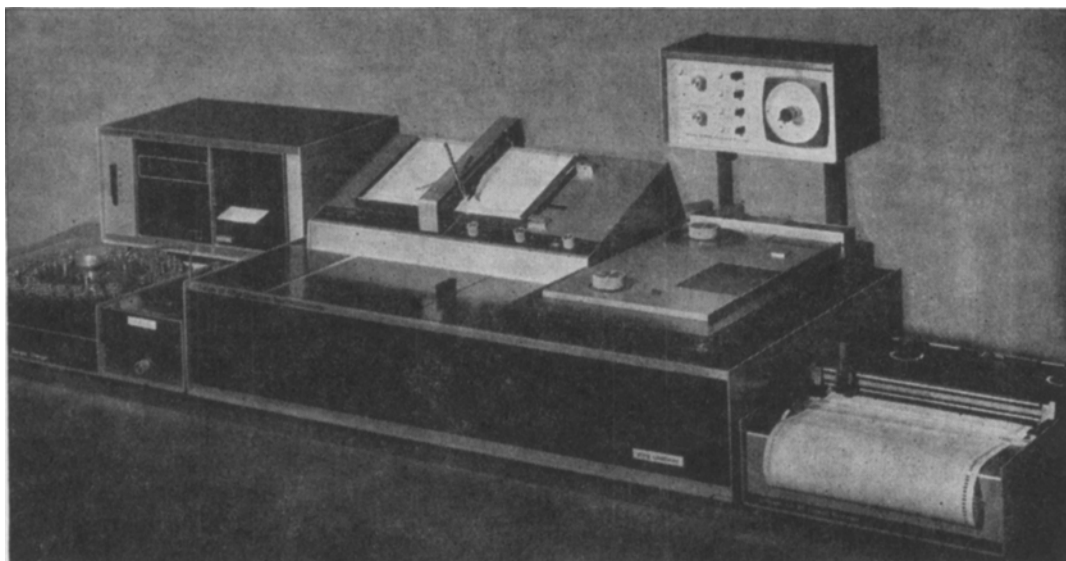


This new Unicam UV Spectrophotometer has been made to meet your requirements

To meet, in fact, the requirements of every UV spectroscopist—whether engaged in research or in routine applications. And that means that the new Unicam SP8000 Ultraviolet and Visible Recording Spectrophotometer is just about the most versatile instrument available. To start with you get superb presentation and reproducibility of spectra on the integral flat-bed recorder. You get dual absorbance scales of 0-1.0A and 0-0.2A with back-off. You get exceptional scale expansion. There is a large sample compartment and a unique second sample position. There is a whole range of modular

accessories for automation. If you want digital print out, results in concentration units, automatic wavelength selection, programme control, automatic sample changing of up to 50 samples—you name it and the likelihood is that the Unicam SP8000 system can do it. The Unicam SP8000 is the latest addition to an outstanding range of UV instruments which includes the SP500 Series 2, the SP700, the SP800 and the award-winning SP3000. To learn more about any of these write to us today.

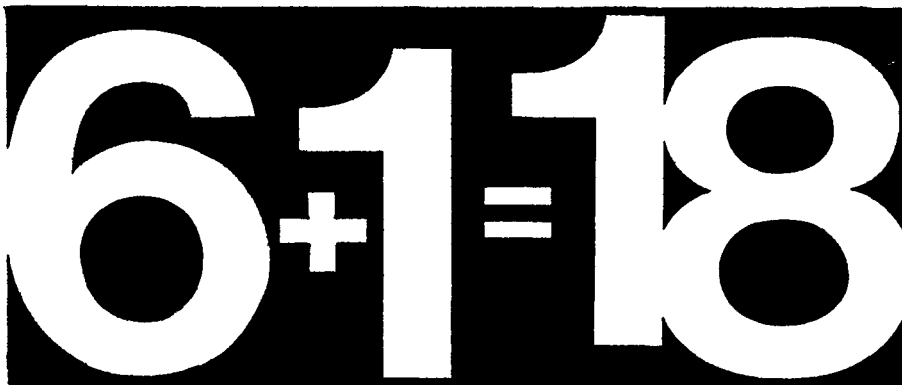


PYE UNICAM



Precision Instruments

Pye Unicam Ltd
York Street Cambridge, CB1 2PX, England
Telephone (0223) 58866 Telex 81215



6 new clinical assay sets

CPK (ultra-violet)
HBDH (ultra-violet)

ICD (ultra-violet)
GOT (ultra-violet)

GPT (ultra-violet)
LDH (ultra-violet)

1 new pack

a new, expanded polystyrene pack which provides both protection and insulation during transit and occupies the minimum of refrigerator space.

18 the BDH range now embraces eighteen kits:

Alkaline phosphatase
Amylase
Bacteriuria
Cholinesterase
CPK (ultra-violet)
GOT (colorimetric)
GOT (ultra-violet)
GPT (colorimetric)
GPT (ultra-violet)

G-6-PD (ultra-violet)
HBDH (colorimetric)
HBDH (ultra-violet)
ICD (ultra-violet)
LDH (colorimetric)
LDH (ultra-violet)
Lipoprotein
5'-Nucleotidase (colorimetric)
Pyruvate



Write for methodology sheets to BDH Chemicals Ltd Poole BH12 4NN

THE BIOCHEMICAL JOURNAL

Published by THE BIOCHEMICAL SOCIETY

Vol. 118, No. 2

JUNE 1970

Oxygenation of methane by methane-grown *Pseudomonas methanica* and *Methanomonas methanooxidans*. By I. J. HIGGINS & J. R. QUAYLE

The influence of electrical stimulation *in vitro* on protein synthesis and other metabolic parameters of rat extensor digitorum longus muscle. By V. M. PAIN & K. L. MANCHESTER

Anaerobic rat heart. Effects of glucose and tricarboxylic acid-cycle metabolites on metabolism and physiological performance. By D. G. PENNEY & J. CASCARANO

Quantitative and metabolic changes of hepatic collagens in rats after carbon tetrachloride poisoning. By C. HIRAYAMA, I. MOROTOMI & K. HIROSHIGE

Studies on the phospholipases of rat intestinal mucosa. By P. V. SUBBAIAH & J. GANGULY

Acylation of lysolecthin in the intestinal mucosa of rats. By P. V. SUBBAIAH, P. S. SASTRY & J. GANGULY

Frog brain uridine diphosphate galactose-*N*-acetylgalactosaminyl-*N*-acetylneuraminyl galactosylglucosylceramide galactosyltransferase. By M. C. M. YIP & J. A. DAIN

Purification and properties of the nicotinamide-adenine dinucleotide phosphate-dependent isocitrate dehydrogenase from pig liver cytoplasm. By J. A. ILLINGWORTH & K. F. TIPTON

Regulation of lipogenesis. Stimulation of fatty acid synthesis *in vivo* and *in vitro* in the liver of the newly hatched chick. By A. G. GOODRIDGE

Conditions for activity of glutaminase in kidney mitochondria. By Z. KOVAČEVIĆ, J. D. MCGIVAN & J. B. CHAPPELL

Factors that modify the metabolism of ethanol in rat liver and adaptive changes produced by its chronic administration. By L. VIDELA & Y. ISRAEL

Specificity of action of adrenocorticotrophin *in vitro* on ascorbate transport in rat adrenal glands. By M. CLAYMAN, D. TSANG, A. F. de NICOLA & R. M. JOHNSTONE

Biogenesis of rosmarinic acid in *Mentha*. By B. E. ELLIS & G. H. N. TOWERS

Isoelectric focusing of human liver alkaline phosphatase. By A. L. LATNER, M. E. PARSONS & A. W. SKILLEN

Membranes of the adrenal medulla. Behaviour of insoluble proteins of chromaffin granules on gel electrophoresis. By H. WINKLER, H. HÖRTNAGL & A. D. SMITH

Radioautographic studies of the initial site of formation of protein-bound iodine in the rat thyroid gland. By C. J. CROFT & R. PITT-RIVERS

The composition of the cyst wall of the beet cyst-nematode *Heterodera schachtii*. By A. J. CLARKE

Dissociation of catalase. A correlation between changes in sedimentation and spectroscopic properties accompanying dissociation of bacterial catalase in alkaline solution. By P. JONES, R. H. PAIN & A. SUGGETT

Short Communication

The differential adsorption of aldolase isoenzymes in rat brain. By F. M. CLARKE, C. J. MASTERS & D. J. WINZOR

Subscription price per volume £9 net; \$22.00 in U.S.A.

Orders may be placed with a bookseller, or sent direct to
 Biochemical Society (Publications);
 7 Warwick Court, London W.C.1

The Journal of Endocrinology

Volume 47, Number 2, June 1970

CONTENTS

- IRINA POLLARD Ultrastructural evidence for the stimulation of nuclear ribonucleic acid synthesis by oestradiol-17 β in the vaginal epithelium of the ovariectomized mouse
- R. S. SNART, N. N. SANYAL AND M. K. AGARWAL Binding of corticosterone in rat liver
- T. DALTON AND R. S. SNART Respiratory and enzymic changes in response to steroid hormones
- JEANNE A. SMITH AND H. B. WAYNFORTH Acid phosphatase activity in viable and regressing rat corpora lutea
- MARY WHITTAKER The effect *in vitro* of thyroxine, glucagon, thyrotrophin and antithyroid drugs on 'usual' and 'atypical' human plasma cholinesterase
- S. T. H. CHAN AND B. R. EDWARDS Kinetic studies on the biosynthesis of corticosteroids *in vitro* from exogenous precursors by the interrenal glands of the normal, corticotrophin-treated and adenohipophysectomized *Xenopus laevis* Daudin
- R. M. LIPTRAP Effect of corticotrophin and corticosteroids on oestrus, ovulation and oestrogen excretion in the sow
- S. Y. CHOW AND D. M. WOODBURY Kinetics of distribution of radioactive perchlorate in rat and guinea-pig thyroid glands
- A. J. THODY AND S. SHUSTER The effects of hypophysectomy and testosterone on the activity of the sebaceous glands of castrated rats
- K. P. BLAND AND B. T. DONOVAN Oestrogen and progesterone and the function of the corpora lutea in the guinea-pig
- N. DESHPANDE, VIBEKE JENSEN, PAMELA CARSON, R. D. BULBROOK AND T. W. DOOUSS Adrenal function in breast cancer: biogenesis of androgens and cortisol by the human adrenal gland *in vivo*
- M. PALKOVITS, W. DE JONG, B. VAN DER WAL AND D. DE WIED Effect of adrenocorticotrophic and growth hormones on aldosterone production and plasma renin activity in chronically hypophysectomized sodium-deficient rats

Short communications

- A. MAZAHERI, K. FOTHERBY AND J. R. CHAPMAN Metabolism of lynestrenol to norethisterone by liver homogenate
- J. R. HODGES AND SUSAN MITCHLEY The effect of 'training' on the release of corticotrophin in response to minor stressful procedures in the rat
- K. S. RAGHAVAN AND R. R. CHAUDHURY Oxytocin levels in female rats with bilateral intra-uterine devices
- J. M. D. JACKSON, C. R. M. PRENTICE AND MARGARET T. MCKIDDIE The effect of hypothyroidism on glucose tolerance and insulin metabolism

50s. (US \$8.50) each, plus postage. Annual subscription (12 issues) £24 (US \$84)

CAMBRIDGE UNIVERSITY PRESS

Bentley House, 200 Euston Road, London N.W.1

32 East 57th Street, New York, N.Y. 10022

THE QUARTERLY JOURNAL OF MEDICINE

EDITED BY

D. A. K. BLACK
W. B. MATTHEWS

P. HUGH-JONES
J. D. N. NABARRO

E. M. MCGIRR
A. G. W. WHITFIELD

CONTENTS

NEW SERIES. Vol. XXXIX. No. 154. APRIL, 1970

(Vol. LXIII of the continuous series)

- Hyperthyroidism and Hypercalcaemia. By A. M. Parfitt and C. E. Dent
Chronic Interstitial Nephritis as a Consequence of Heatstroke. By M. C. Kew, C. Abrahams, and H. C. Seftel. With Plates 14 to 18
Carbohydrate Metabolism in Renal Disease. By I. M. Spitz, A. H. Rubenstein, I. Bersohn, C. Abrahams, and C. Lowy
The Haemolytic Uraemic Syndrome in Adults. By A. R. Clarkson, J. R. Lawrence, R. Meadows, and A. E. Seymour. With Plates 19 to 21
Some Observations on the Effects of Treatment with Lactulose on Patients with Chronic Hepatic Encephalopathy. By R. Zeegen, J. E. Drinkwater, J. C. B. Fenton, A. Vince, and A. M. Dawson
Assessment and Significance of Bacterial Overgrowth in the Small Bowel. By J. D. Hamilton, N. H. Dyer, A. M. Dawson, F. W. O'Grady, A. Vince, J. C. B. Fenton, and D. L. Mollin
Prestomal Ileitis: Clinical and Pathological Findings in Five Cases. By R. P. Knill-Jones, B. Morson, and Roger Williams. With Plates 22 to 24
Drug-Induced Secondary Hyperaldosteronism in Patients with Pulmonary Tuberculosis. By A. M. Holmes, C. M. Hesling, and T. M. Wilson

Price 25s. 0d. net.

Subscription price 75s. per annum.

OXFORD UNIVERSITY PRESS
ELY HOUSE, 37 DOVER STREET, LONDON, W.1

New Books from J. B. Lippincott Company, Philadelphia

Red Cell Membrane—Structure and Function

Edited by G.A. Jamieson PH.D. and Tibor J. Greenwalt M.D. 1970. 384 pages, 123 illustrations. £8 5s.

Myelination of the Brain of the Newborn

Lucy Balian Rorke M.D. and Helena E. Riggs M.D. 112 pages, 40 illustrations. £5.

Colour Atlas and Textbook of Haematology

William R. Platt M.D. 576 pages, 535 illustrations (350 in colour). £13 10s.

The Autonomic Nervous System: Morphological, Comparative, Clinical and Surgical Aspects

Joseph Pick M.D. 1970. 504 pages, 311 illustrations (31 colour). £25.

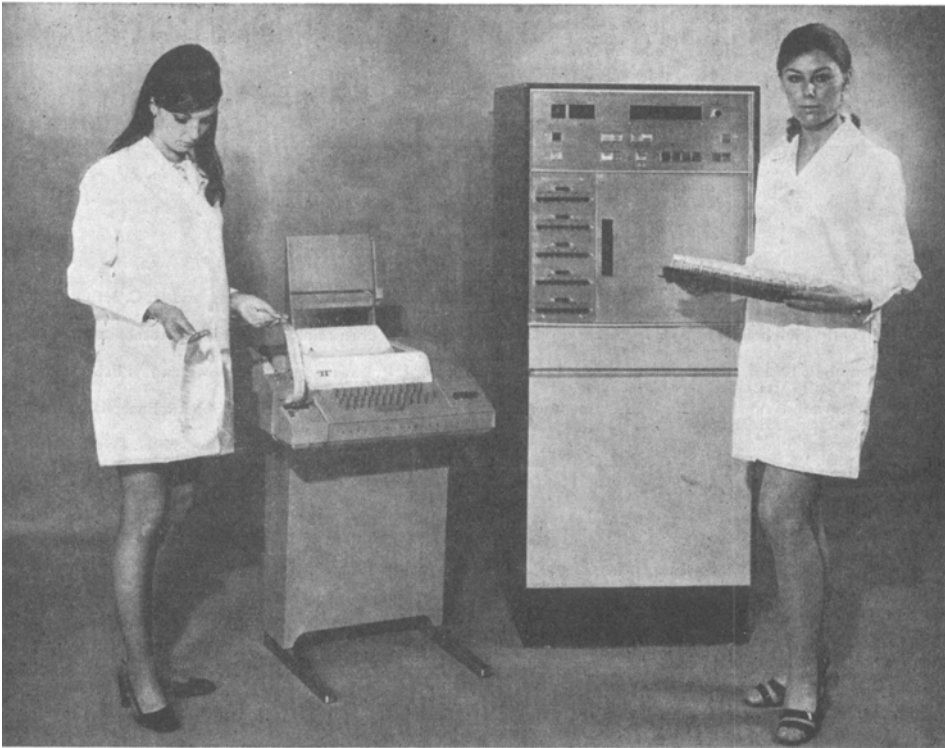
Diseases of the Liver

Edited by Leon Schiff M.D. PH.D. *Third Edition*, 1970. 1102 pages, 400 illustrations. £19 15s.

Clinical Geriatrics

Isadore Rossman M.D. PH.D. Spring 1971. 512 pages. About £10.

Blackwell Scientific Publications Oxford and Edinburgh



Unprecedented versatility in automatic Beta/Gamma Spectrometry with the NE8312

- * Liquid scintillation and gamma counting
- * 400 samples
- * Automatic selection of all counting parameters
- * External gamma-source standardization using two independent channels
- * Three counting channels in each of two independent groups
- * Independent computation
- * Room temperature operation

The NE 8312 counts betas by coincidence liquid scintillation counting; gammas are counted in a 3 in radial-hole NaI crystal with dual coincidence photomultipliers, which gives much better energy resolution and discrimination against background than is possible with a well crystal. Data is recorded on a page printer/tape perforator and an on-line desk computer is a cost-effective option. Low-activity rejection and background rate subtraction from all channels independently are provided. Operation is at

room temperature and betas and gammas can even be counted in the same vial.

For details of the NE 8312 and the Nuclear Enterprises range of scintillators, write to:—



**NUCLEAR
ENTERPRISES
LIMITED**

Sighthill, Edinburgh EH11 4EY, Scotland. Tel: 031-443 4060. Cables: Nuclear, Edinburgh Telex: 72333.

Associate Companies:

Nuclear enterprises GmbH, 8 Munich 2, Karlstrasse 45.
West Germany. Telephone: 55-30-03. Telex: 529938.
Nuclear Enterprises Inc., 935 Terminal Way, San Carlos,
California 94070. Telephone: 415-593-1455. Telex: 348371

The Journal of Clinical Investigation

EDITED FOR
THE AMERICAN SOCIETY FOR CLINICAL INVESTIGATION, INC.

- The distribution kinetics of triiodothyronine: studies of euthyroid subjects with decreased plasma thyroxine-binding globulin and patients with Graves' disease. RALPH R. CAVALIERI, MARTIN STEINBERG, and GILBERT L. SEARLE
- Acromegalic pneumonomegaly: lung growth in the adult. JEROME S. BRODY, ARON B. FISHER, AYHAN GOCMEN, and ARTHUR B. DUBOIS
- Hypoxic ventilatory drive in normal man. JOHN V. WEIL, EDWARD BYRNE-QUINN, INGVAR E. SODAL, W. OTTO FRIESEN, BRIAN UNDERHILL, GILES F. FILLEY, and ROBERT F. GROVER
- Changes in serum and urinary calcium during phosphate depletion: studies on mechanisms. JACK W. COBURN and SHAUL G. MASSRY
- The interaction of 2,3-diphosphoglycerate with various human hemoglobins. H. FRANKLIN BUNN and ROBIN W. BRIEHL
- Diabetes mellitus and sexual ateliotic dwarfism: a comparative study. T. J. MERIMEE, S. E. FINEBERG, V. A. MCKUSICK, and J. HALL
- Gamma G globulin subgroup composition of the glomerular deposits in human renal diseases. EDMUND J. LEWIS, GEORGE J. BUSCH, and PETER H. SCHUR
- Immunoglobulin synthesis and total body tumor cell number in IgG multiple myeloma. SYDNEY E. SALMON and BETH A. SMITH
- Formation, mineralization, and resorption of bone in vitamin D-deficient rats. D. BAYLINK, M. STAUFFER, J. WERGEDAL, and C. RICH
- The effects of unsaturated dietary fats on absorption, excretion, synthesis, and distribution of cholesterol in man. SCOTT M. GRUNDY and E. H. AHRENS, JR.
- The effects of abnormal sympathetic nervous function upon the ventilatory response to hypoxia. N. H. EDELMAN, N. S. CHERNJACK, S. LAHIRI, E. RICHARDS, and A. P. FISHMAN
- The demonstration of alternating contractile state in pulsus alternans. R. JOE NOBLE and DONALD O. NUTTER
- Complement in overt and asymptomatic nephritis after skin infection. C. WARREN DERRICK, MARY SUE REEVES, and HUGH C. DILLON, JR.
- Cell proliferation in human melanoma. S. SHIRAKAWA, J. K. LUCE, I. TANNOCK, and E. FREI III
- Fluid reabsorption in Henle's loop and urinary excretion of sodium and water in normal rats and rats with chronic hypertension. KLAUS O. STUMPE, HANS D. LOWITZ, and BRUNO OCHWADT
- Lipolysis and lipogenesis from glucose in human fat cells of different sizes. Effects of insulin, epinephrine, and theophylline. R. B. GOLDRICK and G. M. MCLOUGHLIN
- Studies on the exaggerated natriuretic response to a saline infusion on the hypothyroid rat. EDWARD W. HOLMES, JR., and VINCENT A. DISCALA
- A water-filled body plethysmograph for the measurement of pulmonary capillary blood flow during changes of intrathoracic pressure. YOSHIKAZU KAWAKAMI, HAROLD A. MENKES, and ARTHUR B. DUBOIS
- Effect of acute hypoxia on vascular responsiveness in man. I. Responsiveness to lower body negative pressure and ice on the forehead. II. Responses to norepinephrine and angiotensin. III. Effect of hypoxia and hypocapnia.
- The effect of diphenylhydantoin on thyroxine metabolism in man. P. R. LARSEN, A. J. ATRINSON, JR., H. N. WELLMAN, and R. E. GOLDSMITH
- Catalase-dependent peroxidative metabolism in the alveolar macrophage during phagocytosis. J. BERNARD L. GEE, CHARLES L. VASSALLO, PAUL BELL, JAMES KASKIN, R. E. BASFORD, and JAMES B. FIELD
- Effect of renal insufficiency on the active transport of calcium by the small intestine. RICHARD D. BAERG, DANIEL V. KIMBERG, and ELAINE GERSHON
- Proceedings of the Annual Meeting of the American Society for Clinical Investigation, Inc., Atlantic City, 1970
- Presidential Address
- Abstracts, with author index

Yearly subscription rates: \$45.00 payable in U.S. funds
may be obtained from

THE JOURNAL OF CLINICAL INVESTIGATION
The Rockefeller University, New York 10021, U.S.A.