Gut Editorial Committee

с. С. воотн (Editor)	A. L. W. F. EDDLESTON	J. J. MISIEWICZ	ROGER WILLIAMS
	ANNE FERGUSON	G. NEALE	D. L. WINGATE
J. W. BLACK	J. T. HARRIES	F. W. O'GRADY	EDITOR
K. D. BUCHANAN	K. W. HEATON	J. RHODES	British Medical Journal
D. C. CARTER	M. HOBSLEY	D. J. C. SHEARMAN	GRACE WILLIAMS
V. S. CHADWICK	D. P. JEWELL	D. SILK	(Technical Editor)
A. G. COX	E. G. LEE	A. S. TAVILL	
I. M. P. DAWSON	R. J. LEVIN	A. M. TOMKINS	
A. G. COX	E. G. LEE	A. S. TAVILL	(reconnect Editor)

The object of *Gut* is to publish original papers and reviews concerned with practice and research in the field of gastroenterology. The field is that of alimentary, hepatic, or pancreatic disease, and papers may cover the medical, surgical, radiological, or historical aspects. They may also deal with the basic sciences concerned with the alimentary tract, including experimental work. The report of a single case will be accepted only if it is of sufficient interest in relation to a wider field of research.

COMMUNICATIONS Two copies of papers should be addressed to the Editor, *Gut*, BMA House, Tavistock Square, London, WCIH 9JR. Papers are accepted only on the understanding that they are not published elsewhere without previous sanction of the Editorial Committee. They should be in double-spaced typewriting on one side of the paper only. On the paper the name of the author should appear with initials (or distinguishing Christian name) only, and the name and address of the hospital or laboratory where the work was performed. Communications should be kept short, and illustrations should be included when necessary; coloured illustrations are allowed only if monochrome will not satisfactorily demonstrate the condition. A short summary should be provided at the beginning of the paper.

ACKNOWLEDGEMENT OF MANUSCRIPTS Manuscripts will not be acknowledged unless a stamped addressed postcard or international reply coupon is enclosed.

ILLUSTRATIONS Only essential Figures and Tables should be included. Photographs Unmounted photographs on glossy paper should be provided. Magnification scales, if necessary, should be lettered on these. Where possible, prints should be trimmed to column width (i.e. 23 in). Diagrams These will usually be reduced to 2\frac{3}{2} in wide. Lettering should be in either Letraset or stencil, and care should be taken that lettering and symbols are of comparable size. Illustrations should not be inserted in the text, they should be marked on the back with Figure numbers, title of paper, and name of author. All photographs, graphs, and diagrams should be referred to as Figures and should be numbered consecutively in the text in Arabic numerals. The legends for illustrations should be typed on a separate sheet. Tables Tables should be numbered consecutively in the text in Arabic numerals and each typed on a separate sheet.

ETHICS Ethical considerations will be taken into account in the assessment of papers (see the Medical Research Council's publications on the ethics of human experimentation, and the World Medical Association's code of ethics, known as the Declaration of Helsinki (see *British Medical Journal* (1964), 2, 177)).

ABBREVIATIONS In general, symbols and abbreviations should be those used by the *Biochemical Journal*. In any paper concerning electrolyte metabolism, it is desirable that data be calculated as MEq/l. All measurements except blood pressure should be expressed in SI units (see *Journal of Clinical Pathology* (1974), 27, 590-

597; British Medical Journal (1974), 4, 490), followed by traditional units in parentheses. Such conversion is the responsibility of the author.

REFERENCES In the text these should follow the Harvard system—that is, name followed by date; James and Smith (1970). If there are more than two authors they should be cited as James et al. (1970) even the first time that they appear. The list of references should be typed in double spacing and in alphabetical order on a separate sheet. Such references should give the author's name, followed by initials and year of publication in brackets, the title of the article quoted, the name (in full) of the journal in which the article appeared, the volume number in Arabic numerals, followed by numbers of first and last pages of article.

CORRECTIONS other than printer's errors may be charged to the author.

REPRINTS Twenty-five reprints will be supplied free of charge. Further reprints will be available on payment of the necessary costs; the number of reprints required should be sent to the Publishing Manager on the form provided with the proof.

NOTICE TO ADVERTISERS Application for advertisement space and for rates should be addressed to the Advertisement Manager, *Gut*, BMA House, Tavistock Square, London WC1H 9JR.

NOTICE TO SUBSCRIBERS Gut is published monthly. The annual subscription rate is £28.00 in the United Kingdom and the Republic of Ireland, and \$65.50 by surface mail in all countries overseas. Payment for overseas subscriptions should be made in US dollars. i.e. US\$65.50 or in your national currency based on the prevailing exchange rate to the US dollar of that currency. payable to the British Medical Association. Orders can also be placed with any leading subscription agent or bookseller. (For the convenience of readers in the USA subscription orders, with or without payment, can also be sent to: British Medical Journal, 1172 Commonwealth Avenue, Boston, Mass. 02134. All enquiries however, must be addressed to the Publisher in London.) All enquiries regarding Air Mail rates and single copies already published should be addressed to the Publisher in London.

COPYRIGHT © 1979 Gut. This publication is copyright under the Berne Convention and the International Copyright Convention. All rights reserved. Apart from any relaxations permitted under national copyright laws, no part of the publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the prior permission of the copyright owners. Permission is not, however, required to copy abstracts of papers or of articles on condition that a full reference to the source is shown. Multiple copying of the contents of the publication without permission is always illegal.

ISSN 0017-5749

Freekminel II is a sterile, non-pyrogenic solution containing crystalline amino acids and electrolytes. Each 100 ml contains Freekminel II Amino Acid Musture (Lysine Acetate and Cysteme Hydrochlonde, H.) a daded 8 sp. Phosphoric Acid N° 0.115g. Sodium Bisulphite USP less than 0.10g and Water for Injection USP to 100 ml.

The approximate concentration of amino acids in grams per 100 ml. is.

Essential amino acids: Lisoleucine 0.59. Lieucine 0.77. Litysne Acetate 0.87 (free base 0.62), Methionine 0.45, LiPhenylalanine 0.48. LiThreonine 0.34, LiTryptophan 0.13, LiValine 0.56.

Donnessential amino acids: L. Alanine 0.60, L. Arginine 0.31, L. Histidine 0.24, L. Proline 0.95, L. Serine 0.50, Aminoacetic Acid (Glycine) 1.7, L. Cystene Hydrochloride H. O. less than 0.02. Alpha amino nitrogen greater than 80~of total trogen present.

No peptides or glutamic or aspartic acid, which can cause nauses and vomiting, are included in the formulation.
The concentration of electrolytes in mimols per litre is. Sodium 10, Phosphate 10.

The pH of the solution is approximately 6.6 and the calculated oxinolarity is approximately 850 m0sm per litre. A 500 ml unit of FreAmine II provides 39g of protein equivalent and 6.25g of

FreAmine II provides, in concentrated form, a physiological ratio of biologically utilizable amino acids for protein synthesis. Given with concentrated sources of calcines such as hypertonic destrose or fat emulsions and with electrolytes, utahmas and minerals, it provides total parenteral nutrition. Administered revinities ally, allone as an insotionic is Libit in (2.8), or with minimal caloric supplementation such is 3. dextrose. FreAmine II provides nutritional support and creates before provides in the calcined and controlled in the calcined and calcin

s body protein. Parenteral nutrition with FreAmine II is indicated when there is a requirement to prevent introgen loss or to treat negative introgen ballar ce in patients where (1) The oral, gastrostomy or ignitiostomy rough should not or cannot be used (2) gastro interinal absorption of proteins impared (3) protein requirements are substitutely in reased, as not affects with

Dosage and Administration

The total daily dose of FreAmine II will depend upon protein requirements and the esponse of the patient as determined by clinical judgement and laboratory data such as

The recommended daily allowance of protein for healthy adults is approximately 0.9 g/kg of body weight and, for healthy, growing infaints and children, 2.2g/kg of body weight However, it must be borne in maid that, in traumatized or under nour sheep absents, the protein However, it must be borne in mind that, in traumatized or under nour-shee patients, the protein and calonic requirements may be substantially increased it such cases, daily immo acid doses of approximately 10 to 15g, kg of body weight for adults and 2 to 3g, kg of body weight for children are generally adequate to safety protein needs and to primote postine intergen balance. Higher doses may be required in severely catabolic states but should be accompanied by frequent laboratory assessment. For protein sparing in the well noursheet patient who is not receiving significant additional calories, amino acid closes of 10 to 17g, kg, day will reduce intogen loss and spare body protein but, if rese in blood or en intogen exceed 20 mg, 100 ml in 48 hours, the rate of administration should be reduced or infusion discontinued.

Central Venous Nutrition

For severely catabolic, depleted patients or those requiring long term total parenteral nutrition, administration of FreAminell with hypertonic dextrose solutions by central venous influsion should be considered.

Peripheral Parenteral Nutrition

For the moderately catabolic or depleted patient for whom the central venous route of administration is not indicated, FreAmine II may be mixed with dextrose 5% solutions and nfused by peripheral vein, supplemented, if necessary, by fat emulsion

Protein Sparing Nutrition

Protein Sparing Nutrition
In the well nourshed, mildly catabolic patients (such as routine post surgical patients requiring short term parenteral nutrition only) protein sparing can be achieved by peripheral influsion of Freammel with or without destroise.

Contra-indications, Warnings, etc.
Amino acids are contra indicated in patients with renal failure or severe liver disease.

Warnings: The administration of amino acids to a patient with hepatic insufficiency may result in blood ammonia, administration in the presence of imparied renal function may augment an increasing blood urea introgen and also presents the danger's associated with electrolyte disturbances. The safety of the use of amino acid solutions in pregnant women has not been established.

out during parenteral nutrition. Studies should include blood sugar, serum proteins, kidney and out during parenteral nutrition. Studies should include blood sugar, serum proteins, kidney and liver function tests, electrolytes, haemogram, carbon doode content, serum osmolarities, blood cultures and blood ammona levels. Should hyperammonaemia develop, administration of ammon acids should be discontinued and the patient's clinical state re evaluated (This is particularly important in infants). Care should be taken to avoid circulatory overload. particularly important in initialists, care should be taken to avoid declustory overholds, particularly in patients with cardiac insufficiency in myocardial infarction, amino acids should be given with dextrose.

Strongly hypertonic amino acid solutions and associated hypertonic dextrose solutions should be administered only by continuous infusion through a central venous catheter

securing securing a central venous with the top located in the vena cava side-effects. Prolonged infusion of hypertonic solutions may cause phlebo thromboss extending from the size of infusion.

Pharmaceutical Precautions

Avoid freezing and excessive heat, store at temperatures between 2°C and 25°C. Protect from light. Do not use a solution unless clear and a vacuum is present. **Legal Category**

Package Quantities

FreAmine II: 500ml Intravenous Infusion Bottle
FreAmine II Hyperalimentation Kit (40% Dextrose): Consists of one 500ml bottle of FreAmine II and one 1000ml bottle containing 500ml of 40% Dextrose Injection with Transfer Set and

Additive Cap.

Additive Cap.

FreAmine II Hyperalimentation Kit (50°), Dextrosel. Consists of one 500ml bottle of FreAmine II and one 1000ml bottle containing 500ml of 50°, Dextrose Injection with Transfer Set and

Product Licence Numbers

Froduct Licence Numbers
FreAmine II: PL2737/0001
FreAmine III Hyperalimentation Kit (40% Dextrose): PL2737/0002
FreAmine II Hyperalimentation Kit (50% Dextrose): PL2737/0003

Further information available on request. FreAmine II is a McGaw product from

SThe Boots Company Limited Nottingham.

A Colour Atlas of LIVER DISEASE

Professor Dame Sheila Sherlock and John A Summerfield

This unique collection of 423 full colour and 131 black and white photographs and brief pertinent text presents an account of the clinical signs, pathology (including liver biopsies) and investigations of liver disease.

It will be of enormous value to students, physicians, and specialists alike.

272 pages

£18.00

For further information, please write to

WOLFE MEDICAL (Dept. GUT) 10 Earlham Street London WC2H 9LP

Drugs and Disease

The Proceedings of a Symposium organised by the Royal College of Pathologists

> Edited by Sheila Worlledge

Price: Inland £3.00; Abroad US \$7.50 including postage

The Publishing Manager, JOURNAL OF CLINICAL PATHOLOGY, BMA House. Tavistock Square, London WC1H 9JR

Shimamura, J., Fridhandler, L., and Berk, J. E. (1975). Does human pancreas contain salivary-type isoamylase? *Gut*, 16, 1006-1009.

Singh, H., Pepin, J., Appert, H. E., Pairent, F. W., and Howard, J. M. (1970). Amylase and lipase secretion in the hepatic and intestinal lymph. *Archives of Surgery*, 100, 253-256.

Skude, G. (1975). Sources of the serum isoamylases and their normal ranges of variation with age. Scandinavian Journal of Gastroenterology, 10, 577-584.

Takeuchi, T., Matsushima, T., and Sugimura, T. (1975).

Separation of human α-amylase isoenzymes by electrofocusing and their immunological properties. *Clinica Chimica Acta*, **60**, 207-213.

Taussig, L. M., Wolf, R. O., Woods, R. E., and Deckelbaum, R. J. (1974). Use of serum amylase isoenzymes in evaluation of pancreatic function. *Pediatrics*, 54, 229-235.

Warshaw, A. L., Bellini, C. A., and Lee, K. H. (1976). Electrophoretic identification of an isoenzyme of amylase which increases in serum in liver diseases. *Gastroenterology*, 70, 572-576.

The February 1979 Issue

THE FEBRUARY 1979 ISSUE CONTAINS THE FOLLOWING PAPERS

Pure pancreatic juice studies in normal subjects and patients with chronic pancreatitis M. E. DENYER AND P. B. COTTON

Impaired pancreatic polypeptide release in chronic pancreatitis with steatorrhoea T. E. ADRIAN, H. S. BESTERMAN, C. N. MALLINSON, C. GARALOTIS, AND S. R. BLOOM

Release of motilin by oral and intravenous nutrients in man N. D. CHRISTOFIDES, S. R. BLOOM, H. S. BESTERMAN, T. E. ADRIAN, AND M. A. GHATEI

Intestinal absorption under the influence of vasopressin: studies in unanaesthetised rats R. DENN-HARDT, B. LINGELBACH, AND F. J. HABERICH

Amino acid and peptide absorption after proximal small intestinal resection in the rat A. B. GARRIDO, JR., H. J. FREEMAN, Y. C. CHUNG, AND Y. S. KIM

Absorption of antigens after oral immunisation and the simultaneous induction of specific systemic tolerance E. T. SWARBRICK, C. R. STOKES, AND J. F. SOOTHILL

Variability of gluten intolerance in treated child-hood coeliac disease B. MCNICHOLL, B. EGAN-MITCHELL, AND P. F. FOTTRELL

Treatment of osteomalacia associated with primary biliary cirrhosis with parenteral vitamin D_2 or oral 25-hydroxyvitamin D_3 JULIET E. COMPSTON, L. W. L. HORTON, AND R. P. H. THOMPSON

Serum bilirubin: a prognostic factor in primary biliary cirrhosis J. M. SHAPIRO, H. SMITH, AND F. SCHAFFNER

Rectal biopsy in patients presenting to an infectious disease unit with diarrhoeal disease R. J. DICKINSON, H. M. GILMOUR, AND D. B. L. MCCLELLAND

Rectal IgE cells in inflammatory bowel disease D. P. O'DONOGHUE AND PARVEEN KUMAR

Gynaecomastia associated with cimetidine R. W. SPENCE AND L. R. CELESTIN

Clinical trial

Double-blind comparison of cimetidine and placebo in the maintenance of healing of chronic duodenal ulceration K. D. BARDHAN, D. M. SAUL, J. L. EDWARDS, P. M. SMITH, S. J. HAGGIE, J. H. WYLLIE, H. L. DUTHIE, AND I. V. FUSSEY

Case reports

Hypobetalipoproteinaemia—a variant of the Bassen-Kornzweig syndrome B. B. SCOTT, J. P. MILLER, AND M. S. LOSOWSKY

Peutz-Jeghers syndrome associated with gastrointestinal carcinoma B. COCHET, J. CARREL, L. DESBAILLETS, AND S. WIDGREN

Notes and activities; Books

Copies are still available and may be obtained from the publishing manager, British medical association, tavistock square, london wc1h 9jr, price £3.50, including postage

Notes and activities 259

Notes and activities

British Society of Gastroenterology Research Funds

Applications are invited for financial support for research, education and travel or equipment from the Society's research funds. For application form and further information concerning specific guidelines, please contact the Honorary Secretary, University College Hospital, The Rayne Institute, 5 University Street, London, WC1E 6JJ. Closing dates for applications: 1 February and 1 August.

Sir Arthur Hurst Centenary: Meeting and Dinner.

Sir Arthur Hurst founded the British Society of Gastroenterology in 1937 and the hundredth anniversary of his birth occurs on 23 July 1979. A Centenary Meeting and Dinner in his memory will take place at the Royal College of Physicians and consist of a half-day of scientific papers from 2.30 to 6.00, followed by a general meeting (6.30 to 7.30) with an address about Sir Arthur by Dr Thomas Hunt and Sir Roger Ormrod. A banquet at the College with wives and guests will follow.

This meeting will commemorate Sir Arthur's life and work and launch an appeal for support towards an 'Arthur Hurst Research Fellowship' which the British Digestive Foundation is inaugurating.

Thanks to support from the BSG, BDF, and the Winthrop Laboratories the inclusive fee for the meeting and dinner will be £5 per person.

A number of speakers have already accepted an invitation to review some of the ideas which Sir Arthur expressed in his writings and to consider them in the light of present-day knowledge and research.

Fund for Research at the London

The London Hospital Medical College has announced a gift of £1 million by the Harold Hyam Wingate Foundation for gastrointestinal research. Most of the money will go towards a specially designed building housing laboratories and other services, while the remainder will provide a fund for its upkeep and maintenance.

First European Congress on Parenteral and Enteral Nutrition

This conference will be held in Stockholm, Sweden, from 2-5 September 1979, and will include a session on parenteral nutrition in gastroenterology. Further information may be obtained from the Congress Secretariat: 1st European Congress on Parenteral and Enteral Nutrition, c/o RESO Congress Service, S-105 24 Stockholm, Sweden.

Twentieth Anniversary Conference of Indian Society of Gastroenterology

This will be held at the B. J. Medical College, Pune 411 005, Maharashtra State, India on 12, 13, and 14 October 1979. The delegate fees are \$40/-. Please contact Organising Secretary: Dr Manohar J. Joshi, 1194/23 Ghole Road, Pune 411 005. India.

Books

Gastrointestinal Tract Cancer Edited by Martin Lipkin and Robert A. Good. (Pp. 602. Illustrated. \$45.00.) Plenum Medical: New York. 1978.

In bringing together the various chapters of this book the editors have sought to emphasise 'recent findings having the best potential for improving our understanding of fundamental processes in gastrointestinal neoplasia, and of equal importance for application to clinical oncology'.

The book is well produced with clear illustrations and referencing to recent literature at least until 1976, and with some citations in 1977.

The epidemiological sections are well written with good general coverage of all common gastrointestinal cancers. By contrast, the sections on experimental models of carcinogenesis are excessively detailed and repetitive, while sections on management are exclusively confined to colorectal cancer with emphasis on early detection and monitoring recurrence. and on chemotherapy. With harsher editing, much of the repetitive material could have been compressed, which would have allowed sections to be included on, for instance, treatment of tumours outside the large intestine. early cancer of the stomach, and the value of newer diagnostic procedures in other cancers, particularly pancreatic cancer.

The claim on the book jacket that there is a singular degree of comprehensive coverage is misplaced. This is essentially a series of individual essays, a book for the individual to borrow but not to buy; apart from the epidemiological sections, those on the management and prevention of colorectal cancer are particularly worthwhile.

M. J. S. LANGMAN

Percutaneous Hepatography: the Kinetic Method of Injection of Contrast Medium By E. Deimer. (Pp. 160. Illustrated. Price not stated.) Georg Thieme: Stuttgart. 1977.

The author has developed a technique of injecting contrast material into the liver and so visualises the intrahepatic portal vein and hepatic vein and bile duct systems. Observations of the lymphatic system are interesting. In the author's hands, this technique gives satisfactory results. Others may prefer more traditional methods of achieving the same.

The book is of limited interest. The illustrations are magnificent.

SHEILA SHERLOCK

Diagnosis of Liver Disease By E. Schmidt, F. W. Schmidt, H. Themann, J. Thurner, and H. Wallnofer. (Pp. 299. Illustrated. £43.) G. Thieme: Stuttgart. 1977.

This is an extremely elegant book that brings together and emphasises the value of different diagnostic techniques in the evaluation of liver disease. The diagnostic techniques described include liver function tests, scintigraphy, sonography, angiography, laparoscopy, and needle biopsy with electron microscopy. The common hepatobiliary diseases are well covered with an abundance of illustrations interspaced with descriptions of the disease, its course and the use of the various investigations. The pleasure of this book is increased by the beautiful colour illustration of laparoscopic appearances. These are likely to be useful to the British reader as laparoscopy is probably underused in this country.

A much larger number of biochemical tests appear to be routinely used by the authors in Germany than is customary in Great Britain. They also use ratios of various enzymes with unfamiliar names.

such as De-Ritis ratio and the TGR. These are used descriptively without any detailed discussion of the origin of the enzyme, its specificity, or even its name: all enzymes are referred to by initials—for example, GOT, CHE, GLDH. The assumption of familiarity with these abbreviations may be correct for the continental reader, but is likely to be received with dismay in this English translation aimed at the British and American markets. The book should prove useful to a British physician wanting to assess the value of laparoscopy. Its price may deter others from purchasing it even for their library.

J. LEVI

Radiologic Examination of the Orohypopharynx and Esophagus By Costantino Zaino and Thomas C. Beneventano. (Pp. 310. Illustrated. DM 120, \$60.) Springer: New York. 1977.

The pharynx and oesophagus have suddenly become interesting to publishers. who are vying with each other to produce glossier and more comprehensive tomes. This book has 450 illustrations, 310 pages, 274 references—the pages are only three-quarters filled, the paper is too shiny to read with comfort, and the price is an expensive £30 or more. But the print is clear, the x-ray pictures sharp, the production generally is of high quality, and the contents will be much appreciated by radiologists, especially those in training. This is a comprehensive work with an adequate measure of anatomy, physiology, and pathology to lead up to the radiological appearances of almost everything known to affect these organs.

Most books treat the pharynx rather superficially and give the impression that the authors do not understand the anatomy and mechanics. This book gives a much more detailed account, reflecting the very extensive post-mortem anatomical studies of Dr Zaino. Their concept of the upper oesophageal sphincter and closing mechanism is, however, unorthodox. There are good sections on embryology and developmental anomalies, and on external factors affecting the contour of the barium shadow, but the chapter on functional, psychic, and neuromuscular disturbances lacks precision and does not take full account of the different patterns of dysphagia as described by the patient. The word 'spasm' is used rather indiscriminately and reflects our lack of understanding of these problems.

This is a book for the x-ray department library; for radiologists rather than gastroenterologists.

D. A. W. EDWARDS

Note

Derek Crouch Fellowship in Gastroenterology

The British Digestive Foundation for research into the prevention and treatment of alimentary and liver disorders is now offering the Derek Crouch Fellowship in Gastroenterology. Applicants for this full-time Fellowship should be of registrar/senior registrar status and the salary will be commensurate to the applicant's salary at the time of appointment. The award will be granted for one year extendable to two years.

Further information may be obtained from the Secretary, The British Digestive Foundation, Room D, Chandos Street, Cavendish Square, London, W1A 2LN by 31 March.

Reduced Subscription Rates for Junior Hospital Doctors Residents and Interns...

from January 1 1979

GUT—The Journal of the British Society of Gastroenterology

will be available to junior doctors in all parts of the world for a maximum of four consecutive years at REDUCED Annual Subscription Rates. (Thereafter, or when reaching consultant status this special offer will no longer apply.) The following subscription rates apply for the twelve issues published in 1979.

Inland £17.00 Overseas US\$40.00

(The full rates are: Inland £28.00; Overseas US\$65.50)

The opportunity to subscribe to this journal of international authority and repute at a substantially reduced subscription rate is one not to be missed by junior doctors seeking to specialise in gastroenterology.

Please complete the adjacent order form and send for your subscription NOW.

Further order forms can be supplied on request.

ORDER FORM
BMA Publications BMA House, Tavistock Square London WC1H 9JR, England
Please enter my subscription to GUT ☐ United Kingdom and Irish Republic £17.00 ☐ Overseas US\$40.00
☐ My remittance foris enclosed (Please tick appropriate boxes)
NAME
ADDRESS
To be completed by Consultant I hereby confirm that the above mentioned doctor is a member of the junior hospital staff/ resident/intern at
Signed