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which has recently excited much interest.

The book is well illustrated, well printed, and well documented.

The Digestive Tract: A Radiological Study of Its Anatomy, Physiology and Pathology. By Alfred E. Barclay, London, Cambridge University Press, 395 pp., 1933.

It may be a little late to review Barclay's book, but we just had occasion to consult it again, and felt that it would do no harm to call the attention of gastro-enterologists to an excellent book which they may not know as well as they should. Barclay has always been one of the world's leaders in roentgenology. For years he has worked in roentgenology purely for the fun of it and from the point of view of a research man. After years spent in a busy practice he gave up his practice and took a lecturship in roentgenology at Cambridge. There he gathered about him a group of enthusiastic students and did a lot of interesting research. He is now at The Nuffield Institute for Medical Research at Oxford.

Several years ago he gathered the results of many years of study and observation into the book now before us. It is an excellent book, well written and beautifully printed and illustrated, and there is much in it that a gastro-enterologist should know well. There is much to make the reader think. One of the many fine things about this book is that Barclay is interested not only in describing diseases but in trying to find out in what way the normal physiologic activity of the body has become deranged.

Abstracts

INGRAHAM, R. C. AND VISSCHER, M. B.

Analyses of Gastric Mucosa and Pancreatic Gland Tissue of Dog for H₂O, Na, K, Cl and PO. Proc. Soc. Exp. Biol. Med., 40(2):147-149, 1939.

Analyses of pancreas and gastric mucosa show relatively more Na and Cl in the latter than the former, and the reverse for K. The PO, contents are not significantly different. Gastric mucosa contains consistently more water. The results are discussed in relation to secretary function.—Authors (Courtesy of Biol. Abst.).

CROHN, BURRILL B. AND YARNIS, HARRY.

The Anatomical Position of the Ileum in Health and Disease. Radiology, Vol. 33, No. 3, p. 325-330, Sept., 1939.

In healthy persons the position of the terminal ileum depends upon the position of the cecum which latter again depends to a certain extent, upon the existence or non-existence of the mesentery of the ascending colon. If the ascending colon is fully peritonealized with an ample mesentery, which occurs in 26% of cases, the cecum is likely to hang low in the iliac fossa or over the brim of the pelvis. If it possesses no mesentery, it will likely be found fixed and firm in the iliac fossa above the brim of the true pelvis. In 90% of the cases, the cecum is fully surrounded by peritoneum; in 10% it is more or less adherent in the false pelvis. In upright or standing position, these loops of the ileum fall into the space between bladder and rectum in the

male, or between the posterior surface of the uterus and the anterior surface of the rectum in the female. Very often these loops lie directly on the lowermost point of the pelvic floor, in the cul-de-sac actually between the posterior wall of the vagina and the rectal surface behind.

In 25 cases of terminal ileitis, the pathological terminal loop lay within the true pelvis; in fact on the floor of the pelvic cavity, its course as in the normal control cases, upward to its entrance at the ileocecal junction. In the diseased instances, the ileocecal junction is regularly at or below the level of the first sacral vertebra (usually fixed by adhesions) and the

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terminal inches of the ileum descend directly to the pelvic floor.

In 15% of the authors observed clinical cases of ileitis, they noted perineal fistulas as a complicating factor. The authors have reason to believe that a direct fistulous tract made its course from the diseased loop of the ileum lying on the floor of the true pelvis, seeping downward through the fascial planes to make its exit somewhere on the perineum between the rectum and the vagina and involving either one or both of these organs.

Franz J. Lust, New York, N. Y.

ALVAREZ, WALTER C.

Abdominal Discomforts for Which No Organic Cause Can Be Found. Medical Clinics of North America, Mayo Clinic No., July 1939.

Alvarez discusses several abdominal conditions which are so common but for which no organic cause can be found. There is a so called "mucous colitis." Alvarez pleads not to use this expression. The colon in this case is not ulcerated or inflamed. There is abnormality in the excretion of an increased amount of mucous. The roentgenological examination reveals a somewhat exaggerated haustration in

the descending colon, with perhaps a fine crinkling of the muscular wall. Alvarez pleads that these signs should not be called to the attention of the patient and should not be called pathological.

Another condition which he calls "pseudo-appendicitis" is just as baffling. The patients describe their discomfort as a burning or a pulling sensation or a gurgling. The roentgenological or anatomical reason could not be found. Even ½ gr. of morphine is not able to stop the pains. Alvarez thinks that in some of these cases the trouble appears to be due to irritation of spinal nerves involved in that type of inflammation which produces mild spondylitis, or fibrositis, neuritis, and myositis around the spine.

Flatulence, pseudo-ulcer, and pseudocholecystitis are further discussed. Spondylitis is shown to be the main cause of pains. It is very important to know these conditions and to be aware of not having unnecessary surgical procedures applied to these patients.

Franz J. Lust, New York, N. Y.

KERPPOLA, W.

Uber die klinischen Kennzeichen und das Auftreten des Ikterus und seiner verschiedenen Formen. Acta Med. Scand., 98(3):262-279, 1 fig., 1939.

The author describes the formation of bilirubin, its occurrence in the body and its separation. About 2,000 cases of icterus were examined, and 3 forms of icterus are considered namely: haematogenous or haemolytic jaundice, the hepatogenous polychymatoses or obstructive jaundice and the hepatic congestive or gall stone jaundice. Cases of icterus can fall into one of these classes, or may be looked upon as intermediate transitional forms. The so-called Salvarsan-Icterus is almost always a syphilitic catarrhal jaundice but hepatic syphilis (cirrhosis) is considered to be an uncommon disease. - J. F. Wilkinson (Courtesy of Biol. Abst.).

SCHINDLER, RUDOLF.

Chronic Gastritis. Bull. New York Academy of Medicine, Vol. 15, 5, 322, May, 1939.

Schindler describes his experience in chronic, non-specific gastritis. He publishes his gastroscopic views besides the microscopic photos of his cases, which renders his paper especially important.

Schindler distinguishes (1) chronic superficial, (2) chronic atrophic and (3) chronic hypertrophic gastritis. The etiology is unknown. Roentgenologically he found a tenderness of the gastric silhouette. In the super-





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ABSTRACTS 55

ficial inflammation the general symptoms are in the foreground of the clinical picture. These patients are mostly treated as psychoneurosis. The hypertrophic type is also a severe disease. Its symptoms are highly suggestive of a peptic ulcer. The atrophic gastritis should be gastroscopically diagnosed for it is apparently a precancerous condition. The relation between gastric atrophy and pernicious anemia is discussed. Schindler's observation led him to believe that there must be a primary dysfunction of those cells which produce the antianemic factor, and a secondary degeneration of the gastric surface epithelium with following genuine inflammation.

Franz J. Lust, New York, N. Y.

HIGGINS, GEORGE M. AND INGLE, DWIGHT J.

Regeneration of the Liver in Hypophysectomized White Rats. Anat. Rec., 73(1):95-104, 1939.

Hepatic regeneration following partial removal of the liver was studied in 3 groups of white rats: (1) Normal rats which were fed adequate amounts of food. (2) Rats which were fed restricted amounts of food daily. (3) Rats from which the pituitary gland was removed 1 week prior to partial hepetectomy. 5 animals in each group were sacrificed at 24 hours, 48 hours, 72 hours, 1 week and 2 weeks, following removal of the liver. The regenerating livers were quickly removed and weighed. Regeneration of the liver occurred in the hypophysectomized animals but to a far less extent than in normal animals. Regeneration of the liver occurred in animals fed restricted amounts of food daily, but likewise to a far less extent than in normals. Greater amounts of liver regenerated in animals fed the restricted amounts of food than regenerated in the hypophysectomized animals which consumed about the same amount of food daily. Regeneration of the liver seems to depend largely upon the amount of food consumed; but on the basis of total average weights of liver which regenerated in the three groups of animals, it is possible that the loss of the pituitary gland may have had some inhibitory effect upon the extent of regeneration. — Author (courtesy of Biological Abstracts).

GOLDEN, ROSS.

The Small Intestine and Diarrhea. Dept. of Radiology of the Presbyterian Hospital, Vol. 36, No. 6, p. 892-901.

The importance of the examination of the small intestine in diarrhea is considered by Golden. Diarrhea is a symptom which is not always due to a disease of the large intestine. The most important cases of diarrhea due to pathology in the small intestine are nonspecific granuloma. The lower part of the ileum is more frequently involved than any other portion of the intestinal tract. In nonspecific granuloma of the small intestine psychic disturbances are very often thought to be responsible until roentgen studies disclose the evidence of the disease of the small intestine. Any kind of neoplasm can cause diarrhea also. In deficiency diseases a flocculation of the barium in the ileum, the tendency to form small rounded or oval flecks of barium instead of the smoothly homogeneous continuity of the barium shadow as seen under normal conditions. The possibility that abnormal fat digestion with abnormal quantities of fat, fatty acids or soaps, or some other abnormal non-opaque material in the intestine might be responsible for this is suggested.

In nervous diarrhea the small intestine study disclosed unusual hypermotility of the jejunum and ileum. In one case the barium reached the cecum in 45 minutes and the ileum was empty in 3½ hours. The large intestine showed no evidence of irritability. It is interesting that besides

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the irritability of the small intestine no other signs of a neurosis could be found.

Franz J. Lust, New York, N. Y.

EUSTERMAN, GEORGE B.

Chronic Gastritis. The Medical Clinics of North America, Vol. 23, No. 4, p. 847-859, July, 1939.

Eusterman discusses chronic gastritis. The difficulty of evaluating the microscopic findings had a retarding influence on the reactions of this condition. Every adult would have chronic gastritis if we regarded as abnormal any anatomic alternation of

the gastric mucous membrane such as interstitial cellular infiltration which, in addition to other phenomena, Roessle considered to be within physiologic limits. If we accept such a minimal yardstick, apparently unwittingly proposed by the pathologist, the clinical significance of gastritis as an entity disappears.

The cause of a more thorough recognition of gastritis is due to the more general use of the gastroscope, the possibility of anatomical studies of resected parts of the stomach, and the development of an improved roentgenologic technic, so-called compression technique, which permits

battery visualization of the mucosal relief. Gastroscopy is the most important means for examination, roentgenological examination is only of value in the hypertrophic forms of gastritis. Eusterman suggests as treatment a smooth diet, an adequate intake of vitamins, liver extract, weak alkaline solutions, as well as stomach lavages.

Franz J. Lust, New York, N. Y.

SECKEL, H. P. G.

The Influence of Various Physiological Substances on the Glycogenolysis of Surviving Rat Liver. The Influence of Insulin Added in Vitro. Endocrinology, 23(6): 760-766, 2 figs., 1938.

Rat liver glycogenolysis as it normally occurs in surviving tissue slices suspended in a buffered salt solution was shown to be inhibited to a considerable extent by large doses of insulin added to vitro (up to 43 at 4 U. per cc.). Because of this finding and results reported in literature, the essential action of insulin on the liver is believed to be an inhibition of the glycogenolytic process, particularly when the latter is proceeding at a high rate. — D. Permar (Courtesy of Biol. Abst.).

BUNDE, CARL A. AND HELLBAUM, ARTHUR A.

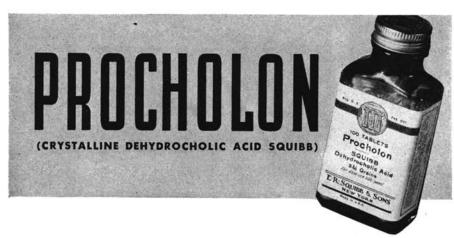
Some Chemical and Physiological Properties of the Gonadotropic Antagonist. Am. J. Physiol., 125 (2):290-295, 1939.

The pituitary antagonist inhibits the action of concurrent injections of gonadotropic hormone. It is present in crude gonadotropic extracts, and upon fractionation it is found with the luteinizer. Subjecting sheep ant. pituitary preparations to a high pH destroys the antagonist as well as the gonadotropic principles but extended boiling and a low pH destroys all gonadotropic activity without affecting the antagonist. The possibility of other known ant.-lobe hormones withstanding this treatment is discussed.—Authors (Courtesy of Biol. Abst.).

HERFORT, K.

L'influence de la Vitamine A sur la Secretion Externe du Pancreas. Acta Med. Scand., 96 (5/6):425-437, 2 figs., 1938.

Pancreatic juice was collected by duodenal intubation; total vol., lipase, and trypsin were estimated. Vitamin A by mouth or intramuscular stimulated pancreatic secretion even after intravenous injection of secretion. In hypochlorhydric patients, Vitamin A caused considerable subjective and objective improvement, without increasing acid secretion. — M. C. G. (courtesy of Biological Abstracts).



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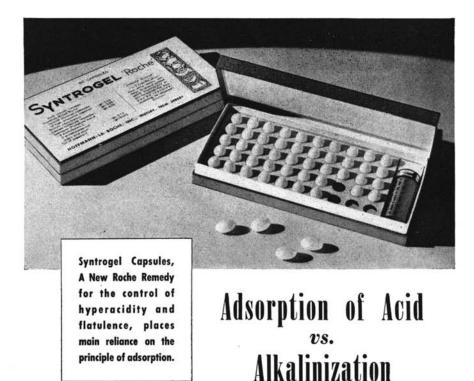
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SCHOENE, HANS.

Die galletreibende Wirkung von Derivaten des p-Tolylmethylcarbinols und der Ferulasaure. Arch. Exp. Path. u. Pharmakol., 190:372-375, 1938.

Robbers (ibid., 181:328, 1936) has shown that the substance present in Curcuma domestica which exerts a bile secretion enhancing action is p-tolylmethylcarbinol, while the dyestuff fraction acts to contract the gall bladder rather than to increase secretion of bile. Para-tolymethylcarbinol being insoluble in water, the Na salt of a camphoric acid ester thereof (A), also its orthophthalic (C) and of hydroferulaic acid (D) increased bile secretion in the dog,

acid ester (B), were studied. Since the dvestuff in curcumin is diferuloylmethane, the effects of ferulaic acid were also studied. Intraven. administered (A) and (B) increased bile secretion in guinea pigs (A more effectively than B). Na ferulate, intraven. given, was irregular in effect. The hydroferulate produced more bile secretory effect than the ferulate, but both appeared to act chiefly by contracting the gall bladder. Effects of (A) and (B) were confirmed in dogs. (C) and (D) slightly



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SYNTROGEL CAPSULES FOR THE EFFECTIVE CONTROL OF HYPERACIDITY AND REATULENCE

but chiefly increased contraction of the gall bladder, even to the extent of 2000 per cent over normal.—C. S. L. (courtesy of Biological Abstracts).

ZOLLINGER, ROBERT AND KEVORKIAN, ALBERT Y.

> Surgical Aspects of Obstructive Jaundice. The New Eng. J. of Med., Vol. 221, pp. 486-488, Sept.

In a correlated study of seventyfive cases of common-duct stone and forty-nine consecutive cases of carcinoma of the head of the pancreas, the authors believe that there is sufficient contrast in symptoms to make a differential diagnosis between these causes of surgical obstructive jaundice without the use of laboratory procedures. A table comparing the symptoms and findings in these cases is extremely interesting and self explanatory.

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In treating patients with pancreatic malignancy, the authors have devised a valvular type of cholecystgastrostomy which forestalls ascending biliary infection. This procedure is only to be considered as a preliminary step to resecting the neoplasm.

Henry H. Lerner, Boston.

ERWTEMAN, J. AND HEERES, P. A.

Clinical and Experimental Observations About Alcohol-Tolerance. Acta Med. Scand., 96(2/4):199-216, 22 figs., 1938.

The alcohol tolerance test can be used to determine impairment of hepatic function in liver diseases, and characteristic curves are obtained; examples are given. Similar tests were used in heart and lung diseases. -J. F. W. (courtesy of Biological Abstracts).

HESSER, S.

On Relapsing Gastric Hemorrhages and Their Treatment. Acta Med. Scand., 98(4/5):340-354, 2 figs., 1939.

122 cases of relapsing gastric hemorrhage were examined; 30% were due to gastric ulcers. One relapse occurred in 57% but two or more relapses were quite common. They occurred mainly between 30-60 years of age, and were more than twice as common in males as in females. Duodenal ulcers predominated (double) over gastric ulcers. Prognosis in this series showed 3.3% mortality in 122 cases, 3.9% mortality for primary hemorrhages, but only 1.7% of the total number of hemorrhages. 30 cases had recurrent hemorrhages since gastric operation. The results suggested only secondary importance should be attached to a previous hemorrhage as indication for gastric operative measures.-J. F. Wilkinson (Courtesy of Biol. Abst.).

DRIPS, DELLA G. AND OSTERBERG, ARNOLD E.

> An Evaluation of the Frank Method for the Determination of Prolan (Gonadotrophic Principle) in the Urine of Nonpregnant Women. Endocrinology, 23(6): 703-710, 3 figs., 1938.

292 detns, were made on the urine of 248 females. Of these 235 presented a clinical picture which suggested abnormal gonadotrophic function of the ant. lobe. 13 apparently normal females were used as controls. The clinical diagnosis in each case was made before the prolan detn. was reported. The amount of prolan

found in the urine helped to substantiate the diagnosis. Immature mice were used, and the uteri and ovaries weighed and the ovaries sectioned and stained. Instead of 60 cc. of urine, 400 cc. was used, and in the final amount for biologic assay 2 cc. represented 100 cc. urine. — D. Permar (Courtesy of Biol. Abst.).

HAMBURGER, CHRISTIAN.

The Assay of Gonadotropic Hormones. III. Comparison Between Rat and Rabbit Dose-Response Curves for Crude and Purified Preparations of Human Pregnancy Urine and Mare Serum Hormone. Quart. J. Pharm. and Pharmacol., 11(4):673-678, 1938.

A conditio sine qua non of the practical usefulness of standards for gonadotropic hormones is qualitative constance of the different types. In this work a comparison of the action is made between crude and purified preps. from pregnancy urine and mare serum hormone. The crude tannate from pregnancy urine and a purified prep. gave qualitatively constant results as measured by uterine and ovarian dose-response curves, the luteinising effect on immature rats and the reaction curves for virgin rabbits. One untreated sample of pregnant mare's serum also showed qualitative constancy concerning the reactions in rats and rabbits. - Mc-Guigan (Courtesy of Biol. Abst.).

MACDONALD, A. M. AND ROBSON, J. M. The Production of Vaginal Mucification with the Synthetic Oestrogen, Triphenyl Ethylene. J. Path. and Bact., 48(1):95-98, 1 pl., 1939.

Previous investigations have shown that the synthetic oestrogen triphenyl ethylene not only produces vaginal keratinisation in the lower rodents but also a series of changes in the dog, rabbit and monkey similar to those produced by the natural oestrogens. The present expts. show that triphenyl ethylene will also produce vaginal mucification similar to that produced by small doses of oestrin and that as in the case of the natural oestrogen the mucification is increased when progesterone or testosterone is given at the same time.-Authors (Courtesy of Biol. Abst.).

MUNICH, JAMES C.

The Pharmacology and Bio-Essay of Insulin-Free Pancreatic Extracts. Rev. Gastroent., 6(1):50-53, 1939.

Pancreas is extracted with HCl and alc. at pH 2.4. The extract is neutralized with NH4OH and filtered. The filtrate is acidified with H2SO4, concentrated in vacuo, and fat is re-

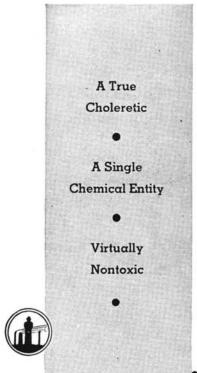


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> gated both pharmacologically and clinically, and, of course, "Council Accepted."



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tongue, isolated intestinal and uterine strips of rats, guinea pigs and rabbits and on the blood pressure of anesthetized rabbits, guinea pigs, cats and dogs. Cyanosis is produced in the cock's comb. One unit is defined as the amount required to neutralize the pressor activity of 12 of epinephrine. -G. H. C. (courtesy of Biological Abstracts).

VIEHOEVER, ARNO.

Evaluation of Cathartics. J. Am. Pharm. Assn., 27(8):668-671,

30 standardized 10 day old Daphnia magna, non-gravid with 100 per cent

filled intestine, cultured in 0.1 per cent dried cow or sheep manure medium at 68-72° F. and pH 7.8-8.1, are individually placed in flat test tubes containing 0.5 cc. of the test substance in 1 per cent, 0.2 per cent and 0.01 per cent concentration in culture medium respectively. The speed and extent of evacuation is recorded with suitable magnification. These results are compared to the cathartic action of the standard reference solution (under similar conditions) made up as follows: suspend 0.1 Gm. of elaterin (Merck) in 100 cc. culture medium and filter through coarse paper. Elaterin Bm.p. 197° C. is preferable, using 0.02 Gm. per 100 cc. culture medium.—I. C. (courtesy of Biological Abstracts).

HAMILTON, JOSEPH G.

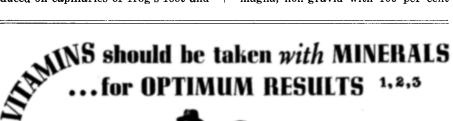
The Rates of Absorption of the Radioactive Isotopes of Sodium, Potassium, Chlorine, Bromine, and Iodine in Normal Human Subjects. Am. J. Physiol., 124(3): 667-678, 1938,

These radioactive elements were prepared by the use of a cyclotron and then made up as isotonic solutions and given by mouth to normal human subjects in the fasting state. The appearance, and rate of increase of the number of radioactive atoms in the subjects hands was measured by a Geiger counter and the values obtained were assumed to represent the rates of absorption. The radioactive atoms of Na, Cl, Br, and I appeared in the hand within 3 to 6 minutes after ingestion and absorption was apparently completed within 3 hours. The radioactive atoms of K took from 6 to 15 minutes to appear in the hand and complete absorption required more than 5 hours.—J. G. H. (courtesy of Biological Abstracts).

JOSEPHSON, B., JUNGNER, G. AND RYDIN, A.

> Elimination of Cholic Acids. I. In Healthy Animals. Acta Med. Scand., 97(3/4):237-253, 1938.

Cholic acids are absorbed mainly in the liver but also in the walls of blood vessels. After portal injections of bile salts there is a delayed absorption due either to hepatic intoxication from the excessive supply of bile salt or to exhaustion of the excretory power of the liver cells. Delayed secretion after intraportal injection of china ink or thorotrast is not due to reticuloendothelial block. Consequently intraven. rather than oral administration of bile acids in large amounts is preferable for the augmentation of bile flow. Bile acids are excreted in the unconjugated form for the first 30 minutes, but the conjugated form increases thereafter,





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Privatera, A. T., Arch. of Ped., April, 1938. Eddy, Walter E., (Special Research Report on Vi-Syneral). Allen, A. M., Medical Record, April 19, 1939.

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suggesting an enzymatic process.— J. F. W. (courtesy of Biological Abstracts).

Kokas, E. V. and Lundany, G. V. Weitere Untersuchungen über die nervöse Beeinflussung der Darmzottentätigkeit. Pflügers Arch. Ges. Physiol., 241(2/3):268-271, 1938.

In dogs chloralose narcosis, weak vagal stimulation produces a moderate increase in the automatic activity of the intestinal villi without any effect upon the tone of the villi and upon the blood flow in their capillaries. Eserine increases and atropine

abolishes this vagal effect. The depressing effect of splanchnic stimulation is more marked on the motor activity of the villi than upon the tone of the villi or upon the capillaries. Cocaine increases and ergotoxin abolishes this splanchnic effect.—E. F. (courtesy of Biological Abstracts).

PETERS, HOWARD C. AND VISSCHER, MAURICE B.

On the Mechanism of Active Absorption from the Intestine. J. Cell. and Comp. Physiol., 13(1): 51-67, 1939.

Studies have been made of the movement of deuterium oxide be-

ide beon med diff are

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tween intestinal lumen and blood, simultaneously with measurements of the rate of absorption of NaCl against its conc. gradient. Deuterium oxide moved most rapidly when the rate of active chloride absorption was greatest. Calculations of the rates of solvent movement necessary to account for both chloride and deuterium oxide are being absorbed simultaneously, the 1st and 3rd along their conc. gradients and the 2nd against a gradient, their respective absorption rates indicate that simple diffusion plays a minor role except in the case of deuterium oxide. The known facts of uni-univalent salt impoverishment by the intestine can be accounted for on the basis of the fluid circuit mechanism if corrections for simple diffusion at slow rates of absorption are taken into consideration .-- Author (courtesy of Biological Abstracts).

KARAKI, H.

Experimentally Induced Proliferation of Bile Ducts in Adult Rabbits. Trans. Soc. Path. Japonicae, 28:275-277, 1938.

By placing a loose ligature around the liver of adult rabbits the bile ducts become first dilated in the portion proximal to the ligature. A new formation of small bile ducts then occurs, in which young connective tissue (mucous tissue) proliferates. The new formation of bile ducts is most pronounced after 9 to 14 days of ligation, at first as thin elastic fibers, but on the 29th day the connective tissue bundle becomes quite thick.—K. Kato (Courtesy of Biol. Abst.).

KUNERTH, BERNICE L. AND PITTMAN, MARTHA S.

A Long-time Study of Nitrogen, Calcium and Phosphorus Metabolism on a Low-protein Diet. J. Nutrition, 17(2):161-173, 1939.

N, Ca and P balance studies of fifteen 3-day periods were made on three normal women subjects of 23 and 24 years on a diet supplying 45 cal. per kgm. and 75% of the protein requirement, 85% of it as beef round. All subjects showed considerable variation in retentions. The average N balances were positive. Levels of 92 and 97% respectively of 0.68 gm. Ca and 1.32 gm. P per 70 kgm. were insufficient to prevent losses. Retentions of both tended to be parallel but P was better used than Ca. No definite cyclic tendency toward retention was evident .-- Authors (Courtesy Wistar Bibl. Serv.).

MARTIN, GUSTAV J.

Studies of Fat-free Diets. J. Nutrition, 17(2):127-141, 1939.

With a highly purified fat-free diet, scaliness of the hind feet and sub-

normal weights were indications of a fatty acid deficiency, but with great biological variations. Curative and prophylactic supplements of methyl linoleate produced comparable results as regards maximum average weights attained, thus indicating the absence of permanent damage. The minimum level of methyl linoleate for optimal growth effects was tentatively placed at or below 1 drop (30 mgm.) per day per rat. The inability of methyl linolenate to supplement methyl linoleate was proved. Rats fed a highly purified synthetic diet, complete in all known dietary essentials, cease growth at subnormal weights, but showed positive growth response to supplements of brain and liver. - Authors (Courtesy Wistar Bibl. Serv.).

PITTMAN, MARTHA S. AND KUNERTH, BERNICE L.

A Long-time Study of Nitrogen, Calcium and Phosphorus Metabolism on a Medium-protein Diet. J. Nutrition, 17(2):175-185, 1939.

Data on four normal young women on a diet supplying 40 to 45 cal. per kgm. and approximately twice their requirement of protein (194%) were contrasted with those of a similar study on a lower level of protein. The apparent coefficient of digestibility of the N increased due to decreased fecal

and increased urinary N. The average N retention for all subjects was high, P intakes were slightly lower than in the low protein study but retentions were better, Ca remaining slightly negative and P becoming positive. The tendency to variation in all retentions was not changed by the increased protein although the utilization was improved and did not decrease in the more mature subject (31 years). With the increased protein the Ca level was inadequate to maintain equilibrium during the 45-day period. — Authors (Courtesy Wistar Bibl. Serv.).

SWAMINATHAM, M.

The Relative Amounts of the Protein and Non-Protein Nitrogenous Constituents Occurring in Foodstuffs and Their Significance in the Determination of the Digestibility Co-efficient of Proteins. Indian J. Med. Res., 25 (4):847-855.

By the Stutzer method, the average amounts of non-protein N, expressed as % of total N, found in different foodstuffs were as follows: Cereals 5%; pulses 9%; nuts and oilseeds 5%; condiments 6%; vegetables 14% and milks 9%. The common use of the factor 6.25 is thus not fully justified, and the co-efficient of digesti-

bility of the protein may be underestimated, because of the presence of varying amounts of poorly available non-protein N.—M. Swaminathan (Courtesy of Biol. Abst.).

VIRTUE, ROBERT W. AND DOSTER-VIRTUE, MILDRED E.

Studies on the Production of Taurocholic Acid in the Dog. III. Cystine Disulfoxide, Cysteine (2):431-437, 1939.

Fasting bile fistual dogs were fed 2.8 gm. of cholic acid daily to deplete their livers of taurine. Equivalent amounts of cystine disulfoxide given orally or parenterally, cysteine sulfinic acid injected subcutaneously, or cystic acid given by mouth with the cholic acid, usually on the 3rd day of the fast, increased the excretion of taurocholic acid. Cystic acid was especially effective. Each of the 3 substances were apparently changed to taurine by the dog. Nearly all of the extra urinary S from the cystine disulfoxide and the greater part of the extra 3 from the cysteine sulfinic acid were found in the sulfate fraction of the urine. Very little of the S of the cystic acid, however, was oxidized to sulfate. - R. W. Virtue (Courtesy of Biol. Abst.).

UNNA, KLAUS.

Studies on the Toxicity and Pharmacology of Nicotinic Acid. J. Pharmacol. and Exp. Therap., 65(1):95-103, 1939.

Nicotinic acid, Na nicotinate and nicotinic amide as investigated in mice, rats, chickens and dogs have very low toxicity, the L.D. 50 in mice after subcut. and oral adm. being 4 g. and 5 g./kg. Daily feeding of dogs with 2 g./kg. of nicotinic acid as Na nicotinate over 35 days failed to produce toxic symptoms; 30% of such a dose was excreted unchanged in the urine after 24 hours. No effect could be shown on metabolism (rats), or on respiration and circulation (rabbits, cats, dogs).—K. Unna (Courtesy of Biol. Abst.).

BARCLAY, A. E.

The Practical Importance of Mechanics in Digestion. Am. J. Roentgenol. and Radium Therap., 40(3):325-334, 16 figs., 1938.

By means of a diaphragm, light and mirror system introduced through the nose, records of varying pressure in the mouth and nasopharynx during the act of swallowing were registered. Observations made in this manner were supplemented by X-ray films and (in animals) by roentgen cinematography. For the stomach and intestines, X-ray examination alone was relied upon. The conclusion was reached that peristalsis is only one of the possible mechanisms by which



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REPRINTS of the Editorial "Aids to Normal Bowel Function," "Amer. J. Dig. Dis.," March, 1939, J. A. Bargen, M.D., will be supplied on request.

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substances are propelled through the digestive tract, and that practically it is often a reserve mechanism, for use after normal ones have failed. Changes in pressure, and active muscular contraction are the usual agents.—E. H. Quimby (Courtesy of Biol. Abst.).

BROWLEY, R. E. AND SEDWICK, H. J. Studies Concerning the Oral Cavity and Saliva. IV. Calcium (1) Calcium Content of Resting and Activated Saliva of Children. J. Dental Res., 17(6):477-492, 1988

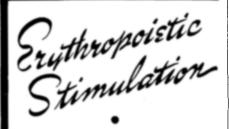
The Clark-Collip modification of the Kramer-Tisdall method for serum Ca was used in making detn. All samples of saliva were collected in the morning at least 1 hour after breakfast. No significant differences were found between the mean Ca values either in the resting or activated saliva according to sex, nor between the means for the age groups (1-6, 6-10, 10-15, 15-20). There is a difference of 0.66 mg. of Ca per 100 cc. between the means of resting and activated saliva. Taking all factors into consideration it may be assumed that the standard range for salivary Ca for children between 6-18 is: resting saliva, 5.1-8.6 mg. cal. per 100 cc.; activated, 4.5-8.0 mg. An extensive bibliography is included. - D. C. Lyons (Courtesy of Biol. Abst.).

CAMERON, G. R. AND DE SARAM, G. S. W

A Method for Permanently Dissociating the Spleen from the Portal Circulation (the "Marsupialised" Spleen) and its Use in the Study of Experimental Liver Cirrhosis. J. Path. and Bact., 48(1):41-47, 2 pl., 1939.

An extra-abdominal spleen enclosed in a vascularized fibrous pouch between the skin and the ant. abdominal muscle of rats, freed from portal connections, is produced by a 2-stage operation. Pulp hyperplasia occurs in such a "marsupialised" spleen during the course of toxic cirrhosis induced by CCl, and is therefore independent of portal obstruction. Direct support is thus provided for the belief that cirrhosis splenomegaly is the result of (a) pulp hyperplasia, (b) portal obstruction. — Auth. (Courtesy of Biol. Abst.).

In the Western Journal of Surgery, Obstetrics and Gynecology (1939) Miller and Crombie reported a study of twenty-five children who in the years from ten to fourteen had no dental caries. Their impression was that contributing factors were (1) good family history, (2) breast feeding, and (3) the absence of serious illness in childhood. Irregular denti-



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tion and poor dental hygiene didn't seem to do any harm to the teeth of these fortunate children.

W. C. Alvarez, Rochester, Minn.

In the Presse Médicale for July 15, 1939, V. Climesco, P. Sarbu and S. Roman state that in the case of a girl of twelve with megacolon, spinal anesthesia gave good bowel movements for two weeks. A second injection relieved the situation for four months.

W. C. Alvarez, Rochester, Minn.

In the British Medical Journal for May 27, 1939, C. H. Osborn suggested that a better relaxation of the abdominal muscles can be secured during physical examination if the patient is put in the usual position with the feet on the table near the buttocks and is then asked to lift his sacrum an inch off the table. It is claimed that in this way a very helpful degree of relaxation can be obtained.

W. C. Alvarez, Rochester, Minn.

RENTZ, ED.

Unwirksamkeit von Acetylcholin und Histamin auf den Darm vom Darmlumen aus. Arch. Exp. Path. u Pharmakol., 191(2):183-191, 8 figs., 1938.

Moderate concns. of acetylcholine in the lumen of the guinea pig intestine in situ (Straub's technique) did not affect the motility. Abnormally high doses (0.1 g. per kilo) caused peristalsis, when the critical conc. reached the neighborhood of the Auerbach plexus. Using the mouse intestine as test object (Kahlson's method) it was seen that the acetylcholine introduced into the guinea pig intestinal lumen disappeared completely in the first half hour. Histamine was not active from the lumen of the intestine. Removed from the intestine and tested on a strip of isolated small intestine (Magnus method) it acted very powerfully at concs. 3000 times weaker than that inactive within the lumen of the intestine. If histamine was injected into a closed loop of intestine, in contrast to acetylcholine, it did not disappear fully from the content of the loop in 21/2 hours. In contrast to acetylcholine and histamine, pilocarpine or morphine (both best at 1 mg. per kilo) were found active when introduced into the lumen of the intestine. Injected into the lumen of the colon (recording by Straub's method) they were effective in about 2-3 minutes, and also caused changes in the motion of the small intestine after about 10 minutes, though they could only reach this portion of the gut by absorption into the circulation. -- (Courtesy of Biol. Abst.).





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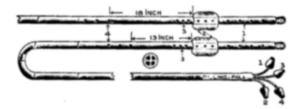
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Shay, Gershon-Cohen, Fels—Four-Lumen Tube described in "The American Journal of Digestive Diseases" October, 1939.

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MAGYAR. IMRE.

Untersuchungen uber die Wirkung von Vitamin B auf den Kohlehydratstoffwechsel. Zeitschr, Ges. Exp. Med., 104(4):495-503, 1938.

The blood sugar was studied in non-diabetic and diabetic patients after administration of insulin with and without Vitamin B₁ (beataxin) and in rabbits which had received dextrose, galactose, insulin and Vitamin B₁ in various concs. and combinations, and atropine in order to determine the influence of the vagus nerve. Fasting blood sugar is not influenced by Vitamin B₁; insulin hypoglycemia is increased in depth and duration by Vitamin B₁, the hyperglycemia after dextrose and galactose administration is inhibited, its duration reduced.—M. Samter (Courtesy of Biol. Abst.).

ALLEY, ARMINE AND BABKIN, B. P.

The Effect of Histamine and Pilocarpine on Gastric Secretion Inhibited by Fat. Arch. Internat. Pharmacodyn. et Thér., 61(1):99-108, 1 fig., 1939.

Inhibitory effects of fat on gastric secretion are more marked in the Armour pouch than in the Pavlov pouch. Histamine or pilocarpine provokes copious gastric secretion in both preparations after inhibition of fat. Though the volume of secretion elicited by pilocarpine in the fatinhibited pouch is equal to control pilocarpine secretion, the peptic activity is less.—G. A. E. (Courtesy of Biol. Abst.).

CONNOTATIONS

H. J. SIMS Denver, Colorado

Weir in 1902 anchored the appendix to an incision in the anterior abdominal wall for the purpose of irrigating the cecum and colon.

Haller in 1743 first recognized the existence of the carotid body. He named it "intercarotid ganglion," thus classifying it as a nerve structure. Arnold in 1865 gave it the name of "intercarotid arterial glomeruli" because of its resemblance to glomeruli. Schaper and Stilling in 1892 described it as a blood vessel gland, analogous to the adrenal gland. Marchand published the first case report of a tumor involving this structure. Paltauf in 1892 reported 4 cases. Balfour and Wildner in 1914 reported an instance and stated that 35 cases had appeared in the literature since the publication of Paltauf's article. These investigators appended 53 references. Meuron in 1886 and Robl in 1889 shared in their views that the carotid body was derived from the third or fourth branchial sympathochromaffin system anlage which passes from the upper sympathetic ganglion.

The earliest writing of the appendix is that by Morgagni in 1719. He stated that the vermiform appendix was not only absent in many animals but had been found deficient in man. Massa and Hunter reported similar anomalies. The first authentic report of congenital absence of the appendix was made by Meckel in 1812. His observation was made on a cadaver in which the cecum and the surrounding tissues were normal. Puchelet in 1832 described a case, under the title of perityphilitis, which was probably a result of appendicitis. The case reports of Tarenetsky and Lafforgue are problematical.

Melier in 1827 reported 8 cases of peritonitis, 3 of which he described as representing perforation of the appendix. Melier considered the cause, character, and consequences, for he stated "if it were possible to establish with certainty the diagnosis of this affection we could see the possibility of curing the patient by operation." Hancock in 1848 operated on a case of appendicitis and advocated early operative interference. Lewis in 1856, Bamberger in 1858, and Leudet in 1859 insisted on early surgical intervention. Noyes writing in 1882 reported the first successful appendectomy during an acute attack of appendicitis.