19. Soil Scientists tour of the Soviet Union to precede congress. (Acad. of Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow)

31-9. Soil Scientists, 8th intern. congr., Bucharest, Rumania. (Acad. of the Rumanian People's Republic, Calea Victoriei 125, Bucharest)

26-3. Electron Microscope Societies, intern. 3rd European conf., Prague, Czechoslovakia. (Czechoslovak Acad. of Sciences, Narodní Tr. 3, Prague 1)

September 1964

15-20. **Pharmacists**, Yugoslav, 4th congr., Opatija. (Yugoslav Acad. of Sciences and Arts, Zrinski trg. 11, Zagreb 1)

28-4. Cardiology, 14th European congr., Prague, Czechoslovakia. (H. Kafka, Karlovo nam. 31, Prague 2)

30-4. Spectroscopy, 11th intern. conf. Belgrade, Yugoslavia. (11th Colloquium Spectroscopicum Internationale, Sekretarijat, Prirodno-matematicki fakultet, Fizickohemijsky zavod. Beograd, Studentski trg. 16, Blok "C" Yugoslavia)

September 1964 (no dates)

Prehistoric and Protohistoric Sciences, 7th intern. congr., Moscow, U.S.S.R. (Acad. of Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow)

Ophthalmological Soc., 28th annual congr., Kosice, Czechoslovakia. (Ophthalmological Diseases Clinic, Medical Faculty, P.J. Safarki Univ., Ratislavova 41, Kosice)

Polarography in chemotherapy, biochemistry, and biology, 2nd Jena symp., Jena, East Germany. (Inst. for Microbiology and Experimental Therapy, Reuthenbergstrasse 11, Jena)

September-October 1964

Pathophysiologists, 1st all-union congr., Tbilisi, U.S.S.R. (I. R. Petrov, All-Union Soc. of Pathophysiologists, Moscow)

1964 (no dates)

Animal Blood Group, 9th conf., Czechoslovakia. (Czechoslovak Acad. of Sciences, Narodní Tr. 3, Prague 1)

Ophthalmologists, 29th Polish congr., Krakow, Poland. (M. Wilczek, ul. Slawkowska m. 3, Krakow)

High Energy Nuclear Physics, 12th intern. conf., Moscow. (I. E. Tamm, Academy of Sciences of the U.S.S.R., B. Kaluzhskaya 14, Moscow)

Inquiries on the following meetings should be addressed to the Academy of Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow:

Theoretical and Applied Mechanics, 2nd all-union congr., Moscow. (Dept. of Technical Sciences, Academy of Sciences of the U.S.S.R.)

Microelements and Natural Radioactivity in Soils, inter-VUZ conf., U.S.S.R. Neurocybernetics, 2nd all-union conf., Kiev, U.S.S.R.

Zoologists, 2nd conf., Krasnodarsk, U.S.S.R.

Forthcoming Events

July

24-27. Nucleon Structures, intern. conf., Stanford, Calif. (R. Hofstader, Dept. of Physics, Stanford Univ., Stanford)

25. Chemotherapy, 1st intern. meeting, Stuttgart, Germany. (H. P. Kuemmerle, Postfach 3030, Stuttgart 1)

25-26. Veterinary Toxicology, conf., New York, N.Y. (K. L. Gabriel, School of Veterinary Medicine, Univ. of Pennsylvania, Philadelphia)

27-3. Institute of **Religion in an Age of Science**, 10th conf., Portsmouth, N.H. (Inst. of Religion in an Age of Science, 280 Newton St., Brookline 46, Mass.)

28-1. American Veterinary Medical Assoc. 100th annual, New York. (AVMA, 600 S. Michigan Ave. Chicago S. III.)

600 S. Michigan Ave., Chicago 5, Ill.)
28-3. **Pediatrics**, 7th Pan American congr., Quito, Ecuador. (J. Vallarino, P.O. Box 2269, Quito)

29-1. International Psycho-Analytical Assoc., 23rd congr., Stockholm, Sweden. (E. R. Zetzel, Intern. Psycho-Analytical Assoc., 14 Hubbard Pl., Cambridge 38, Mass.)

29-3. Global Impacts of **Microbiology**, intern. conf., Stockholm, Sweden. (M. Tveit, Swedish Sugar Corp., Arlöv, Sweden)

29-9. Chemicals and Paper, 1st annual conf., Appleton, Wis. (Inst. of Paper Chemistry, Appleton)

August

1-6. Group **Psychotherapy**, 3rd intern. congr., Milan, Italy. (P.O. Box 311, Beacon, N.Y.)

3-7. Contact Lens, 2nd world congr., Chicago, Ill. (H. G. Klene, 18 S. Michigan Ave., Chicago 3)

3-10. International Esperanto Congr., Sofia, Bulgaria. (R. A. Lewin, Scripps Institution of Oceanography, La Jolla, Calif.)

4-7. Heat Transfer, 6th natl. conf., Boston, Mass. (D. Q. Kern, 7016 Euclid Ave., Cleveland 3, Ohio)

4-9. Aerospace Support, intern. conf. and exhibit, Washington, D.C. (I.E.E.E., Box 6635, Washington 9)

5-7. Western **Resources** Conf., 5th annual, Fort Collins, Colo. (N. Evans, Dept. of Agricultural Engineering, Colorado State Univ., Fort Collins)

5-9. Lattice Dynamics, intern. conf., Copenhagen, Denmark. (S. Lundqvist, Dept. of Mathematical Physics, Chalmers Univ. of Technology, Gibraltargatan 58, Göteborg S, Sweden)

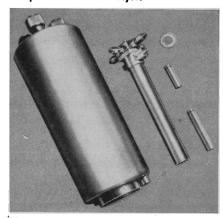
5-23. Relativity in College **Physics**, Ithaca, N.Y. (T. J. Peterson, Jr., Dept. of Physics, Cornell Univ., Ithaca, N.Y.) 5-30. **Engineering Foundation** Research

5-30. Engineering Foundation Research Conf., Andover, N.H. (H. K. Work, Engineering Foundation, 345 E. 47 St., New York 17)

EXTEND YOUR RESEARCH CAPABILITIES

in

- 1. hi-temp shock wave measurements
- 2. nondestructive testing
- 3. chemical analysis
- 4. near-space investigation
- 5. passive terrain mapping
- 6. process-stream analysis



Raytheon Photoconductive Infrared Detectors offer improvements in spectrometer performance from visible light to microwaves. Metal cases assure high reliability. Designed for open or closed-cycle cryogenic cooling. Less than 1 µsec response time. Sample data:

TYPE	DETECTOR ELEMENT	WINDOW	RESPONSE (microns)
QKN1003	AuGe	BaF ₂	1-10
QKN1004	AuGe	BaF_2	1-10
QKN1005	HgGe	BaF_2	1-15
QKN1227	HgGe	BaF_2	1-15
QKN902	CuGe	BaF_2	1-17
QKN1009	CuGe	KRS-5	1-30
RP-1 (IR polarizer)			

98% polarization-4 microns and beyond

Write today for complete data. Raytheont Company, Special Microwave Devices Operation, Waltham 54, Massachusetts.

