Gels polymerized and electrophoresed in UV-transparent tubes can be scanned in the same tubes at 280 nm without staining. Stained gels can be scanned at 580 nm, 620 nm, or 660 nm. Dual beam scanning subtracts ampholyte absorbance in isoelectrically focused gels.

The scanner is an accessory for the ISCO absorbance monitor, which also scans chromatographic effluents and centrifuged gradients at 13 wavelengths over 8 sensitivity ranges. Options include a built in 10 cm recorder and Peak Separator, which deposits each chromatographic peak into individual collection tubes.

**ELECTROPHORESIS APPARATUS**

The linear alignment of gel tubes and an easily lowered bottom buffer tank allow convenient access to tubes. Leakproof molded buffer tanks have electrical interlocks and integral cooling.

All ISCO biochemical research instruments are described in our catalog. Send for your copy today.

**References**


Abelson states in his editorial of 30 November 1973, that the less developed countries (LDC's) need the skills and know-how which the multinational corporations often are unwilling to provide.

My experience is confined to the petroleum industry, but I am convinced that many, if not all, multinational oil companies have been wholeheartedly giving know-how and training on a large scale to nationals of the LDC's. At the University of Tulsa alone, we have 300 students from Venezuela and the Middle East studying petroleum technology. Most multinational companies are staffed almost entirely by nationals. Newly formed government oil companies in the LDC's have no difficulty obtaining information about highly sophisticated exploration and production techniques by contracting American service companies and hiring experienced Americans. I am a member of a group that offers advanced continuing education courses around the world, and many of our students have been nationals of LDC's who have been sent by their companies.

The big lack in the LDC's is capital, but with their current nationalist and socialist politics they are unlikely to acquire any. Foreign capital is either rejected outright by the LDC's, or foreign companies are admitted and then harassed if they show a profit. Local capital accumulates very slowly because of high taxes and social legislation. Savings that should be invested are siphoned off into government bureaucracies. Inert and money losing government enterprises, politically managed and loaded with surplus employees, turn what should be contributions to the economy into a drain on the public treasury.

**Parke A. Dickey**

*Department of Earth Sciences, University of Tulsa, Tulsa, Oklahoma 74104*

While the observations in Abelson's editorial are accurate, the conclusions he draws from them are rather beside the point.

The notion that "LDC's wish to achieve full independence from technological dominance" implies that creation of competitive national economies in the 19th and early 20th century sense is possible; that the governments of LDC's think in such terms; and that the multinational corporations can be considered "U.S. international firms," as in the title of Abelson's cited source (1). None of these implications will stand up under analysis.

The multinational corporation is not merely an American, British, French, or Dutch concern with operations in a number of foreign countries. The multinational corporation seeks assiduously to extricate itself from the political control and direction of the country of its origin, to pursue its own goals (growth and profit) without reference to the policies of either its country of origin or of the country within which it carries out its operations. Such neo-mercantile concepts as "balance of trade" have no meaning for it. It seeks to cosmopolitanize the directorate of its headquarters and its major field operations as well. It seeks to create, both within its country of origin and within the countries—LDC's or other—in which operations are carried out, a corporate citizenry whose first loyalty is to the firm and not to the political entity of the nation. Political leaders, whether in the country of origin or in the other countries in which it operates, are, insofar as possible, to be controlled by enrollment in or identification with the corporate citizenry. Where they cannot be controlled there are options.
ranging from pullout (after all, IBM typewriters can be assembled as easily in Ecuador as in Colombia) to the initiation or support of their overthrow.

To whom is the technological know-how to be transferred in the LDC’s? Surely not to the governments of the countries; certainly not to any eager group of local entrepreneurs anxious to develop a competing, national electric typewriter firm. The experience of past decades indicates that the Latin American managers who work for multinational corporations see their futures in terms of rising in the managerial hierarchies of these firms and not as participating in some turn-key operation resulting in the creation of a nationally controlled, modern industrial segment of their country’s economy.

The multinational corporation increasingly is viewed as a novel entity, not only possessing economic and political power, but possibly capable of assuming actual political identity. If there is truth to this view, the real question, then, is, what is the relationship that will finally emerge between nation states, developed or not, and the multinational corporations?

DAVID C. MACMICHAEL
Stanford Research Institute, Menlo Park, California 94025

References

Cancer and Adventists

The reference to “cancer incidence” among Seventh-day Adventists in Philip Abelson’s editorial “Prevention of cancer” (7 Dec. 1973, p. 973) requires some clarification. Lifetime Adventists age 35 and over who live in California experience a cancer mortality rate (not incidence) that is 41 percent of that of all Californians. However, for all Adventists age 35 and over, the cancer mortality rate is 59 percent of the rate of all Californians. At present, there are no data available on “devout” Adventists, but an investigation of how components of the Adventist life-style relate to cancer incidence is now underway.

ROLAND L. PHILLIPS
Department of Biostatistics and Epidemiology, Loma Linda University, Loma Linda, California 92354

$50,000 of life insurance costs less than $100
at age 30.

That’s right! For a man, age 30, the annual premium for a 20-Year Home Protection policy providing $50,000 initial amount of insurance is $159.00. The first-year dividend, based on our current dividend scale, is $61.50, making a net payment of $97.50. Dividends, of course, are not guaranteed.

The Home Protection plan is level premium Term insurance providing its largest amount of protection initially, reducing by schedule each year to recognize decreasing insurance needs. This is just one example of the many low-cost TIAA plans available.

If you need more protection for your family, ask us to mail you a personal illustration with figures for a policy issued at your age. We’ll also send the Life Insurance Guide describing other TIAA policies.

ELIGIBILITY
Eligibility to apply for this or other TIAA life insurance is limited to persons employed at the time of application by a college, university, private school, or other nonprofit educational or scientific institution that qualifies for TIAA eligibility.
Homogenized Milk and Atherosclerosis

In the article “Atherosclerosis and the arterial smooth muscle cell” (29 June 1973, p. 1332) Russell Ross and John A. Glomset give an excellent presentation of the role the arterial smooth muscle cell plays in the genesis of lesions of atherosclerosis. In addition, they discuss such factors as lipids and cholesterol being important in the development of atherosclerosis in experiments with various laboratory animals.

Although they make it clear that “relatively little is known about the genesis of the disease,” they do not mention other, less popular, hypotheses about the genesis of atherosclerosis. For instance, the hypothesis presented by K. Oster (1) offers a fresh approach to the cause and prevention of this disease. Oster proposed that the enzyme xanthine oxidase (XO) in homogenized milk may be involved in atherosclerosis and other cardiovascular diseases in humans.

Briefly, XO is an oxidizing enzyme in milk and is synthesized in liver and mammary gland. Besides being present in relatively large amounts in bovine milk, XO is also present in the milk of other ruminants, such as sheep and goats, but is not present in human, sow, and mare milk (2). This enzyme controls the last stages of purine catabolism by removing hypoxanthine and xanthine in the form of uric acid from the general pool of purines. Because of its low substrate specificity, XO also oxidizes several other purines (3) and many aldehydes (4) to their respective acids. Pasteurization of milk as is done in the United States (a holding time of 62°C for 30 minutes or 71°C for 15 seconds) leaves approximately 42 percent of the enzyme in its active state (5). This is understandable, as heat sensitivity studies of milk indicate that XO is completely inactivated at about 82°C to 84°C (6). This enzyme in milk is closely associated with the fat globule (7). The fat globules in nonhomogenized cow’s milk vary in size from about 0.1 to 15 micrometers. They average about 3.5 μm, with 80 percent in the range of 2.0 to 5.0 μm. During homogenization, the fat globules are reduced in size from an average diameter of about 3.5 μm to about 1 μm (8). As a result of this unnatural micronization, the following alterations occur in homogenized milk: (i) a large increase in the number of fat globules; (ii) a large
expansion of the fat globule surface area; (iii) as a consequence of (i) and (ii), an increase in the biological availability of XO by a factor of at least 3.5; and (iv) an increase in the potential of XO to pass undigested through the intestinal mucosa. Once it passes through the intestinal mucosa, it eventually reaches the bloodstream (via the lymph system) and is deposited ectopically, first in the heart muscle and then in the arterial wall.

Oster proposed that, inside the body, XO (on the fat globule) finds large quantities of the substrate, plasmalogen [the aldehydic moiety of plasmalogens which is essential in maintaining the elasticity in the arterial wall (9)] in situ in the outline of the arterial wall and in the myocardium. The enzyme would then, by oxidizing these aldehydes, create a histochoncal change in the site, which could be overcome either by the formation of more substrate or by scar formation. This healing process in the vessel wall would be the initiation of atherosclerosis. It is at the site of such tissue destruction that cholesterol deposition begins.

This hypothesis is in sharp contrast to the prevailing ideas about avoidance of saturated fat and cholesterol in the diet to reduce atherosclerotic lesions and the incidence of myocardial infarction. The Masai, an East African tribe with an extremely large intake of non-homogenized milk (about 7 liters per day) and saturated fatty acids (about 60 percent of their diet), rarely develop atherosclerosis (10). Also, epidemiological data on the consumption of fluid milk, cream, butter, and cheese in selected countries indicate a high correlation between the death rate from heart disease and the consumption of homogenized milk (10, 11).

Oster's hypothesis and the accumulated evidence supporting it should be carefully examined before being rejected.

JOHN P. ZIKAKIS  
Department of Animal Science and Agricultural Biochemistry, College of Agricultural Sciences, University of Delaware, Newark 19711

References

The "Relevance" of Basic Science

Herbert Simon's editorial "Relevance—there and here" (17 Aug. 1973, p. 163) comes at a very interesting time—not so much because of the current political détente, but because we are at the end of the relevance dogma which was prevalent in certain academic circles, say 5 years ago.

There has never been purely basic science, science predicted solely on "a thirst for knowledge," just as there is no completely relevant endeavor (whatever that would mean). Science, per se, is a question-answering process; and questions, whether aimed at descriptive or prescriptive issues, arise from a combination of interests, abstract and pragmatic. The advances in computer science are responses not solely to developments in automata theory, but to some very real questions about information storage and processing. Similarly, the investigation of human learning is not simply an inquiry into the properties of memory, but a desire to understand how knowledge can be acquired and used. Of course, knowledge can be integrated into theories, but this is not what makes "us" scientists; it is the desire to deal with questions in a structured way.

Questions, then, are relevant because that is what questions are—issues of interest. Societal funds may be allocated so as to promote certain interests; but not so much to exclude "non-relevant" concerns as to focus on immediate problems. And even here, there is always at least a little left over for long-range problems.

The issue of cross-cultural neglect of basic sciences thus appears to me to be a straw man. The danger is that such an argument will lead to a form of elitism and intellectual isolationism in science.

STEPHEN GALE
Peace Science Unit, University of Pennsylvania, Philadelphia 19174
ELECTROPHORESIS IN ONE DIMENSION

on 18½" x 22½" sheets of filter paper (Chromatography may be done in second dimension). Many complex mixtures can be rapidly resolved by electrophoresis in one dimension on papers up to 4 feet long.

Developed in the Laboratory of Cellular Physiology and Metabolism, National Heart Institute, National Institutes of Health, Bethesda, Maryland. Special thanks are due to Dr. William J. Dreyer, whose co-operation and suggestions are gratefully acknowledged by Gilson Medical Electronics.

**Safety features:**
- Strong, joint-free fiberglass tank eliminates electrical and fluid leaks
- High voltage connected to inside of tank by Nylon and stainless steel plugs attached to edge of tank
- Highly reliable interlock provided by an extension of the cover handle
- When cover is removed, high voltage is ipso facto turned off
- No capacitors to sneakily store electricity in apparatus

★ Easy loading with folding rack
★ 5,000 volts at 300 ma.
★ Paper immersed in bifurcated fiberglass tank containing Varsol
★ Varsol, a light petroleum fraction, has a high flash point (over 100° F.), does not conduct electricity, and has the proper degree of volatility
★ Cold tap water run through stainless steel coils at top of tank is only coolant necessary

GILSON MEDICAL ELECTRONICS
Middleton, Wisconsin 53562 • Telephone 608/836-1551

GILSON products are also manufactured in Europe:
GME • 69, Rue Gambetta — 95, Villiers-Le-Bel, FRANCE
Most of your Bio Med problems can be solved by an unknown.

Say goodbye to time sharing. Give the pocket calculator to your kids. Stop wasting your time doing math with a pencil.

If you’ve got statistical problems, we’ve got a solution. The Compucorp Micro Statistician. The professional's machine.

The Statistician is a hand-held, battery operable Micro Computer that thinks the way you think.


The Micro Statistician is the first and only hand-held Micro Computer with built-in standard deviation (grouped or ungrouped), linear regression, z-score, t-dependent and independent, logs and anti-logs, coefficient or correlation, expected y from regression coefficients, slope and intercept.

The Micro Statistician is also the first hand-held statistical machine that's programmable. It allows you to have two 80-step programs in memory at the same time. Which means repetitive calculations are a snap. You can do register arithmetic in and out of all ten storage registers. And you can set the decimal point anywhere you want it. And change it whenever you want to.

The Compucorp Statistician is the first hand-held machine with 13-digit accuracy and a big, bright 10-digit display. It's also the first one with an algebraic keyboard and nested parentheses.

Get all the facts on Compucorp Micro Computers. We may be an unknown to you, but we're already solving tough Bio Med problems around the world.

See your local Compucorp dealer. Or write Computer Design Corporation, 12401 Olympic Boulevard, Los Angeles, California 90064.

Compucorp
The Unknown Factor in 63 countries.

Circle No. 2 on Readers' Service Card
tion nor the anodic stripping voltammetry techniques were used to analyze the first seawater sample in a manner that gave reliable results. Although concentrations reported for the second sample were closer to standardized values, it was agreed that this reflected an increase in the ratio of analyzed sample lead to procedural blank lead. Results obtained in the third and fourth standardized samples substantiated this interpretation. Material balance considerations showed that the amounts of lead in the analyzed sample were of the same order as the amounts of lead in the blanks. Total errors of analyses were of the same order of magnitude as reported concentrations.

A most significant and encouraging outcome of the workshop was that analysts and advisers attending the meeting made a number of recommendations for improving the accuracy of atomic absorption and anodic stripping voltammetry methods of analyzing lead in seawater, which they agreed to use in their own future work. These recommendations included ways of increasing the amount of analyzed sample lead, together with directions for reducing procedural blank lead.

A valuable result of the workshop was the development of a reliable method for cleaning containers used for shipping standardized samples of seawater.

The group agreed that the workshop should be continued until some of the participants demonstrated an ability to determine lead in seawater reliably with either atomic absorption or anodic stripping voltammetry techniques.

The difficulties that have been revealed in this study regarding the accuracy of lead in seawater by atomic absorption and anodic stripping voltammetry may not apply uniquely to lead. Similar difficulties may exist for other metals in seawater, such as copper and cadmium. It was recommended that all analysts consider whether the adoption of clean laboratory techniques and procedural modifications that would improve the sample to blank metal ratio for other heavy metals might produce more reliable results for these other trace metals as well.

A detailed report containing results and recommendations, which will be submitted to a journal for publication, was prepared by those attending this meeting.

C. Patterson
Division of Geological and Planetary Sciences, California Institute of Technology. Pasadena 91109

Forthcoming Events

March

7-8. Dyssoocial Behavior Control (Psychosurgery), 5th cerebral function symp., Coronado, Calif. (L. Smith, Porter Memorial Hospital, 2525 S. Downing St., Denver, Colo. 80210)


8-11. Acupuncture and Chinese Medicine, 2nd World sym, San Francisco, Calif. (J. Kao, Managing Editor, American Journal of Chinese Medicine, P.O. Box 555, Garden City, N.Y. 11530)


9-16. International Acad. of Pathology, San Francisco, Calif. (L. D. Stoddard, Medical College of Georgia, Augusta 30902)


10-15. American Soc. of Photogrammetry, St. Louis, Mo. (L. P. Jacobs, 105 N. Virginia Ave., Falls Church, Va. 22046)


11-15. National Assoc. of Corrosion Engineers, 30th annual conf., Chicago, Ill. (NACE, 2400 West Loop S, Houston, Tex. 77027)


13. Symposium on Sickle Cell Anemia and Other Hemoglobinopathies—Teaching Day in Hematology, Research Foundation of the State Univ. of New York, Brooklyn, N.Y. (B. Kearney, Box 20, Downstate Medical Center, 450 Clarkson Ave., Brooklyn 11203)


17-20. American Assoc. of Dental Schools, Atlanta, Ga. (B. F. Miller, AADS, 1625 Massachusetts Ave., NW, Washington, D.C. 20036)


20-22. International Topical Conf. on Tetrahedrally Bonded Amorphous Semiconductors, Yorktown Heights, N.Y. (M. H. Brodsky, IBM Corp., T. J. Watson Research Center, Yorktown Heights, 10598)


21-23. Florida Acad. of Sciences, Orlando. (I. Foster, Eckert College, St. Petersburg, Fla.)

21-23. Mississippi Acad. of Sciences, Biloxi. (C. L.Dodgen, University Medical Center, Jackson, Miss. 39216)


22-23. Michigan Acad. of Science, Arts and Letters, East Lansing. (D. Stokes, 1006 Rackham Bldg., Univ. of Michigan, Ann Arbor 48104)

25-26. State Medical Soc. of Wisconsin, Milwaukee. (E. R. Thayer, Box 1109, Madison, Wis. 53701)


25-29. Molecular Biology and Mechanisms of Virus Disease, winter confs., Intern. Chemical and Nuclear Corp. and the Univ. of California at Los Angeles, Squaw Valley, Calif. (Conf. Office, Virus Research, c/o Dept. of Bacteriology, Univ. of California, Los Angeles 90024)

25-27. Reducing Fuel Consumption and Emissions by Combustion Modifications, Central States Section, Combustion Inst., Madison, Wis. (G. Borman, Univ. of Wisconsin, 1513 University Ave., Madison 53706)


26-29. Institute of Electrical and Electronic Engineers, intern. conv., New York, N.Y. (D. Larson, IEEE INTERCON,
Pharmacia Gel Electrophoresis System

for polyacrylamide gradient electrophoresis
and other P.A.G.E. techniques

The complete system
Full capabilities for the new pore gradient electrophoresis technique, two dimensional studies, gel rod electrophoresis.

Polyacrylamide gradient gels PAA 4/30
Convenient ready-to-use gradient gel slabs give extreme resolution over the whole range 50,000–2 million MW. Self-limiting migration concentrates the zones after separation by molecular size.

Gel electrophoresis apparatus GE-4
4 gel slabs, 12 samples on each, or 16 gel rod capacity. Robust moulded construction with built-in cooling system. Full range of accessories for all applications.

Electrophoresis power supply EPS 500/400
Compact, all solid state. 0–400 mA constant current, 0–500 V constant voltage with automatic cross-over. Maximum effect 60 W. Full personnel and instrument protection. Available 1974.

Gel destainer GD-4
Electrophoretic or diffusion destaining of slabs or rods in a single operation. Twin cells. Active dye removal and solvent circulation. Results can be inspected at any time.

Destainer power supply DPS
Compact, reliable, all solid state. Push-button selected constant voltages 12, 24, or 36 V. Timer controls electrophoretic destaining up to 90 minutes.

Find out more about the Pharmacia Gel Electrophoresis System from your usual supplier of Sephadex® and Sepharose®.

Pharmacia Fine Chemicals Inc.
800 Centennial Avenue
PISCATAWAY
New Jersey 08854
Phone (201) 469-1222

Pharmacia (Canada) Ltd.
2044 St. Regis Boulevard
Dorval, Quebec, Canada
(514) 684-8881

Pharmacia Fine Chemicals

Circle No. 3 on Readers' Service Card
COMMUNICULTURES
...a new way to understand cultural interactions

You can now grow up to four pure and separate cultures in a single mixed culture system. The metabolic products of the cells in each chamber are free to communicate on a molecular level with the cells in the other chambers to influence growth and metabolism. Yet, each individual culture remains homogeneous for meaningful analysis. The Ecologist is a multiple diffusion chamber which simulates the natural environment by permitting interaction of metabolic products. To regulate cultural interaction, the Ecologist can be equipped with controls for pH, dissolved oxygen, temperature and agitation. It is ideal for studies of soils, water, oral cavities, and digestive tracts, and can be used to isolate different metabolites in a cell-free chamber.

ASK FOR BULLETIN E40-S/274

NEW BRUNSWICK SCIENTIFIC CO., INC.
1130 Somerset Street, New Brunswick, N.J. 08903
201/848-4600
With NBS, Advanced Technology is a Way of Life.

Circle No. 57 on Readers’ Service Card


28–30. South Carolina Acad. of Science, Hartsville. (J. M. Barry, College of General Studies, Univ. of South Carolina, Columbia 29208)


29–31. Seismological Soc. of Amerrica, Las Vegas, Nev. (W. K. Cloud, SSA, P.O. Box 826, Berkeley, Calif. 94704)


29–3. American Soc. of Abdominal Surgeons, Las Vegas, Nev. (B. F. Albano, 675 Main St., Melrose, Mass. 02176)


31–3. International Soc. for Experimental Hematology, 3rd, Houston, Tex. (J. J. Trentin, Div. of Experimental Biology, College of Medicine, Texas Medical Center, Houston 77025)


April


1–4. American Assoc. of Anatomists, Cleveland, Ohio. (J. E. Pauly, Univ. of Arkansas, School of Medicine, Little Rock 72201)

1–4. Industrial Water and Pollution Conf., Water and Wastewater Equipment Manufacturers Assoc., Detroit, Mich. (R. C. Hughes, WWEMA, 744 Broad St., Newark, N.J. 07102)

1–4. Geochemical Exploration, 5th intern. symp., Vancouver, B.C., Canada. (J. J. Barasko, Mineral Environment Labs. Ltd., 705 W. 15 St., North Vancouver)


1–5. Farm and Agricultural Industries, 11th intern. conf., Intern. Commission of Agriculture and Food Industries and the Greek Chemists’ Assoc., Athens. (L. de Saint Rat, ICAFI, 24, rue de Téheran, 75008 Paris, France)

1–5. American College of Radiology, New Orleans, La. (W. J. Strachman, ACR, 20 N. Wacker Dr., Chicago, Ill. 60606)


SCIENCE, VOL. 183
The Forma Fury Glassware Washer. We loaded it.

With a dual spray system, with two rotary arms and interchangeable spindle racks and flat baskets. With three separate pumps, one wash and two rinse. With low maintenance hydro-drive operation. With stainless steel. With a steam eliminator. With a programming system for pre-set operation. With an automatic detergent dispenser. With three models; rack sizes 13" x 13", 18" x 18", and 26" x 26".

The only thing we didn’t load up on was price. It’s lower than any comparably equipped model.

Washer step: Check the Forma Fury before you buy.

The Brush XY recorder. You get your money’s worth.

You’ll have a hard time finding another XY recorder that offers you so much for so little. Like pressurized ink writing that assures crisp clear traces at pen speeds to 40 in/sec. Our Metrisite® servo-loop feedback system that assures 99.85% linearity. Built-in preamps, and electrostatic paper holddown.

Write Gould Inc., Instrument Systems Division, 3631 Perkins Avenue, Cleveland, Ohio 44114. Or Kouterveldstraat Z/N, B 1920 Diegem, Belgium.
Alto, Calif. (J. Veverka, Center for Radiophysics and Space Research, Space Sciences Bldg., Cornell Univ., Ithaca, N.Y. 14850)

2-5. American College Health Assoc., Dallas, Tex. (J. W. Dilley, 2807 Central St., Evanston, Ill. 60201)


3-4. Metal Semiconductor Contacts Conf., Inst. of Physics, Manchester, England. (Meetings Officer, IP, 47 Belgrave Sq., London, SW1X 8QX, England)

3-5. American Soc. for Artificial Internal Organs, Chicago, Ill. (K. K. Burke, ASA10, Box 777, Boca Raton, Fla. 33432)


4-7. Missouri State Medical Assoc., Kansas City. (R. McIntyre, P.O. Box 1028, Jefferson City, Mo. 65101)

5-6. Alabama Acad. of Science, Birmingham. (D. Costes, Science Dept., Troy State Univ., Troy, Ala. 36081)

5-6. American Burn Assoc., Cincinnati, Ohio. (A. R. Dimick, Dept. of Surgery, Univ. of Alabama, University Station, Birmingham 35294)


7-12. American Assoc. of Immunologists, Atlantic City, N.J. (H. Metzger, AAII, 9630 Rockville Pike, Bethesda, Md. 20014)


8-10. Symposium on Identification and Transformation of Aquatic Pollutants, Environmental Protection Agency, Univ. of Georgia, American Soc. for Microbiology, and American Chemical Soc., Athens, Ga. (G. Angham, EPA, Southeast Environmental Research Lab., College Station Rd., Athens 30601)


8-12. International Symp. on Wound Healing, Rotterdam, Netherlands. (Secretary, Holland Organizing Centre, 16 Lange Voorhout, The Hague, Netherlands)

8-12. American Orthopsychiatric Assoc.,
SENSORY PROCESSES: 
THE NEW PSYCHOPHYSICS 
by LAWRENCE E. MARKS

This book treats sensory processes from the point of view of direct scaling with sensory intensity and quality considered as measurable quantities. Four topics especially stand out: the influence of 1) composition, 2) temporal distribution, and 3) spatial distribution of the stimulus on sensory intensity, and 4) their influence on sensory quality. Within each topic, the author compares the different senses, and derives principles applicable to more than one sense modality. 1974, 348 pp., $17.50/8.25.

ELECTRODERMAL ACTIVITY IN 
PSYCHOLOGICAL RESEARCH
edited by WILLIAM F. PROKASY and 
and DAVID C. RASKIN

Electrodermal activity (the EDR) has been measured in many settings and research contexts and has been employed as an indicator of, among other things, anxiety, positive affect, negative affect, surprise, conditioning, lying, defense, and orienting. This book brings together a great deal of this research and includes discussions of the basic physiological mechanisms as well as of the instrumentation, design, and measurement problems associated with its use. It emphasizes recent research—both fundamental and applied—in the areas of: physiological mechanisms of the EDR; attention and arousal; cognitive factors: instrumental and classical conditioning; clinical and social psychology; and detection of deception. 1973, 518 pp., $29.00.

[In Three Parts]

BIOELECTRIC RECORDING 
TECHNIQUES
edited by RICHARD F. THOMPSON and 
MICHAEL M. PATTERSON

A Title in the METHODS IN PHYSIOLOGICAL 
PSYCHOLOGY Series

This three-volume treatise is a complete and up-to-date review of one of the fundamental approaches to investigating the brain and nervous system. First, because neural phenomena are bioelectric in nature, and, second, because the techniques (unlike anatomical or chemical methods) cause no significant disruption of the system under observation, bioelectric recording is an especially valuable tool. Part A discusses the fundamental bioelectric phenomena of the nervous system, emphasizing the electrical aspects of brain function. Part B deals with human brain activity. The volume emphasizes EEG recording, human evoked brain potentials, and the contingent negative variation. Part C covers methods for recording the bioelectric signs of receptor and effector activity. Topics discussed include cochlear potentials, electroretinogram, electroolfactogram, eye movements, electromyogram, electrocardiogram electrodermal activity, and electrogastric activity.

PART A/CELLULAR PROCESSES AND BRAIN POTENTIALS 
1973, about 375 pp., $24.00

PART B/ELECTROENCEPHALOGRAPHY AND HUMAN BRAIN 
POTENTIALS 1973, about 300 pp., $17.50

PART C/RECEPTOR AND EFFECTOR PROCESSES 1973, 
about 300 pp., in preparation

Prices subject to change without notice.

ACADEMIC PRESS, INC. 
A Subsidiary of Harcourt Brace Jovanovich, Publishers 

111 FIFTH AVENUE, NEW YORK, N.Y. 10003 
24-28 OVAL ROAD, LONDON NW1 7DX
Transplutonic Uranium, Elements

University of California Handbook

Springer-Verlag
New York
Heidelberg
Berlin

Uranium, Plutonium and the Transplutonic Elements

Edited by H. C. Hodge
University of California in San Francisco, California

J. N. Stannard
University of Rochester, New York

J. B. Hursh
University of Rochester, New York

Handbook of Experimental Pharmacology, Volume 36

This volume comprises a definitive treatment of the toxicology of uranium, plutonium, and the transplutonic elements.

Topics discussed include:
- physical and chemical properties
- experimental data on animals and man
- safe concentrations of the separate nuclides in air and in water
- industrial hygiene in refining and fabrication of these elements
- medical uses
- therapy after accidental introduction into the body

The book achieves a balance between treatment of the mechanisms of biological effects and the treatment of industrial hygiene practices in the prevention of worker injury.

Order from
Springer-Verlag
New York Inc.
175 Fifth Avenue
New York, NY 10010

San Francisco, Calif. (M. F. Langer, AOA, 1790 Broadway, New York 10019)
8–12. American Soc. for Pharmacology and Experimental Therapeutics, Atlantic City, N.J. (E. B. Cook, ASPET, 750 Rockville Pike, Bethesda, Md. 20014)
10–13. Tennessee Medical Assoc., Gatlinburg. (J. E. Ballentine, TMA, 112 Louise Ave., Nashville 37203)
11–13. Southern Soc. for Philosophy and Psychology, Tampa, Fla. (M. Loeb, Psychology Dept., Univ. of Louisville, Louisville, Ky. 40208)
11–13. American Assoc. of Physical Anthropologists, Amherst, Mass. (G. J. Armelagos, Dept. of Anthropology, Univ. of Massachusetts, Amherst 01002)
12. Utah Acad. of Sciences, Arts, and Letters, Salt Lake City. (H. Buchanan, Dept. of Botany, Weber State College, Ogden, Utah 84403)
12–13. Colorado-Wyoming Acad. of Science, Laramie, Wyo. (J. T. Windell, Dept. of Biology, Univ. of Colorado, Boulder 80302)
15–17. Society of Head and Neck Surgeons, Honolulu, Hawaii. (W. A. Madonx, 944 S. 18 St., Birmingham, Ala. 35205)
15–18. Pharmacology of Thermoregulation, 2nd intern. symp., Paris, France. (P. Lorrax, Dept. of Pharmacology, Univ. of California Medical School, Los Angeles 90024)
16–18. Optical and Acoustical Microelectronics, 23rd intern. symp., Inst. of Electrical and Electronics Engineers and Optical Soc. of America, New York, N.Y. (J. F. Polk, Polytechnic Inst. of Brooklyn, 333 Jay St., Brooklyn, N.Y. 11201)
16–21. American College of Allergists, Paris, France. (E. Bauers, 2100 Dain Tower, Minneapolis, Minn. 55402)
17–18. American Geriatrics Soc., Toronto, Ont., Canada. (E. Henderson, AGS, Room 1470, 10 Columbus Circle, New York 10019)
17–19. Negative Ions Conf., Inst. of Physics, Liverpool, England. (J. A. Rees, Dept. of Electrical Engineering and Electronics, Univ. of Liverpool, P.O. Box 147, Liverpool, L69 3BX)
18–20. American Cleft Palate Assoc., Boston, Mass. (G. R. Smiley, School of Dentistry, Univ. of North Carolina, Chapel Hill 27514)
18–20. Medical Assoc. of the State of Alabama, Huntsville. (L. P. Patterson, 18 S. Jackson St., Montgomery, Ala. 36104)
19. Kansas Acad. of Science, Pittsburg. (L. C. Anderson, Div. of Biology, Kansas State Univ., Manhattan 66506)
19–20. Nebraska Acad. of Sciences, Lincoln. (C. B. Schultz, 212 Morrill Hall, Univ. of Nebraska, Lincoln 68508)
19–21. Oklahoma Acad. of Science, Woodward. (J. F. Lovell, Dept. of Biological Sciences, Southwestern State College, Weatherford, Okla. 73096)
Reservations

HOTEL RATES* (Per Day)

The American Association for the Advancement of Science will hold its 1974 Annual Meeting in San Francisco, California, 24 February–1 March. The AAAS registration desks will be located at the San Francisco Hilton and Sheraton-Palace hotels. The following hotels will be used for housing:

<table>
<thead>
<tr>
<th>Hotel</th>
<th>Single</th>
<th>Double</th>
<th>Twin</th>
<th>Suites†</th>
<th>Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) SAN FRANCISCO HILTON ★ (Headquarters Hotel)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Free parking for registered guests</td>
</tr>
<tr>
<td>Mason and O'Farrell Streets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>on 5th through 11th floors in Main Building</td>
</tr>
<tr>
<td>(a) Main Building Rates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(subject to availability).</td>
</tr>
<tr>
<td>(b) Tower Rates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3.25 maximum charge for 12 hours; up to 24 hours add $0.75.</td>
</tr>
<tr>
<td>2) HOTEL ST. FRANCIS ★ Union Square</td>
<td>$22</td>
<td>$30</td>
<td>$30</td>
<td>$74</td>
<td>$4.50 24 hours with in and out privileges for registered guests.</td>
</tr>
<tr>
<td>3) SHERATON-PALACE HOTEL ★ 639 Market Street</td>
<td>$23</td>
<td>$27</td>
<td>$27</td>
<td>$43.50</td>
<td>Commercial parking adjacent to hotel: $3.75 &amp; $2.25 24 hours.</td>
</tr>
<tr>
<td>4) SIR FRANCIS DRAKE HOTEL ★ Powell and Sutter Streets</td>
<td>$24</td>
<td>$29</td>
<td>$29</td>
<td>$66</td>
<td>$4.50 24 hours with in and out privileges for registered guests.</td>
</tr>
</tbody>
</table>

* San Francisco Room Tax, 6%: $4 to $8 additional charge for cots and rollaway beds. If rate specified is not available, the next available higher rate will be assigned.

† One bedroom parlor suites; rates for larger suites available upon request.

★ Up to two children accommodated at no extra charge if they occupy same room as parents.

Children under age 12 accommodated at no extra charge in same room with parents; three persons per room maximum.

HOTEL RESERVATIONS FORM
(No reservations by telephone)

Mail to: AAAS Housing Bureau
260 Fox Plaza
San Francisco, CA 94102

CHOICE OF HOTEL: First __________________________ Second __________________________ Third __________________________

ROOM: □ Single □ Double □ Twin □ Suite

ARRIVAL: Date__________________________ : ___a.m. ___p.m.

DEPARTURE: Date__________________________ : ___a.m. ___p.m.

NAMES AND ADDRESSES OF ALL OCCUPANTS OF ROOMS

Name________________________________________ Name________________________________________

Address____________________________________ Address____________________________________

City________________________ State__________ Zip__________ City________________________ State__________ Zip__________

Name________________________________________ Name________________________________________

Address____________________________________ Address____________________________________

City________________________ State__________ Zip__________ City________________________ State__________ Zip__________

Individual Requesting Reservations

8 FEBRUARY 1974